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Landscape Layout in *Taman Tugu Suharto* Semarang by Implementing Green City Development (P2KH)

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ABSTRACT

City Parks as open spaces in urban areas should function as spaces for the interaction of city residents for various useful activities, functions, and interests. The existence of open space is an important element that can maintain the ecological sustainability of a city. *Taman Tugu Suharto* is located in *Kelurahan Bendan Duwur*, Semarang, a place marked by an 8-meter high monument, which is the meeting point between Kaligarang and Kali Kreo. At the turn of the Javanese New Year (1 sura), people perform *kungkum* rituals (is a kind of rituals for local people to bathe in the river) they believe, with the *kungkum* ritual on the night of 1 Sura, they will always get blessings and safety in the future and their wishes will be granted. *Taman Tugu Suharto* is one of the parks in Semarang that is unique and has the potential to be developed into a tourist attraction, especially to support the Green City in Semarang. This study aims at designing *Taman Tugu Suharto*. This park is belonging to the City Government has several obstacles, such as the unorganized park area, the absence of adequate facilities, difficult access from the riverbank to the Tugu Suharto, the limitate of the parking area, and little attention of the government to develop this area. So far, people rarely visit and use the park for purpose of recreation. *Taman Tugu Suharto* using 8 (eight) attributes the Green City such as green planning, green design, green community, green space, green building, green energy, green transportation, green water, and green waste. These attributes, are used as a reference in planning or developing city parks and developing more comfortable city parks that fulfill the Green Space standards in Semarang. Therefore, it is necessary to develop a landscape layout design appropriately so that it can be utilized optimally and sustainably by Semarang citizens.

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INTRODUCTION

The rapid development of the city of Semarang as a result of high economic activity demands carefulness and wisdom in structuring buildings and the urban environment. The arrangement of buildings and the environment in an area or a corridor cannot be separated from the existing spatial plan and is by the regulations. The development of the city of Semarang tends to lead to the formation of an increasingly enlarged and integrated urban area. This condition can be seen from the wider area that shows the physical characteristics of urban areas in the suburbs that have integrated with the main city, where urban processes that occur in the outskirts of large cities occur faster than in the big cities themselves. Structuring of buildings and the environment is a series of activities required as part of efforts to control spatial use, especially for realizing the built environment, both in urban and rural areas, especially the physical form of buildings and environment. The existence of this phenomenon has resulted in a process of spatial and socio-economic transformation of the area of medium-sized cities and the surrounding small cities as a result of the process of modernization and industrialization of the big (core) city, which in the results in the development of these cities seeming to unite.

A city is a human residence that is a manifestation of planning and planning which is filled with various elements such as buildings, roads, and green spaces [1]. A good city naturally has good elements to support human activities in it. These elements are necessary to make all human life better and easier. Cities as complex spaces tend to be dynamic and emphasize economic aspects[2]. This is the more urbanization in the city, the city that was once comfortable is now less comfortable because the land for green spaces is replaced by many buildings and residences.

Physical development of urban areas tends to use up green space and create built-up areas. To overcome this, good land use is needed as a barrier between the need for built-in space and the need for green space. Parks as an architectural product are open spaces that people use daily to interact and carry out activities, in addition to their main function as providers of oxygen and complement to urban green space needs[3].

The problem in managing green space in the city of Semarang is the lack of integration of green space management institutions in Semarang. Management is still carried out partially and sectorally, is not efficient and effective to produce quality and quantity of green space, and has not involved all stakeholders, including scientists. Based on field data,

there are many facts that the management of green space in the Semarang City area does not have its proper function.

Based on the foregoing, the focus of this service issue is how to design a green space arrangement that supports various activities of the Taman Tugu Suharto community so that it can increase efforts for a comfortable Green Space area.

The existence of parks as public open spaces can indirectly affect the character and culture of people in an urban area because ideally, a city park should be able to integrate the environment, society, and health through an ecological approach to health, comfort, and welfare of the community based on the surrounding environment.

