

Utilization of public open space in Kampung Deret Petogogan Jakarta

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received August 16, 2020 Received in revised form Sept. 16, 2020 Accepted November 07, 2020 Available online August 01, 2021</p> <p><i>Keywords:</i> Kampung Deret Petogogan Park Public open space Utilization</p> <p>*Corresponding author: Fermanto Lianto Master of Architecture, Universitas Tarumanagara, Indonesia Email: fermantol@ft.untar.ac.id ORCID: https://orcid.org/0000-0002-0249-4660</p>	<p>Currently, the existence of Kampung Deret Petogogan is due to the Jakarta government's work program, especially in the field of alleviating slum areas. In the past, this region was a slum area and it was the government's vision to transform it. Since 2013, it has been in a neat condition, not only for its occupancy, and also for its infrastructure in the open areas, which consist of parks and neighborhood roads. This research aims to determine the quality of public open spaces, such as parks and neighborhood roads for the residents. This study adopted descriptive qualitative methods, expected to benefit the government for the development of open spaces, and the community maintenance and utilization. The results showed that the democratic and beneficial aspects of the society, and the elements of quality public open spaces were achieved. Also, the productivity of open space utilization was very large. The element of responsiveness to physical and non-physical existence, and the need for infrastructure in an open space needs to be improved by maximizing its quality.</p>

Introduction

In terms of improving the development and services offered to the community, Jakarta Government has held several useful programs for the city's progress, which cover many aspects, such as a settlement arrangement. Furthermore, their targets include rejuvenating slum areas and intact residential neighborhoods. There are many approaches and programs provided in addressing these problems, such as the improvement of direct physical targets (houses), repair of infrastructure, and socio-economic services (Aditantri and Jamila 2019). For infrastructural improvement, usually, the Government make attempt to build and develop the physicals in the field (Machmud 2015), and also applying the social approach in establishing the community's elements. One of these programs is the Kampung Deret Petogogan (figure 1).



Figure 1. Condition of Kampung Deret Petogogan 2013

Source: (Rudi 2013)

Currently, Kampung Deret Petogogan is more organized, as observed from the building's arrangement, harmonious facades, clear distribution of plans with good circulation, and the development designed according to the owner's needs. Moreover, it is supported by the

structural technology RISHA (Rumah Instan Sederhana/Simple Instant House) in its material applications (Sabaruddin and Sukmana 2015).



Figure 2. Plans at the location of Kampung Deret Petogogan

Source: Slum Settlement Arrangement with RISHA Technology in Petogogan area, South Jakarta (Pramantha 2019)

The building materials' quality in the Kampung Deret Petogogan area is technologically correct, and its benefits are already being felt. (Pramantha 2017). The existence of good compliance with open space while planning and implementing are maximally utilized in making it an important factor in this area. In planning, standardization in creating open spaces is designed small with artificial objects for the residents and government (Pratiwi 2016). This causes the roads and parks in this area to appear more organized (figure 2). The problem associated with this process is the current use of open space in the Kampung Deret Petogogan area, under the initial plan, namely as a green and circulation avenue. One of the benefits of this research is to provide a report to the government in organizing developmental programs, that pay more attention to green areas in slum rejuvenation. The open space discussion is an environmental response study, because various researches only discuss the RISHA building structure and its social aspects. However, this research presents the quality of public open space in this area.

Method

Space is a blank that exists on the earth's surface to accommodate humans and their activities (Presiden Republik Indonesia 2007). It begins with a point, then developed into lines, planes, and the combination is called space (Ching 2007).

When viewed from its utilization, Public Open Space/Ruang Terbuka Publik (RTP) is felt by humans or others (Nurhijrah and Wikantaria 2019). It is used by all groups, not limited by SARA (ethnicity, religion, race, and intergroup), and also attractive and qualified (Hantono and Pramitasari 2018).

The open space quality is observed from the size, completeness of the facilities, elements, design, and supporting conditions, as well as non-physical, in terms of being responsive, democratic, meaningful, and affordable (Liem and Lake 2018; Carrs et al. 1992). Another quality indicator is user's activity in the public open spaces (Dianty and Dwisusanto 2020). In terms of the green area, there is a need to properly manage and adapt it to the use of Public Open Space/Ruang Terbuka Publik (RTP) (Hantono and Pramitasari 2018). Furthermore, it is necessary to observe the psychological side of the users, whether they are satisfied with this RTP (Histanto and Kusliansjah 2018). This makes the space and its use synergistically (Sugiarto and Thahir 2018).

