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The Role of Environmental Quality in Kalijodo Green Open Space for Society in Jakarta City, Indonesia

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Abstract. The existence of green open space in urban areas can help create a healthy environment. A healthy environment can affect public health. One of healthy environments which affects public health is in Kalijodo Green Open Space, Jakarta, Indonesia. The availability of sport facilities at Kalijodo Green Open Space has triggered this place to be visited as a place for sports and recreation. This study aimed to describe the role of Kalijodo Green Open Space environmental quality for public health in Jakarta city. The approach used in this study was mixed method through questionnaire, interview, observation, and literature study methods with a total sample of 148. The results showed that the environmental quality in Kalijodo Green Open Space helped create health for the society. This could be seen from the results of a strong public perception of environmental quality in Kalijodo Green Open Space reaching 65.7%. This strong environmental quality had an impact on the health of society who used sport facilities in this place. The society who did sports got results in the form of a healthier body condition and a sense of optimism after doing activities in Kalijodo Green Open Space.

1. Introduction

This research departed from the emergence of environmental problems along with the increase in the population in the city. This is because the city activities can affect the level of environmental quality and the quality of life of its inhabitants in urban areas. In anticipating the problems that occur in the environment in the city, good planning needs to be done as a solution in creating a healthy environment. One of good plans in creating a healthy environment is by developing public spaces in urban areas such as in DKI Jakarta. The intended public space is Green Open Space (GOS).

The existence of Green Open Space becomes important for a city considering that it can help improve the environment and health quality of the surrounding society. The reason is that the existence of Green Open Space can help break down the air pollution as a result of the massive use of fossil fuel energy used for transportation and industry. Therefore, the more available GOS means the healthier environment in the city. Unfortunately, currently Green Open Space in Jakarta is still limited which has only reached 3044. As a city, Jakarta should have 30% of all available land. The law states that every city area has an obligation of the Green Open Space proportion 30 percent of the total area [1].

Although the number of Green Open Space in Jakarta is still limited, the government of DKI Jakarta continues to make efforts to increase the available public space. One of them is the construction of Kalijodo Green Open Space area. The Kalijodo area was previously a dense and prostitution residential area but now becomes an environmentally friendly area. The results of this



transformation make this area a place of sports, recreation, and social activities for the society in this area and the Jakarta inhabitant in general.

The changes and benefits provided by Kalijodo Green Open Space made the researchers interested in making this as an object of research. This was done to determine the practicality of this place after the transformation. For that reason, in this study, the problem studied was how to describe the role of the environmental quality of Kalijodo Green Open Space for society in Jakarta city.

2. Materials and Method

2.1. Materials

Green open space has a lot of understanding. In the law of the Republic of Indonesia Number 26 of 2007 states that green open space is an area extending / lane and / or grouping, which uses it more openly, where plants grow, whether they grow naturally or are intentionally planted. public. This division of green open space consists of public green open space (20%) and private green open space (10%). In this case the space is open and is operated by government institutions (central or regional). In this case the use of open public spaces, among others, city parks, public cemeteries, and green lines along roads, rivers and beaches While for private green open spaces are green open spaces organized by the community or the private sector [2]. While green open spaces, others, are gardens or home yards / public / private buildings that are used with plants [3]. In practice in the field, open space can be used by entering a ticket. Is a public government-run public open space available free to the public.

[1] The ideal city has a green open space of at least 30% of the total city area. Referring to the Earth Summit, the Indonesian government then passed Law No. 26 of 2007 and PP. 15 of 2010 concerning the implementation of spatial planning must reach 30% of the total area [1]. In this case the government is the actor responsible for formulating and ratifying policies. The policy itself means actions that occur in different processes various activities in realizing certain objectives [4].

The existence of a green open space that will make the city residents find green open space, climatology, ecology and education. In addition, green open space can affect the environment. A good and healthy environment is the basic right of every country mandated in article 28H of the 1945 Constitution of the Republic of Indonesia [5]. Higher environmental quality has improved the living environment of humans and other living things [5].

2.2. Method

This study used a mixed research design or mixed method. Mixed methods research is a research approach by combining qualitative and quantitative research [6]. The strategies used were sequential mixed methods or stepwise mixed method strategies, especially in sequential exploratory strategies, namely in the first stage researchers collected and analyzed quantitative data, then they collected and analyzed qualitative data in the second stage based on the results of the first stage [7]. In the first phase, the researchers collected and analyzed quantitative data to answer the formulation of the first research problem on how to describe the role of the Kalijodo Green Open Space environmental quality for people in the city of Jakarta. Then in the second stage, collecting and analyzing the previous research formulation using qualitative data.