2. Literature Review

2.1 Landscape

Planning a landscape is the same as planning a building, which is planning space so that people are happy and comfortable living in that space. The space of the house and the space of the landscape are parts of an organization. Definition of the landscape is the character of an area that is always related to the entire area, physically, ecologically, and geographically [4]. The relationship between humans and their outer space/environment has a reciprocal influence. A good environment will foster mental attitude, human culture, on the other hand, cultured humans will always try to protect and improve their environment so that it is more beneficial for their lives. Space will be meaningless if there are no humans, therefore the starting point of spatial design must always be based on humans. The relationship between humans and environmental spaces in Syamsiyah (2013) can be divided into 2, such as [5] :

1. Dimensional Relations (Anthropometrics)

Concerning the dimensions associated with the human body and its movement for human activities.

2. Psychological and Emotional Relationship (Proxemics)

This relationship determines the measures of space requirements for human activities.

Landscape functions according to Iswanto (2006) as [6]:

- Supporting elements landscape divided into 2 major groups, such as:
 - Hard material / hard elements, pavement, buildings, and so on.
 - Soft Materials / Soft elements, plants.
- Landscape support elements:

- Seating/lawn chairs: for a short break and a seat with something to look at.

▪ Elements of nature:

The calm nature of the water in the pool when combined with trees will produce a calm atmosphere. Water pool/fountain: pool as a means of playing for children and the edge of the fountain pool as a place to sit.

According to Santoso (2018) theory in landscape architecture includes 5 main components including natural processes, social processes, methodology, technology, and values [7].

2.2 City Park

The definition of a city park is a place that is in an urban area and has a function as the lungs of the city and as a place to rest for the city community. In order for a city park is considered as a convenient place by the people of the city, it is necessary to have vegetation and facilities, as well as the maintenance of public government by the city or citizen [8].

Based on Permen PU No. 05 / PRT / M / 2008 stated that a city park is open land that functions socially and aesthetically as a means of recreational, educational, or other activities at the city level [9]. A City Park as green space is part of open space (open space) of an urban area filled with plants/plants to support the direct/indirect benefits generated by green space of city, such as: security, comfort, welfare, and regional beauty [10]. Elements in a city park that have good quality include having a dust bin can, good air circulation, the visitors were happy to be inside the park as long as possible, the safety of visitors in the park, free wifi, accommodate all the people of the city from small children to adults, activity in the park is diverse, clarity of function space, sociability, the availability of pedestrian and bus stop for the public [11].

The elements of an urban park according to Nurbalqis (2016) are as follows [12] :

1. Plants, including trees, shrubs, shrubs, and grasses.
2. Playground, among them: children's play.
3. A place to relax, such as a place to sit to rest/chat.
4. Sports venues, such as jogging track.
5. Other supporting facilities, such as parking lots, garden fountains, toilets, drinking water containers, and other supporting elements of city parks (statues, lights, signs).

2.3 Park Function

Functions of the park can be benefited according to Instruksi Menteri Dalam Negeri no.14/1998 in Dewi (2018) [13] are as follows:

1. Function for health

For this function, the garden is analogous to the human lung for an environment. The plants in the garden during the day carry out a mutualistic symbiotic process with humans. The process of human respiration is necessary for the assimilation process in plants, and vice versa.

2. Function for beauty

A garden that is well laid out and designed appropriately can give the impression of being beautiful, calm, comfortable, and soothing. This is needed by humans (especially in big cities) as compensation for their busy daily work, to stimulate new enthusiasm for further activities.

3. Park as an attraction

A garden arranged in a building environment with an attractive arrangement will be the main attraction and characteristic of the building.

4. Park as a signpost

The placement of certain plants in the garden in such a way can be a direction and can direct the movement of activities in an environment such as a row of king palm trees on either side of a road in a factory environment, a row of wax cypresses on either side of the building's entrance.

