Affordance of sitting place in parks as a support for passive and active recreation

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Abstract. Public open space in a city must accommodate recreation activity for its citizens. As a recreation place, public open space offers many outdoor activities such as passive recreation and active recreation. The execution of those activities should be accommodated by the physical element at the park. One of the physical aspects that must be there and could accommodate the activity is the sitting place. Sitting place in an open space is not only a place to sit but should trigger another activity to happen. This phenomenon could be explained by affordance theory. Affordance is how the environment provides a lot of possibilities for a human to do an activity with so many different ways. Bintaro Xchange Park and Banteng Field Park are two parks that have some sitting place to accommodate the outdoor activity. This research will be using literature review, observation, and interviewing the park visitors to know how they occupied the space at the sitting place in the park. This study examines how passive and active recreation could happen at the sitting place in the park.

1. Introduction

Park is one of public open space form. The presence of public open space is one of the most critical aspects of the life of the people who live in an urban area. Public open space also has an essential role in environmental sustainability. Woolley [1] said that open spaces are one aspect of the urban environment that is of great importance in daily life for people who live in urban areas.

In their daily lives, the average of people does most of their activities indoor. These long-period indoor activities could cause stress. Because of that, the citizens need a public open space for the needs of outdoor activities. Based on the Minister of Public Works Regulation [2], public open space should accommodate recreation activity for the citizens. In doing recreation, people have their way so that the activities are very diverse. Outdoor activities could be activities involving physical or non-physical activities. Woolley [1] classified physical activity into two categories, active recreation and passive recreation. Recreational activities also influenced by internal factors such as age. Children tend to do activities that require a lot of physical movement because they are still in the exploration stage. Unlike teenagers who tend to carry out their activities in groups and do not require heavy physical movements such as chatting. It is also different from adults; whose recreational activities are more dependent on children because usually, adults come to open spaces to accompany their children. Then different from the elderly who tend to do recreational activities to observe the surrounding scenery or simply seek for fresh air.

Gibson [3] said that affordance is possibilities offered for organisms based on the physical conditions of the environment itself and also the perceptions of each. Each object in the environment has its
affordances, which are not limited in number. This theory can be related to the environment in the form of seating and how the possibilities offered to humans who carry out recreational activities in the park.

Activities in public open spaces are not only determined by internal factors as mentioned above but also determined by external factors such as physical elements in the open space. In landscape design, several elements could form space. Elements that form landscape space are very dependent on the material used. Based on Hakim [4], materials in the landscape are divided into two types, soft material and hard material. In the park, these physical elements to attract visitors and must be able to accommodate the needs of users.

The physical component that must exist in a park is a sitting place. As we all know, the primary function of a seat is to sit. In open spaces sitting place is usually used to sit and rest from physical activities. But often in open spaces, there are unusual activities carried out on the sitting place. This indicates that sitting place in an open space can accommodate activities other than sitting. Sitting Place is included in the hard material element in a park. Gehl [5] said as furniture in the park, seating should have various functions not just for the place to sit. The place to sit is also divided into two categories, primary seating and secondary seating. Primary seating is a place that is made to sit like a bench and chair. Secondary seating is an additional object that can function as a seat, such as stairs and low walls.

A good sitting place is a seat that can trigger other activities to happen there, such as eating, reading, sleeping, chatting, and so on. Therefore, the placement of seats in the park needs to consider some aspects. The orientation and view of seating have a significant role because most people have activities in the seat for a long time so that an attractive view is needed. A view can be either a scene or can also be events. Visitors tend to choose a seat by seeing events around them. Also, the space and the air around the seating area must be considered for the convenience of visitors to carry out their activities. A decent place for a seat is an easy place to sit on and also comfortable to linger there [5].

This research will try to see the role of sitting place that has various possibilities based on the affordance theory of activities carried out. Activities will be focused on passive and active recreation. Activities will also be seen based on the time and age of visitors. Taman Bintaro Xchange and Banteng Field Park will be the place of research. The purpose of this paper is to determine the role of seating in the park on recreational activities in Banteng Field Park and Bintaro Xchange Park with the affordance theory.

