

Evaluation of the Aesthetic and Social Function of the Bendosari Park Salatiga City

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To function improve from the Bendosari park value, aesthetic and social function evaluation must be conducted. This study aims to evaluate the landscape characteristics of Bendosari Park based on aspects of the aesthetic and social function. The research was conducted in Bendosari Park on Ring Road of Salatiga City, Central Java Province, Indonesia from June until August 2017. Evaluation of the aesthetic and social function used close questionnaire method toward 30 respondents with respondents criteria of aged over 12 years and analyzed using KPI (Key Performance Indicator) method to find out how far the two aspects (the aesthetic and social) are reached. The study indicates that Bendosari Park has fulfilled the social and aesthetic functions of the park which indicated by the value of KPI analysis greater than 0.67.

Keywords: Aesthetic and Social Function, Bendosari Park, Key Performance Indicator

I. INTRODUCTION

Salatiga is one of the cities in Central Java Province, has an area of $\pm 56,78 \text{ km}^2$, consists of 4 subdistricts and 22 urban villages. Salatiga city has a population of 183,815 inhabitants [3]. Salatiga city has one park located at Ring Road of Salatiga that is Bendosari Park managed by Living Environment Offices of Salatiga city. This location makes Bendosari Park quite easily accessible by visitors, especially visitors from outside the city.

The facilities in Bendosari Park quite complete to fulfill the needs of the community such as exercising, learning, recreation, or just relaxing. The main facilities provided by this park area plaza, traffic park, children play area, gazebo, bird-animal area, bicycle path (BMX track), and jogging track. Although there is no guidance available, visitors will be easy to find the location of the facilities because they have been seen since entering the main area of the park. Supporting facilities available in this park that is bins, park benches, toilets, parking lots, lights, and walkways that surround the park.

The Bendosari park has a cool air condition because it is located at an altitude of 647-670 m above sea level. Air coolness is also supported by the proportion of plants that are more dominant than the park buildings. Partially existing plants have also been equipped with a nameplate so as to facilitate visitors who want to know the name of the plant. Based on the observations, there are several striking problems that need improvement in Bendosari park that is toilets, lighting, and cleanliness of the park.

The Bendosari park is categorized as a public park, public parks need to have a high value for ecological, social, aesthetic and economic functions. Ecological function positioned the city park as the absorber of pollution resulting from the density of population activity, dampening noise and absorbing excess CO₂. The aesthetic function of the park is

the garden should play a role to beautify a city. The social function of the park should be able to be a place for the community to be able to indulge in activities such as sports, recreation, and discussion [7]. The park's economic function ie garden has a source of products that can be sold like flower, fruit, leaves, and vegetables. Some also serve as part of agriculture, plantation, and forestry [8].

Based on the Bendosari park condition, the aesthetic and social function as the public park is more prominent than as an economic function or ecology. Therefore, in order to increase the role of aesthetic and social functions, it is necessary to evaluate the aesthetic and social functions for Bendosari city park.

The research was conducted in Bendosari Park on Salatiga ring road, Argomulyo subdistrict, which was held in June 2017. The analyzer was used is software ArcGIS 10.3, Excel, AutoCAD. The research type is descriptive quantitative research was used survey method to the respondents from park visitors and the characteristics of all physical elements of the park. Respondents in this study were park users who were doing their activity in Bendosari park Salatiga with age above 12 years. The samples number of respondents was 30 persons [10]. Data were collected using closed questionnaire method with the focus of study based on criteria of the aesthetic and social function of the park which can be explained as follows:

1. Park social functions with a variable:
 - a. The park accessibility. The park accessibility is an easy and safe park for people access when they are aiming to go to parks or do activities in the park [11]. The indicator function of park accessibility is easy and safe access, clear circulation, and equality of access for all.
 - b. The park health support. The park health support is the park ability to support people activities related to the

health (sports, pollution-free) [2]. The indicator function of the park health support is park visitors health.

- c. The park security level. The park security level is the park ability can give a safe place for people who do the activities in it (environment, park facilities) [11]. The indicator function of the park security level is a safe place for people who use it and available facilities are safe to use.
- d. The park comfort support. The park comfort support is the park ability can give a comfortable place for people who are doing the activities in it (environment, park facilities) [2], [11]. The indicator function of the park comfort support are the visitors feel comfortable while in the park and available facilities of the park are convenient to use.
- e. The park social activity. The park social activity is the park can use as a place for social interaction (discussion, spending time with friends and family). [9], [1]. The indicator function of the park social activity is being a citizen communication media and accommodate the needs of people at each level.
- f. The park education. The park education is the park can able to function as a learning media [9]. The indicator function of the park education is a place and object education.