5. Park as a dust filter

For factories, refineries, or other industrial sectors that have contributed to air pollution from the chimneys, tall trees can help reduce pollution outside the environment.

6. Park as a silencer

The garden also functions as a sound suppressor, both in the outside environment or vice versa, it can be helped by using small hills planted with shrubs or shrubs so that sound vibrations can be naturally suppressed.

7. Garden as a shade

Garden arrangement using shady trees will be useful as shade for open areas such as parking lots, corridors for recreation, rest areas, and so on.

8. Park as an ecosystem preserver

With the presence of a garden around the building which consists of various plants and trees, it will invite insects or birds as seed dispersers, plant breeders, pollinators and so on which will act as environmental preservation.

9. Parks as a deterrent to erosion

Garden material in the form of plants, especially ground cover plants such as grass, can prevent soil erosion or erosion.

10. Garden as a symbolic function

Apart from having a physical function, the garden also has a symbolic function. Symbolic values often influence the arrangement of green layouts, both urban spatial planning and building yard layouts. In China, it is known as "Feng shui".

Fungsi taman kota menurut Andrahan (2012) adalah sebagai ruang terbuka bagi seluruh masyarakat perkotaan, mempunyai fungsi sosial, fungsi ekologis, fungsi estetika, dan fungsi rekreasi bagi masyarakat perkotaan [14].

2.4 Green City Development Program (P2KH)

P2KH is one of the programs provided by the Ministry of Public Works through the Directorate General of Spatial Planning, in this case collaborating with Provincial, Regency, and City Governments throughout Indonesia. The P2KH program is carried out in several stages, starting from the preparation of the Green City Action Plan (RAKH) to the implementation (construction) stage, and the Green Festival [15] The purpose of the program P2KH by the government is to improve the quality of the space within the city through green space 30% and implement regional spatial planning in a city. besides that is to increase the city government and public participation in the implementation of a green city [16]. The Green City Development Program (P2KH) consists of 8 (eight) aspects, including [17]:

1. Green Planning & Green Design
2. Green Community
3. Green Open Space
4. Green Building
5. Green Energy
6. Green Transportation
7. Green Water
8. Green Waste

3. Research Method

There are several methods that can be done at the time of research, including observation methods, historical analysis methods, historical analysis methods, and the last one is experimental methods [18].

The method used in this research is data collection based on field observations, with documentation, in-depth interviews, which are conducted using several competent informants who provide an overview to obtain data and information that completes more detailed questions [19] with related agencies, community leaders and random responses from the surrounding community as well as data support using literature studies and related literature. The data obtained was continued in an FGD (Focus Group Discussion) discussion, which aims to obtain information and input from researchers on various local and specific matters [20]. Data were analyzed descriptively and spatially, with the illustrative design using AutoCAD, SketchUp, and Lumion software. The design can then be agreed with together, and an evaluation will be carried out to discuss this design is appropriate and can be a solution to problems that are currently occurring.

4. Results and Discussions

Semarang is a city that carries a green concept, at this time many district/city governments are actively preparing plans and designs related to the addition of existing city parks. This of course is intended in addition to pursuing the wide need for urban public green space as well as to provide services to the community for the need for public space for socializing, recreation, sports, or fulfilling the need for aesthetics and environmental identity. For this reason, it is necessary to plan a city park that takes into account the aspirations of the community.

4.1. Environmental Conditions of Taman Tugu Suharto

Plants are mandatory elements in a garden. No exception to the Taman Tugu Suharto. There are not many plants here and they are not well organized. Plants are also allowed to grow irregularly and some plants are not cared for properly, the wrong choice of plants also affects the impression generated by the garden.



Source: author's document (2019).

Figure 1. Plants in the Taman Tugu Suharto



Source: author's document (2019).

Figure 2. Plants that are less well maintained



Source: author's document (2019).