The design of this study was conducted by involving 148 informants by conducting interview, questionnaire, documentation and observation. All informants used in the study were as follows: visitors and staff of Kalijodo Green Open Space, North Jakarta Forestry Service Tribal staff, Pejagalan Village Office staff, Head of Penjaringan Sub-District, and society living beside the Kalijodo area.

3. Results and Discussions

3.1. General Overview of Kalijodo Green Open Space

Kalijodo Green Open Space was inaugurated on February 22, 2017. Green Open Space, has an area of 1.4 hectares. This green open space is located at Bidara Raya Street, Pejagalan village, Penjaringan sub-district, North Jakarta.

Access to Kalijodo Green Open Space which has a strategic location adjacent to the Pangeran Tubagus Angke road and the Cawang-Pluit toll road and is blocked by 2 (two) streams namely: Cideng river and Black river (flood channel) can be seen. Kalijodo Green Open Space (GOS) is currently one of the most open green spaces visited by Jakarta residents. In this place there are some types of vegetation plant and sport facilities. In the process of building this place, the government involves the role of the private sector, namely: PT. Sinarmas Land and PT. Sinar Sosro.

3.2. Sports Activities in Kalijodo Green Open Space

The existence of Kalijodo Green Open Space was equipped with facilities and infrastructure to make this place crowded with people in the Jakarta area and its surroundings. This place provided sport facilities such as jogging trails, bike trails, skate parks, and outdoor fitness. The existence of these sport facilities made the Kalijodo area become a sport place for the surrounding society and people outside this region. The following is Figure 1 showing the sports activities carried out in Kalijodo Green Open Space.



Figure 1. Sport atmosphere in Kalijodo Green Open Space (Source: Authors documentation, 2017-2018)

Figure 1 shows a sport atmosphere in Kalijodo Green Open Space. Sports activities at Kalijodo Green Open Space were: gymnastics, skateboarding, bicycling, roller skates, running, badminton and outdoor gyms. This indicated that Kalijodo GOS had benefits for people who used it especially for sports activities.

From the results of research on Kalijodo green open space, it is known about the types of sports that were preferred and chosen by the society based on sex. The following table shows the types of sports based on the sex of the society.

Table 1. Types of Sports and Types of Women (Source: Processed results of authors, 2018)

Sex	Sports								Total
	Running/ Jogging		Gymnastics		Skateboarding		Others		
	n	%	N	%	n	%	n	%	
Male	35	50.00	9	12.90	11	15.70	15	21.40	70.00
Female	24	37.50	27	42.20	5	7.80	8	12.50	64.00
Total	59	44	36	26.9	16	11.9	23	17.2	134

Table 1 shows the types of sports and types of women. It is known that half of the respondents (50%) who were male mostly did the type of running/jogging exercise; whereas from the female respondents, 42.2% did the type of gymnastics. While for the type of skateboarding it was dominated by male (15.70%) and for other types of sports was dominated by male (20%) as well. The data can be concluded that male dominated every type of exercise than female for all types of sports activities in Kalijodo Green Open Space.

3.3. Society Perception of Environmental Quality in Kalijodo Green Open Space

The existence of Kalijodo Green Open Space had helped transform this region into a healthier environment which was beneficial to the society's health. This can be seen from the results of research conducted by researchers by linking the environmental health indicators in Kalijodo Green Open Space. The environmental health indicators were: air condition, air, water, drainage, sport facilities, children's playground, hall, sanitation (toilet, handling of garbage, sewer), plants/trees, arrangement of traders, food hygiene, security, and place of worship. All indicators of environmental health were adjusted. From these indicators it can be seen that half of the respondents had a perception about the Kalijodo Public Space with a strong perception of environmental health, which reached 65.7%. These strong environmental health conditions were in accordance with the results of interviews conducted by researchers with informants named Ratna as the local community as follows: *"If the sport facilities are good ... the other facilities are also good, such as drainage; that area never flooded as far as I know ..."* (June 11, 2018)

From the results of the interview it is known that the condition of the facilities available in Kalijodo Green Open Space was in a good condition. It was also supported by efforts to maintain the level of sanitation in this public space. This was also appropriate from the results of the interview with the informant, Mr. Azari, as the manager of Kalijodo Green Open Space as follows: *"... We also clean up the trash ... Especially if it is Saturday and Sunday, there are lots of garbage, piling up; it was cleaned up in the night by the janitors ... so that this place is clean ... after this place closes at 12:00 a.m., usually at 1:00 a.m. we clean up, at 2:00 a.m. until 3:00 a.m. it is normally just finished because it is so much ..."* (May 17, 2018)

From the result of the above interview it is known that the janitors carried out their obligations in cleaning Kalijodo Green Open Space routinely until early morning. This was done so that the users of green open space could use the facilities provided without being disturbed by the garbage in this place.