2. Park aesthetic functions with a variable:

- a. The park beauty. The park beauty is the park would be a beautiful place that supported by the presence of more plants than park buildings as it aims to soften the stiff impression of city buildings [2], [4]. The indicator function of the park beauty is a place nice to look, smoothing the rigid impression of city buildings that supported by a more dominant proportion of vegetation.
- b. The park cleanliness. The park cleanliness is the park must be kept clean (garbage is not scattered and free from the source of unpleasant odors) [2]. The indicator function of the park cleanliness is a place cleaned up.
- c. The park infrastructure. The park infrastructure is the park has infrastructure facilities must be maintained (undamaged) [2]. The indicator function of the park infrastructure is the park infrastructure facilities in a good condition (not damaged)

Data analysis on the aesthetic and social function for park evaluation was used Key Performance Indicator (KPI) method. The KPI's assessment on the park aesthetic function was assessing the aspects of beauty, cleanliness, and infrastructure, while the KPI's assessment on the park social function was assessing accessibility, health support, security level, comfort level, social activity, and education aspects. The KPI value on the questionnaire of aesthetic and social function for park evaluation was obtained from the formula as follows :

$$KPI = \text{Actual value} : \text{Standard value}$$

information :

- KPI is the conformity value of the actual condition compared with the standard value.
- The actual value is value based on respondents' assessment (value of 1 until 3)
- The standard value is the maximum value contained in

each indicator (value of 3)

Assessment of respondents on aesthetics and social function on the park was based on 3 criteria that are 1 means "not appropriate", 2 means "less appropriate", and 3 means "appropriate". The value of questionnaire assessment with KPI method will have the lowest KPI value is 0.33 and the highest value is 1 for every observation variable aspects of the social and aesthetic function on the park [5]. Value $0.33 \leq KPI < 0.67$ means "Not conforming to standard criteria", if the value of $KPI \geq 0.67$ means "In conforming with the standard criteria" [6]. The KPI value is what will determine the depiction of the extent to which of aesthetic function and social function in the park was achieved.

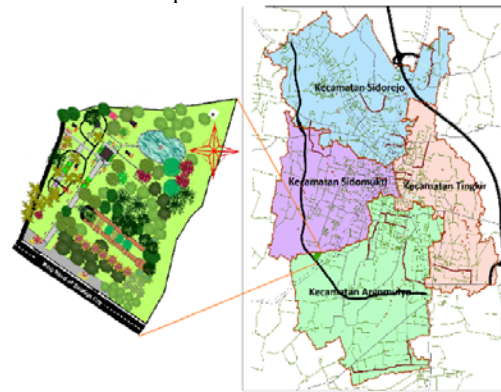


Figure 1. Bendosari park location in Salatiga city

II. RESULTS AND DISCUSSIONS

Bendosari park

Bendosari park in Salatiga City is located on Ring Road with an area of 3.8 Ha. High place Bendosari park is 647-670 m above sea level and it has a land slope between 2-8% in the north and 8-30% in the south. The dominant landscape elements in the Bendosari park are vegetation trees and flower plants and some supporting facilities.



Figure 2. Land slope Bendosari park

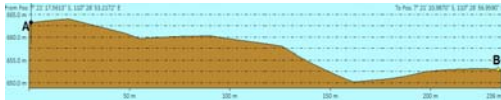


Figure 3. Horizontal cross section of land slope from point A to B in Bendosari park

The Bendosari park has complete facilities that enough for park visitors needs such as sports, recreation, studying, or relax in one place than any other park in the Salatiga city. The main facilities provided in Bendosari park are the plaza, traffic park, children play area, gazebo, bird animal area, BMX track, and jogging track.



Figure 4. Landscape of Bendosari park

Evaluation of the social function of the Bendosari park

In social function, park city could be a place to perform various social activities such as sports, recreation, and discussion [5]. Based on the KPI (Key Performance Indicator) analysis on the social function of the Bendosari park, obtained results as listed in Table 1.

Table 1. KPI value on the social function of the Bendosari park.

The social function of the park	KPI (Key Performance Indicator)
Accessibility	0,82
Health Support	0,87
Security Level	0,91
Comfort Level	0,91
Social Activity	0,97
Education	0,86

Description: The value of $0,33 \leq KPI < 0,67$ means "Not conforming to standard criteria", and the value of $KPI \geq 0,67$ means "Conforming to the standard" (Kania, 2010).

Based on the results of the KPI analysis was listed in Table 1, in all the social function of the park obtained KPI value $\geq 0,67$, the value means it is in accordance with the standard. The result of KPI in each aspect obtained is almost close to 1 so it only needs to do some things in order to create a garden with better social function. The following recommendations can be made:

1. Accessibility. In terms of access security, it is necessary to enable security personnel at the front entrance so that visitors who come more easily and safely to enter the location of the park since this park is located on the edge

of the southern ring road Salatiga is often passed by large vehicles. Adding special paths of a person with disabilities to visitors who have physical limitations can also enjoy this park.

2. Health Support. Adding other sports facilities such as sit-ups, pull-ups, and backups where the sports facilities are fairly familiar sports facilities that can be done in outdoor conditions that will encourage people to exercise in this place. This park is a convenient place to carry out sports activities because this park has a cool air condition. In addition, this park is also a shady park, so it is very convenient to exercise in this park.