The green space is an area both naturally and artificially intended for plant development in terms of agriculture (Ramadhan and Osly 2019). It is also used ecologically, socially/culturally, architecturally, and economically (Hartoyo and Santoni 2018; van den Berg et al. 2015). Furthermore, the existence of Green Open Space/Ruang Terbuka Hijau (RTH) is observed from the aspects of environmental, social, and technical conditions (Fenny Aprillia, Lie, and Saputra 2020; Febrianti, Sulma, and Pasaribu 2015). The classification of RTH facilities in a residential area is based on the capacity of services to some residents. The green area is planning to balance and align mass building against the outside in a settlement (Wikantiyoso, Sulaksono, and Suhartono 2021; Widyawati, Ernawati, and Dewi 2011). Functionally, plants in urban areas other than producing O² are expected to be productive in decomposing noise, increasing green areas, reducing temperature and humidity (Sudarwani and Ekaputra 2017).

The descriptive qualitative method was used in assessing the Utilization of Public Open Space in Kampung Deret Petogogan. The aim is to describe the situation and symptoms of the Green Open Space (RTH) use in this area. This was explained in detail both in terms of the park and the road environment, as well as supporting the aspects and visual conditions. The data sources

for this study were obtained from the field, including the observations results, interviews, and literatures (Purwantiasning 2017). In addition to the utilization, the results presented the quality of open space with an emphasis on the availability of infrastructural components, and are considered comfortable (Widiyati 2019). Place centered mapping and person mapping techniques were used to determine the pattern of open garden space to support user utilization studies (Winata, Amiuza, and Sujudwijono 2015).

Result and discussion

Research area

The study area was an open space area in Kampung Deret Petogogan, South Jakarta. Public Open Space areas include parks, squares, roads, open fields, or even places where there are no buildings. The area mentioned above is a community forum carrying out activities and social interactions with the surrounding environment within the scope of Public Open Space (Hantono and Pramitasari 2018). In urban planning, the term open space is a residential area (Darmawan and Utami 2018). Based on the above definition, Public Open Space is an open place whose existence is outside the massive mass of buildings (Hasibuan and Siwi 2019). Therefore, this study is limited by open spaces in the form of neighborhood roads and parks. The Kampung Deret Petogogan in South Jakarta has an area of $\pm 3,140 \text{ m}^2$. For the size of the open space outside the building, they are approximately $\pm 240 \text{ m}^2$. When conducting field observations, it was noted that the terraces of each housing unit directly face the road, therefore, there is no fence or minimum distance from the house to the neighborhood road. Meanwhile, the existence of a green area in the form of a park located in the middle of the settlement is not too far from every residence in this area, and reached by the farthest housing unit even though the time is not too long.

Quality of Green Open Space utilization (park)

Based on the Ministerial Regulation on Green and Non-Green Open Space Planning No. 1 of 2007, the open space is an urban area (RTHKP), include burial sites, city parks, environment, road safety, recreational areas, parks, sports venues, and other places within it (Presiden Republik Indonesia 2007). The park which is a public open

space in the research area is in the middle of a residential area.



Figure 3. Park condition in Kampung Deret Petogogan

The park placement design follows the theory that distance affects the frequency of visiting a place, and the variety of activities carried out by users (Hantono 2017). The residents' closeness to the nearest park is about 2 m, with a maximum population of about 80 m. Based on an interview with Muhidin (55 years), the park's public open spaces is accessed by residents only on foot through the neighborhood road. The park's current functions are based on observations, such as observed in figure 3 and interviews on recreational facilities, motorbike parking, and greening, and the lack of land or private space in the dwellings. The parks that function identify parking pockets for occupants in the initial design of the area planning. This park is one of the multifunctional spaces in the area. Based on an interview with Kurni (39 years old), the residents feel the parks' function, especially mothers, such as a place for social communication, exercise, children's play, or simply to get fresh air. The main function of the garden is the area for planting trees, guarded with iron fence (no more than 1.5 m high). The types of plants are very diverse, and according to the residents, some were constructed and plants were donated in the parking area for reforestation. Some trees and other green plants were planted directly on the ground, and some use media, such as pots, plastic containers, etc.

