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MORALITY BEFORE KNOWLEDGE

Identification of urban green space availability and utilization in Semarang City

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ABSTRACT

Background: Urban green space land a has been used differently because of Semarang City's rapid development in several sectors, including industry, transportation, and economics. Gajahmungkur Subdistrict determined that the minimum urban green space requirement of 30% had been reached. **Methods:** The method used in this research is quantitative method with remote sensing. Quantitative methods are used as systematic, rational, measurable, objective, and concrete methods. **Findings:** However, the identification results may not represent the total amount of urban green space in the village. **Conclusion:** Therefore, using remote sensing satellite image interpretation of Sampangan Village, the results of urban green space identification amounted to 22.97 ha or 22.6% of the 77.4% non-urban green space area with most of the land being urban green space of riparian type connected to Sampangan Park as a form of utilizing riparian urban green space which is frequently used by visitors to traders. In addition, Kelurahan Sampangan has urban green space utilization in the form of river borders, Sampangan Park, Sampangan Mitra Field, UNNES Labschool Elementary School sports field, Wotgaleh Cemetery, and parking lots. Sampangan Village only has 22.6% of the required minimum of 30% of urban green space, so it still falls short of the standard. Thus, efforts are needed to increase the provision of urban green space in Sampangan Village to become a residential area that is suitable for people to live in from an environmental aspect.

KEYWORDS: urban green space availability, urban green space mapping, urban green space utilization.

1. Introduction

Urban green space is an open-space area that has vegetation located in urban areas. Urban green space has a function as recreation, socio-culture, city aesthetics, and support for ecological functions and has a high economic value for humans and for urban development (Zahra & Fariz, 2023; Haq, 2015). Urban green spaces are categorized into two types, namely public and private. An urban area is required to have urban green space with a minimum of 30% of the existing area, with a division of public urban green space by 20% and private urban green space by 10% (Prakoso & Herdiansyah, 2019). In Indonesia, there are still many areas that do not have adequate urban green space, especially in big cities (Santoso et.al, 2022).

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One of Indonesia's numerous significant cities with the largest population is Semarang, which serves as the administrative hub for the province of Central Java. This causes the development of built-up land, including towns, factories, and retail establishments (Kelly-Fair et al, 2022; Setyowati et al, 2021; Sari, 2019). Due to this circumstance, Semarang City's urban green space has shrunk, putting the environment at risk (Nugraha et al, 2023). Although the Semarang City Council has made attempts to create urban green space, more must be done (Sasmito et al, 2019; Sudarwanti et al, 2017). In places that still lack it, like the unevenly topographic Gajahmungkur Subdistrict, more urban green space can be created (Ismayanti et al, 2019; Retnanigsih, 2017).

Sampangan Village in Gajahmungkur Sub-district has the greatest population density (BPS Semarang City, 2021). The urban green space Taman Sampangan is in Sampangan Village (Pratiwi et al, 2022; Indraputra & Hidayati, 2016). Based on this, this study will identify the availability of urban green space in Sampangan Village, and discuss its utilization, especially in Sampangan Park.

2. Methods

The study location is Sampangan Village, Gajahmungkur Subdistrict, Semarang City, Indonesia (Figure 1). The method used in this research is quantitative method with remote sensing. Quantitative methods are used as systematic, rational, measurable, objective, and concrete methods (Sugiyono, 2008). Coupled with field observations to complement the previous method and strengthen data collection by seeing the phenomenon of conditions directly so that the research results are not only a general description of a condition but have comprehensive and in-depth results.

Fig 1. Study location

The data used to identify the availability of urban green space is Maxar satellite imagery acquired on August 3, 2022. The imagery data was analyzed using visual interpretation based on object characteristic recognition in the spatial frame. Those object characteristics can be recognized based on nine interpretation features: shape, size, pattern, shadow, tone/colour, texture, site, association, and evidence convergence (Fariz et al, 2023). To identify the utilization of urban green space in Sampangan Village, we used observation and interview as collection techniques. Interviews were conducted in a semi-structured manner with randomly selected respondents. We studied the utilization of public urban green space in Sampangan Park.

3. Result and Discussion

Sampangan Village has an area of 96 ha designated as an urban residential area. This makes the land cover in Sampangan Village dominated by built-up land. Based on the results obtained from image interpretation using satellite imagery in 2022, urban green space in Sampangan Village has an area of 22.97 ha, urban green space has not dominated the percentage of land use in Sampangan Village, which is 22.6%, but land use is dominated by building land use of 77.4% which is used for settlements, factories, trade, and others. For more details on the land use area of Sampangan Village, it can be shown in Figure 2 and the results of satellite image interpretation in Figure 3.