The result of the society's perception of the strong level of environmental health in the Kalijodo Public Space shows that the Kalijodo Public Space had succeeded in creating good and healthy environmental conditions than the situation when this place became a place of prostitution. This is in line with the mandated Article 28H of the 1945 Constitution of the Republic of Indonesia concerning a good and healthy environment which is a basic right of every Indonesian citizen [5].

Although there were strong environmental conditions, but on the other side the condition of the plants in the Kalijodo green space was currently still not completely clear of garbage. This happened because this place was still lack of the availability of trash boxes which caused people to often throw garbage carelessly. Besides that, the condition of the plants in this place still has a relatively small size. This is because the age of this plant is 1-2 years old. Then the seasonal changes that occur also have an influence on the condition of plants that turn yellow during the dry season (The results of the observations were carried out by the author on May 17, 2018).

3.4. The Impact of Kalijodo Green Open Space

The existence of Green Open Space in the Kalijodo area made a change from the existing form of the Kalijodo area which was the place of prostitution and densely populated housing into a green area. This change provided benefits for the surrounding society and outside the Kalijodo area which used it as a place to do activities. From the results of research conducted by the researchers, it shows that the environmental condition through sport facilities at Kalijodo Green Open Space was in good condition

(66.4%). This good condition triggered the society to carry out health activities. The health activities were sports activities which in the end made the society get physically healthy results.

In the Republic of Indonesia Law number 23 of 1992, health covers 4 aspects: physical, mental, social, and economic. These health restrictions are inspired by health restrictions according to the World Health Organization (WHO); the latest form is physical, mental, social and economic health. Physically healthy health activities received by the society who used sport facilities in Kalijodo Green Open Space were in the form of healthier (rarely sick) (34.3%), losing weight (15.7%), and answering both (35.8%). In addition to sport facilities, the presence of children's playground in this public space made the children more active (20.1%), their physical development increase (3.7%), their level of socialization increase (20.9%), and answered all three (55.2%).

The existence of health activities carried out by the society in Kalijodo Green Open Space above indicated that health development was not only carried out by the government, but the society as a target also helped realize the health condition by engaging in sports activities. It is stated that in achieving a healthy state for everyone, health development must be carried out in an integrated and comprehensive manner, as well as there is a shared commitment between the government and the society. There are three factors that cause a person to conduct clean and healthy living behavior: 1) predisposing factor, 2) enabling factors, and 3) reinforcing factors [8]. In these three factors, the existence of Kalijodo Green Open Space equipped with sport facilities had become the predisposing, enabling and reinforcing factors for the society to carry out sports activities in this place in order to create a healthy state.

The existence of the existing Kalijodo green open space is inseparable from the role of the government and the private sector. The existence of these public spaces shows the success of collaboration carried out by the government and the private sector in creating healthy urban living conditions in Jakarta, can grow and develop. In this case, changes that occur in the Kalijodo area help the DKI Jakarta government towards a healthy city condition. This is as revealed that a healthy city itself is a condition of a clean, comfortable, safe and healthy city for the population that will be achieved through the implementation of several integrated arrangements and activities agreed upon by the community and the local government, which in this case concerns the provincial government and district or city [9].

4. Conclusions

The existence of Kalijodo Green Open Space had turned this region into a healthier environment than before. This can be seen from the society's perception category of a strong healthy environment, which reached 65.7%. This strong environmental quality achievement had an impact on the health of society who used sport facilities in this place. The society who did sports activities got results in the form of a healthier body condition and a sense of optimism after doing activities in Kalijodo Green Open Space. These results then help change the negative image that has been embedded in this place into a positive image.

As a recommendation in this study, the researchers expect an effort to improve the quality of the environment in Kalijodo Green Open Space especially in helping to increase plant fertility during the dry season and also maintain the level of environmental sanitation of waste by increasing the number of trash bins in this place. This is done to improve the quality of the environment and the wellbeing of the society who uses the place.

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