2. Method
To be able to achieve the purpose of this paper, the writer will do the following methods:

1. Literature study of public open space, physical components of open space, sitting place in open space, passive and active recreation, and affordance theory.
2. Observation to find out directly the phenomena that occur on the site and also obtain visual data in the form of photos.
3. Interviews with park visitors to know more about the experience of the space felt and also to know the diversity of visitors based on context.
4. Analysis

3. Results and Discussions
3.1. General Information

| Table 1. Physical Condition of Parks |
|-------------------------------------|
| Physical Condition | Bintaro Xchange Park | Banteng Field Park |
| Parks Area | ± 45000 m² | ± 52000 m² |
| Nearby building types | Mall, Housing, Station | Government Office, Hotel, Mosque, Church |
| Parking Area | v (mall parking) | v (limited) |
Bintaro Xchange Mall Park is a park located in the Bintaro Xchange Mall area which is a landscape of Bintaro Xchange Mall. This park has an area of 45000 m2 with various kinds of facilities in it. This park operates from 6 am to 10 pm. Even though it is located inside the mall, the park’s operating hours are longer than the operational hours of Bintaro Xchange Mall.

This park offers a variety of facilities to carry out activities in it. First, there is a special children's play facility, Dino Park, which is located in the northern part of the park. Apart from Dino Park, there are fish ponds, small fountains, and labyrinths as children's playgrounds. Then the most visible facility from this park is the stage for musical performances that are usually held every week. Also, there are some facilities for sports activities such as jogging tracks.

Banteng Field Park is a park that has a long history in Jakarta. During the Dutch East Indies, Banteng Square was a square located in front of Daendels palace. At that time the field was named Waterloo Square and was used as a military training ground. After Indonesia's independence, Soekarno founded the Liberation Monument of West Irian in the middle of this field. This field functioned as a bus terminal in Central Jakarta around 1970-1980. Then in the late 1980s, this field again functioned as a public open space.

From 2017 to 2018, revitalization is carried out on the Banteng Field. The result of revitalization from this field is a semi-circular fountain and a podium around it. This park has an area of 5.2 hectares. In this park, there are various kinds of facilities that offer a variety of activities. There is a children's playground, basketball court, soccer field, and jogging track. All these facilities are free to use for visitors.

### 3.2. Activities at Sitting Place in Bintaro Xchange Mall Park

At the Bintaro Xchange Mall park, there are three types of seating. The first type, like the picture above, is a small bench that can be occupied by 2-4 people with concrete material. This small bench is located on the grassy area along the jogging track. This seat is intended for a place to rest for runners on a jogging track.

![Figure 1. Bench in Bintaro Xchange Mall Park.](image)

Judging from the characteristics of the seat, it has a hard and flat surface. So that the purpose is not for prolonged sitting but only as a temporary resting place. Even during the day, this seat is often used as a place to sleep because the surface is flat and also the elongated layout can accommodate these activities. Besides, this seat is between the trees so that visitors feel the space quality from the shade and could seek comfort. Then because the place is located between the jogging track, sleeping at this bench rarely occurs at night because of its dark environment and its location far from the crowds.
Figure 2. Circular Seating Layout at Bintaro Xchange Mall Park.

The second type of seat is a long circular red seat like the figure above. This seat uses plastic as the material that has the characteristics of slippery, hard, and flat. Based on its characteristics, this seat can accommodate passive recreation activities such as sitting and sleeping. This seat is placed in front of the children's play area. Because of its flat characteristics, this seat has the potential for sleep activities. However, because of the circular layout, it makes the seat is less comfortable as a place to lie down. Besides that, it is located in a crowd, which makes the level of privacy of this area is small and makes visitors less comfortable lying in this seating area.

In the morning, activities in the park are dominated by active recreation, like sports. Therefore, in the morning at this seating area, sometimes active recreation is carried out by children. Activities that occur are children climbing and standing on this seat. The characteristics, color, and layout of the seat which attract children's attention can influence the kind of activity. Also, this seat is located in the children's play area, making children's play activities widen to the seating area.