This research observed that the quality is still lacking due to irregular placement and quantity, and the variety of plants is also less diverse. The hard elements in the open space design include the presence of pavement material consisting of park benches, sidewalks, street or garden lightning, signboards or road signs, and other additional components. The soft element factor includes the

presence of trees and greenness with various types of vegetation in the green open space, either planted in pots or directly in the land. However, residents still feel that they have sufficient evidence of existing plants. The parks and green spaces with an area of 240 m² have exceeded 30% for the catchment regions of 4,290 m². The current condition of park furniture needs to be cleaned, because there are corners that are used for hoarding goods or garbage. This results were visually displeasing with good quality gardening. However, the use of furniture and soft elements by residents is a significant indicator of quality and benefits.

Based on the benchmarks, the public space quality is beneficial to the residents, both individually and collectively. According to the field observations, various community activities, such as chatting, exercising, and feeding children in Green Open Space (RTH) also enjoyed the benefits of this open public space. It is also felt in this region when viewed from the democratic benchmarks. Its utilization by all groups is observed in various levels of the society in residential areas.



Figure 4. Community gathering activities in Kampung Deret Petogogan park (above and below)

Furthermore, the determination of the benefits in a public space is also influenced by the relationship between the elements that make up the space, such as infrastructure and human activities (Effendi, Waani, and Sembel 2017). Play facilities, seating, green trees in pots, or directly on the land used by residents were used as a quality measure. Physical aspects as indicators of quality and benefits, include the dimensions of open space, the infrastructure in it, its shape, and location (Amin 2018). According to the observations, the existence of a park which is also green open space has less than optimal quality, as shown in figure 4.

The elements of hard pavement material are made of block, and presently, the condition is mossy in several places. The park design has a rectangular pattern and is in the middle of a settlement, making it easily accessible from all corners. The existence of green space in a settlement in an urban environment does not only function as a green area, however, is a continuation of regional planning, assuming its existence is further examined. In fact, arranging the right greening elements have a tremendous impact on green spaces (Imansari and Khadiyanta 2015).

Parks are used based on the division of time, types of activities, and users. This time classification is based on the morning, afternoon, and evening, and the results were obtained according to table 1. Through behavioral mapping which aims to identify the types of activities and users, table 1 shows the high-frequency use of park and makes a quality open space garden.

Table 1. Types of activities and frequency in Kampung Deret Petogogan

Day	Time	Type of activity	Frequency	Actor
Monday to Friday	06.00-11.00 am	Sports	Not too crowded.	Adult men and women, rarely children.
		Chat		
		Is playing		
		Breast feeding a baby		
		Relax		
	11.00 am-04.00 pm	Sports	Crowded.	Adult men and women, children.
		Chat		
		Is playing		
		Breast feeding a baby		
		Relax		
	04.00-10.00 pm	Chat	Overcrowding tends to stop at night	Adult men and women, rarely children.
		Is playing		
Breast feeding a baby				
Relax				
Saturday to Sunday	06.00-11.00 am	Gym	Crowded.	Adult men and women, children.
		Chat		
		Is playing		
		Breast feeding a baby		
		Relax		
	11.00 am-04.00 pm	Sports/Gym	Crowded.	Adult men and women, children.
		Chat		
		Is playing		
		Breast feeding a baby		
		Relax		
	04.00-10.00 pm	Sports	Overcrowding tends to stop at night.	Adult men and women, rarely children.
		Chat		
Is playing				
Breast feeding a baby				
		Relax		

The average noise level due to the activities in this green open space is caused as a function of the parking area. Based on an interview with Endang (33 years), the existence of a park is also beneficial when the air at home is hot. Based on the interview with Yati (24 years), many mothers bring their toddlers under the sun because it is suitable for their children.

Based on the physical analysis indicators of public open space in this study, 1) The extent has been fulfilled, 2) The completeness of the facilities need to be improved, 3) The placement of play spaces, parking area, and avenue for mobile traders need to be redesigned. The green line needs to accommodate user by improving the condition of this infrastructure, in order to increase the benefits of the public open space.