Figure 3. Gate of Kelurahan Bendan Duwur

The road serves as access for visitors in the park, so as not to damage or step on the well-tended soil and grass. The street is not functioning properly because the current is very rare for visitors to come in this park.



Source: author's document (2019).

Figure 4. The road to the Taman Tugu Suharto

Drainage, *Taman Tugu Suharto* has not had good drainage, so that the rainwater flows on the road around the park.



Source: author's document (2019).

Figure 5. Drainage of the Taman Tugu Suharto

The unavailability of Trash bins at *Taman Tugu Suharto* and there are still a lot of piles of garbage at the edge of the park and along the river. Some people still throw garbage on the riverbanks and the roadside, giving rise to a slum impression in the area Taman Tugu Suharto.



Source: author's document (2019).

Figure 6. Trash around the Taman Tugu Suharto

At this time, there is no dedicated parking area at Taman Tugu Suharto. Visitors are usually parked in nearby places on the edge of the park.



Source: author's document (2019).

Figure 7. The road that serves as a parking area for visitors to the Taman Tugu Suharto

The accessibility of Taman Tugu Suharto is beside the bridge, so it is quite difficult for visitors to access it, the traffic on the road is very heavy every morning and evening. There are 2 park entrances Taman Tugu Suharto, on the north and south of the park.



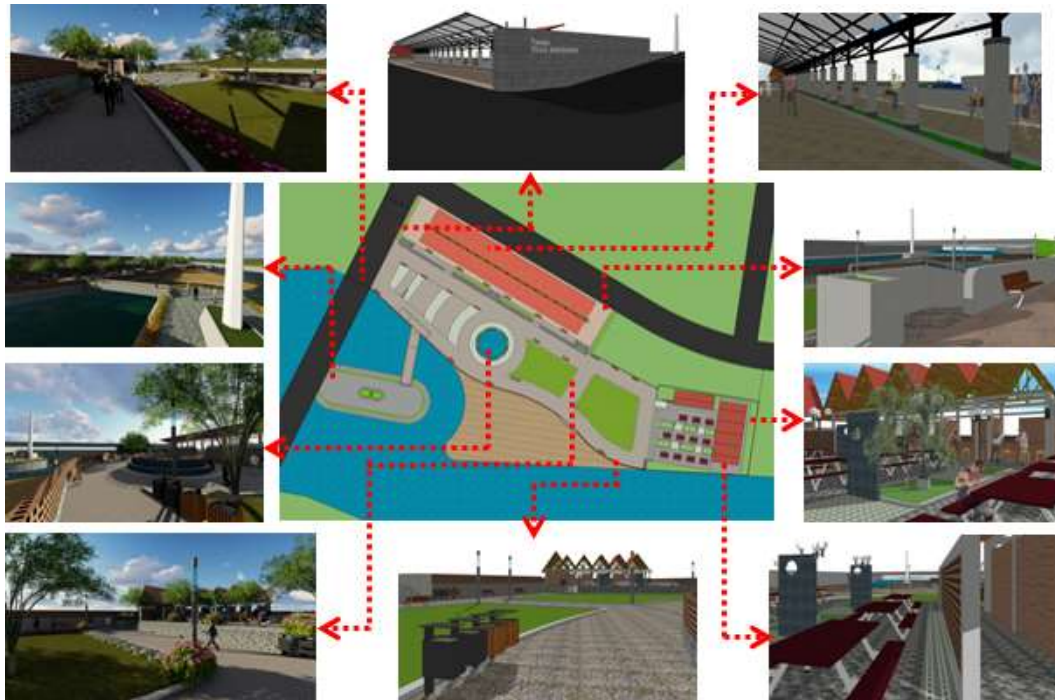
Source: author's document (2019).