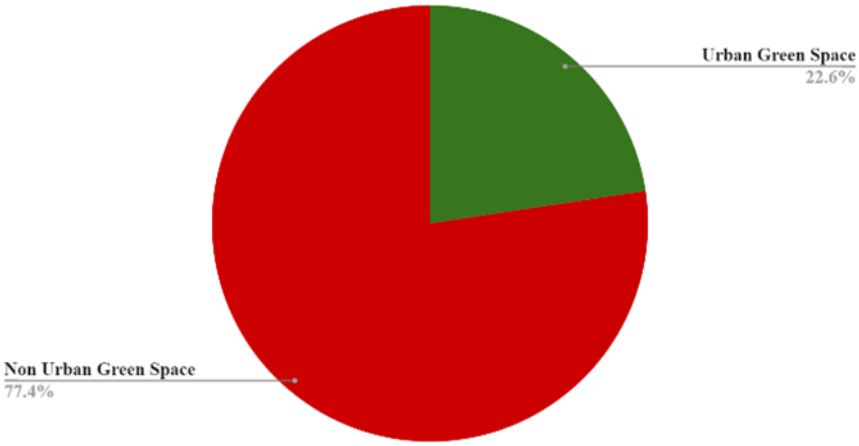

Fig 2. Diagram of urban green space in Sampangan Village

Fig 3. Satellite image interpretation results

Based on these results, the largest urban green space is urban green space in riparian area of 12.49 ha which is utilized as a mixed garden dominated by banana plantations in location 1 (Figure 4). While in location 2 only shrubs which will later be utilized as a tourist attraction according to one of the managers of the location (Figure 4). The urban green space area of the northern riparian area is utilized as a public urban green space in the form of a park named Sampangan. Sampangan Park has an area of 0.29 ha with various types of vegetation in the area.

Fig 4. Urban green space along the river in Sampangan Village

Sampangan Park is divided into two, namely tree species and shrub species. Sampangan Park has an area of 0.29 ha which is one of the active parks in the Sampangan Village area. Sampangan Park is on the road that connects Menoreh Raya Street and Kelud Raya Street. In accordance with its function, the number of trees in the Sampangan Park area is 80 trees and 15 types of shrubs. In addition to vegetation, Sampangan Park also has an aesthetic side where there are various types of public facilities with various colors such as children's play areas, park landmarks, seating areas, and green areas. The Sampangan Park area is always crowded with community activities such as traders and visitors since 03.00 p.m. in accordance with the regulations of the association of traders in Sampangan Park. The peak crowd of visitors to Sampangan Park ranges from 04.30 p.m. to 06.30 p.m. The number of visitors to Sampangan Park tends to be the same every day. Most visitors in the morning are people who want to exercise, while in the afternoon it is dominated by families who are recreating. For more details on the condition of Sampangan Park can be shown in Figure 5.

Fig 5. Condition of Sampangan Park in the afternoon

Local areas (urban villages) have urban green space structure directives including flower gardens, urban village parks, soccer fields, basketball courts, cemetery, and playgrounds (Purnomohadi, 2006). Sampangan Village has fulfilled all the directives of the urban green space structure, some of which are Mitra Sampangan Field, Wotgaleh Cemetery,

and Sampangan Park. In addition, in the classification of article 6 of the Permendagri RTHKP, there are several uses of public urban green space in Sampangan Village, including river borders/riparian area, Sampangan Park, Mitra Sampangan Field, Labschool UNNES Elementary School sports field, Wotgaleh Cemetery, and parking lots (Figure 6).

Fig 6. several uses of public urban green space in Sampangan Village

4. Conclusion

Sampangan Village with an area of 96 ha has an urban green space of 22.9 ha with a percentage of 22.6% urban green space land and 77.4% land is not urban green space but building land, both residential and industrial. Sampangan Village has the largest urban green space in the form of a river border of 12.49 ha which is connected to one of the public urban green spaces, Sampangan Park, which is often used as a means of exercise in the morning and recreation in the afternoon. In addition, some of the public urban green space utilization in Sampangan Village include river borders, Sampangan Park, Sampangan Mitra Field, UNNES Labschool Elementary School sports field, Wotgaleh Cemetery, and parking lots. However, Sampangan Village still does not meet the minimum provision of urban green space, which is 30% of the total land area, so it still requires efforts so that urban green space land in the village can meet these criteria.

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