Neighborhood roads as public open space

The neighborhood roads are open public spaces that are actively used (Setiadi and Rahman 2016). It is also a means of circulation for humans, animals, and vehicles as well as been included as part of the area arrangement when rejuvenating Kampung Deret Petogogan. The neighborhood road activity in this area is based on very high

observations. Its dimensions have a width (1.5 m) that is not significantly different from one another in each neighboring. According to government regulations, the minimum road standards for pedestrian and vehicle circulation functions should have dimensions of 5 m.

Many dwellings are found to have no plants in front of the house and are replaced by parking lots for motorbikes and bicycles, birdcage hangers, and goods or containers. Furthermore, neighborhood roads are useful for socializing, even within the minimum size limit. Another use of open space is to become residual land directly adjacent to other hamlet settlements, which are part of an ecological road (additional land). However, the land is used as a place for pets' cages, such as rabbits, birds, clothes lines, parking lots, and for relaxation.

Based on the interview with Wandu (46 years), the residents socialize by sitting and chatting in that place, because it is close to where they live. Also, this has become a habit and adds to the intimacy between neighbors. Residents are interested in socializing on the side of the road without paying attention to safety. Furthermore, they have two-wheeled vehicles and parking

facilities in each unit, which are not accommodated in the planning. The safety and comfort factors that should be part of the open space indicators are less pronounced, when the use of neighborhood roads becomes a means of socializing space (figure 5).



Figure 5. Community activities on Kampung Deret Petogogan road as a selling place (above) and gathering (below)

In this area, democratic nature is felt when people gather and socialize (figure 6 above), and are compromised as parking lots for motorbikes (figure 6 below). However, from the view of use, the road should be used for pedestrian or vehicle circulation, because it is capable of causing chaos, due to the irregularities in the functioning of the open space. Therefore, the road becomes narrow due to the congregation and circulation of the residents, which is hampered by both humans and vehicles.

The conditions and forms of facilities or infrastructure in an area are very helpful in measuring its quality. From the above conditions, there are difficulties in the circulation of both humans and vehicles, therefore, the environmental benefits of the road are not

maximized. Based on the non-physical aspect, the neighborhood roads quality in the Kampung Deret Petogogan area has uncomfortable responsive spaces.



Figure 6. Community activities on Kampung Deret Petogogan road as a gathering place (above) and motorcycle parking (below)

Due to the open space quality which is estimated to be inadequate, people using it also have space for interaction between residents, however, only sit around without supporting elements. The role of government and population response is needed to provide more comfort, and does not rule out the function of roads for circulation. Meanwhile, based on the spatial use aspect (meaningful space), the neighborhood roads are based on favorable observations. It is also a part of the circulation in this area, coupled with other functions that are very meaningful to its residents. The aspects of quality indicators have been fulfilled in terms of its usefulness, and the non-physical aspect shows the current public open space benefits in Kampung Deret

Petogogan. The intensity of socialization on neighborhood road is very high, because it is a cultural community before transforming to new areas. Also, the limited space makes residents take advantage of the available open area.

Conclusion

Based on the research above, the utilization of public open space in Kampung Deret Petogogan was maximized into parking area. However, the physical use of neighborhood roads has changed from circulation paths to parking spaces and open areas, including additional building functions and the means of socialization. Currently, open space conditions need to be maintained, especially in green spaces (parks). As the only public open space, the park should be maintained as well as the elements of its facilities and infrastructure. The physical improvements observed included safer and better children's games, modification of pavement materials, adding green plants, disability facilities, and other infrastructure.

This aims to increase usability, convenience, and accessibility which in turn improves the quality and benefits of public open spaces. The high utilization of public open space in this area showed the need to improve its quality and benefits. Based on the observations, interviews, and considering that a public open space is needed in this area, it is necessary to design a type that accommodates various utilization purposes. The recommendations given, are the design of open spaces, such as special parking spots or pathways for people with disabilities, and still responsive to greening. Therefore, it is expected that the next research provide suggestion for the public open space design in the Kampung Deret Petogogan area.

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Author(s) contribution

Friska Hasibuan contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

Fermanto Lianto contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.

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