Figure 8. Pedestrian Area in Taman Tugu Suharto

Taman Tugu Suharto needs to have a landmark in the form of a garden nameplate that is above a wall that is designed to be curved using rough plaster brick wall material and decorated with several shrubs. The design aims to be more visitors who come to visit the Taman Tugu Suharto.

4.2. Design of Taman Tugu Suharto

The following is the design of the Suharto Tugu Park design which implements the Green City Development Program (P2KH):



Source: author's document (2019).

Figure 9. Application of Design Concepts in Taman Tugu Suharto

The Green City Development Program (P2KH) formulates 8 (eight) attributes of a green city in Taman Tugu Suharto, is:

1. Green Planning & Green Design

The approach is carried out by applying in making a city park design. The design proposed for *Taman Tugu Suharto* is the application of the concept of a city park consisting of 80% forage with minimal maintenance, manifested in the selection of materials that are easy to care for, easy to find, not easily damaged, and use renewable energy. The design of the Taman Tugu Suharto is made as comfortable as possible to attract visitors to come. Provision of facilities needed by the visitor is given so that they feel safe in the park.

2. Green Community

The active role of the community or community in the environment around the Taman Tugu Suharto is needed to create a green city. The application of this concept is used

by the community as a gathering place to carry out activities by the people of Semarang.

3. Green Space

Green area areas must meet the standards and regulations in force in the city of Semarang.

4. Green Building

Efforts to develop energy-efficient and environmentally friendly buildings. This effort will be made through the application of the principles of green building, multiply openings on each building to minimize using the lights of the day. The building design is not given excessive insulation so that the air can circulate properly so there is no need to use a fan or AC.

5. Green Energy

Implementation tread in the form of renewable energy such as sunlight. Applications may be street lighting by solar panels can be one source of illumination at night, thereby reducing the use of electricity. The existence of trees and gardens in the garden design aims to provide good shade as well as oxygen producer so that people who come to visit will feel comfortable with the cool air and lots of shade trees in it.

6. Green Transportation

The transportation system on site is environmentally friendly. This refers to the concept of developing sustainable transportation with the principle of reducing negative impacts on the environment. Application with a selection of types of vehicles that can enter the site. For vehicles, you can park the vehicle at the entrance to the location. Meanwhile, to enter the site, environmentally-friendly vehicles such as bicycles are provided that can access all locations.

7. Green Water

The efficiency of utilization of water resources for survival by maximizing water absorption, reducing water runoff, and efficient use of water. The application is in the form of providing biopores to increase water catchment areas and selecting vegetation that can absorb a lot of water in the *Taman Tugu Suharto* area.

8. Green Waste

Utilization of recycled waste into new objects and sculpture of various objects that can be carried out by the community around *Taman Tugu Suharto*, provided trash bins based on the types of plastics, paper, cans, and bottles to make it easier to choose waste that can be recycled and those that are can not be recycled. Utilization of this

waste applies the concept of 3R reduce (reduce), reuse (add value to the waste from the recycling process), and recycle.

5. Conclusion and Suggestion

5.1 Conclusion

This study concludes that it is necessary to improve the function of the park by using the rules of the Green City Development Program (P2KH). *Taman Tugu Suharto* needs function conformity with the concept of a Green City in Semarang. This city park as part of the city's Green Space that needs special attention, from the planning aspect followed by other aspects, such as institutional, management, coordination, funding, and human resources, specifically in the planning aspect the main element is the balance of the ecosystem and the sustainability of open space in Semarang. Therefore, my idea emerged to arrange the Landscape in *Taman Tugu Suharto* Semarang with the Implementation of Green City Development (P2KH). The main objective of this research is to develop the *Taman Tugu Suharto* area to be comfortable, clean, and safe.

5.1 Suggestion

In this paper, the author's suggestion of which is required more attention by regional governments to improve urban green space in the city of Semarang especially Soeharto Monument Park, a few parks that exist at present very much for saying feasible to use activities by the public. It is necessary to hold further research on other city parks in the city of Semarang.

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