Figure 5. The vegetation proportion that is more dominant than the park buildings make the park shady.

3. Security Level. Added lights evenly because in the main area of the park itself there is only one lighting lamp that is near the bottom toilet. Lack of lighting makes this park felt less safe to visit at night because it can potentially occur crime. In addition to the potential for crime, the lack of lighting can also trigger people to commit acts that are not responsible and not commendable.



Figure 6. The condition of the garden at night that is less lighting

The game facilities for children in this park have groundcover in the form of grass. For that, it was needed a set rubber pad as pedestal tools to keep children safe when playing.



Figure 7. Ground cover tools for children game

4. Comfort Level. Added lighting to facilitate visitors who come at night. Adding the park bench because it is available only 23 benches or can be renovated of the bench to be more spacious because the available bench is very narrow (68 cm long, 44 cm wide, 50 cm high) and only able to accommodate two people of small-bodied. Separate the jogging track with the park traffic path so that visitors who use each facility is not interrupted.



Figure 8. The condition of Bendosari park bench



Figure 9. The jogging track is still incorporated into the traffic path.

5. In the social aspect activities, if the aspects of accessibility, health support, safety level, comfort level, education, hygiene, beauty, and facilities are met, then automatically the community will be actively visiting this park and the park will function properly because this park actually be able to meet the needs of the community for recreation, sports, leisure, and learning, where these points can be met by the plaza facilities, children play area, traffic park, birdlife area, gazebo, BMX track, and jogging track and supported by a beautiful environmental conditions because there are many trees.

6. Education. Completing the tree with a nameplate on a tree that has not been given a nameplate so that visitors can get to know more the names of plants and their form considering only a few types of plants are given a nameplate. The diversity of plants in this park becomes its own plus value because it can be an education media for visitors as well as on the other side of other parks in Salatiga City does not have the diversity of plants such as Bendosari Park.



Figure 10. One of the plants that have been given a nameplate

Need to add some collection of other animals so that visitors can enjoy the mini zoo and also can be more familiar with various types of animals, especially for parents who want to introduce various types of animals to their children. Another way that can be done if the way before is difficult to do is completing the collection of birds because the collection of birds in this park can be said to be less diverse, there are only five species of birds namely parrot (*Gracula religiosa*), parrot (*Eclectus roratus*), lovebird (Agapornis), pigeons (Columbidae), and parakeets (*Melopsittacus undulates*).



Figure 11. One of the birds collection in Bendosari Park, the parrot.

Evaluation of the aesthetic function of the Bendosari park

The landscape aesthetic qualities can directly satisfy a person and indirectly influence human behavior [7]. Based on the KPI analysis of an aesthetic function of the Bendosari park, obtained the results as listed in Table 2.

Based on KPI value was listed in Table 2, in all aspects of the aesthetic function obtained KPI value ≥ 0.67 , this means that all aspects tested in this park are in accordance with the standard. The result of KPI in each aspect obtained is almost close to 1 so it is only necessary to make very little improvement to achieve the value of KPI = 1.

Table 2. KPI value on the aesthetic function of the Bendosari park.

The aesthetic function of the park	KPI (Key Performance Indicator)
Beauty	0,91
Cleanliess	0,79
Infrastructure	0,92

Description: The value of $0,33 \leq KPI < 0,67$ means "Not conforming to standard criteria", and the value of $KPI \geq 0,67$ means "Conforming to the standard" (Kania, 2010).

The following recommendations can be made:

1. Beauty. In the game facilities, areas need to be mounted pavement with the rubber pads type. Due to the game facility area is crowded with visitor activity so if the pavement only with grass then the grass will be easily damaged and will make the aesthetic value decreases.



Figure 12. The grass around the children's game facility becomes damaged by frequent trampling

2. Cleanliness. Park cleanliness can affect the park beauty, so the thing to do need a cleaning of the park, because of its behavior of visitors who are not orderly in disposing of garbage.



Figure 13. Example of disorderly visitor behavior in a garbage disposal.



Figure 14. Garbage on the park gutter.

3. Infrastructure Facilities. Infrastructure facility on the Bendosari park needed to be repainted for children's play facilities so that the game equipment is not porous because of rusting considering the game equipment is in an outdoor location.



Figure15. Game facilities begin to rusty

On other hands, it must repair the construction of the roof of the cage building because of the damage that occurs all there is on the roof of the cage that causes the birds to escape. This damage if not immediately fixed will reduce the aesthetic value of the cage.



Figure 16. Roof on the bird cage damaged

Weed controlling in the BMX track is required to avoid

damage to the track construction and to reduce the aesthetic value of this facility.



Figure 17. The path is overgrown with weeds

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III. CONCLUSIONS

Bendosari park has fulfilled the aesthetic and social function of the park, where the results obtained from KPI analysis have been in accordance with the standard value that is the KPI value in all aspects worth ≥ 0.67 .

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