In the afternoon and evening, activities in the park are dominated by passive recreation. Therefore, the activities that occur in this seat are only passive recreation, which consists of sitting and relaxing. Sitting activities are also accompanied by other activities such as reading books, playing cellphones, chatting, and even eating. Because of the circular layout, visitors mostly move on their own or in pairs, stare at each other, or sit apart from one another.

Entering the night, at the front of this seat area is a fountain for children's playgrounds. So, the majority of these seats are occupied by parents who oversee their children playing. Also, in this area, active recreation sometimes occurs as in the morning, that is children who climb seats.

Figure 3. Podium Seating in Bintaro Xchange Park.

The last type of the seating place here is located on the front of the stage as shown in the figure above. This seat is made like a ladder intended for the audience of music shows on the stage. This seat uses marble as material and there is grass among them. Therefore, this seat has the characteristics of hard marble and soft grass. The difference in the surface of the two materials makes this seating area has more diverse activities than other seating areas in this park.

In the morning, which is dominated by active recreation, the seating area is commonly used to exercise, such as stretching and gymnastics. This is because this seat has a large area and a terraced layout that allows accommodating active recreation. Also, this seating area is usually used by children to run around. The soft grass surfaces make children who are in an exploration stage feel comfortable and interested in doing activities here.

Then in the afternoon until the evening, the activity is dominated by passive recreation. Based on hard marble surfaces and terraced layouts, most passive recreation that happens is relaxed sitting accompanied by other passive recreation. The usual activity is to sit while watching a film on the big
screen, sitting while reading a book or playing a cellphone, and sitting while eating and drinking. Because the layout is terraced and the distance between steps is quite large, which is up to one meter, activities in this place can occur communally from small groups. This layout allows visitors to sit facing each other, even at different levels.

3.3. Activities at Sitting Place in Banteng Field Park

In this park, there are three types of seating with different locations, layouts, and materials from one another. These differences certainly make the seats there have different affordances. The following are three types of seats in Banteng Field Park.

Figure 4. Podium Seating in Banteng Field Park.

The first type is a seat in the form of a podium, as shown in the figure above. This seat is located in front of a large fountain pool with concrete as material on all parts. So that this seat has a hard, flat and smooth texture. Based on its characteristics, this seat can accommodate various activities from passive to active recreation.

In the morning, activities in this park are dominated by active recreation. With its hard texture and terraced layout, this seat is commonly used by visitors for sports activities including warm-up sports such as stretching, push-ups, sit-ups, running, and going up and down the stairs. A spacious and elongated seating area that forms a track also allows running activities. Then at the very top, because of its flat and hard surface, the seating area can accommodate activities with wheels such as cycling, skateboarding, and roller skating.

Figure 5. Podium Seating in Banteng Field Park.

The seating podium in Banteng Field Park acts as a place to watch the fountain attraction. Activities to watch the fountain attraction is incorporated in the passive recreation so that at night, the podium area is dominated by passive recreation. This is also affected by the layout that is centered on the fountain pool. In the podium area there is also vegetation, but because the size is not too large the vegetation here is not too important in affording shade. So that in the morning and afternoon there are rarely people who do passive recreation in this area. However, at these times this spot is used for active recreation, for example, training such as push-ups and sit-ups. Due to the podium layout, which enables the existence of those activities and also active recreation, visitors don’t care about the shady spot. Then from this layered layout, the podium area is often used as a place to take photos of visitors in groups.

Then in the afternoon until the night when activities are dominated by passive recreation, activities that occur in this seat are also the same. The most passive recreation that happens here is sitting while eating and drinking. That is because the flat surface and the distance between the podiums are not too
high so that visitors often take a seat on it as a table to eat. Besides, this also occurs for visitors who sit and play laptops. Then with a terraced layout, visitors can accommodate this place to chat in groups.

**Figure 6.** Bench in Banteng Field Park.

The second type of seat is a small bench that can accommodate 1-4 people, as shown in the figure above. This seat is spread over the jogging track area and is a seat built-in with concrete as its structure and aluminum at the top. So, this seat has the characteristics of hard and flat.

With its flat characteristics and elongated layout, this seat is often used as a place to sleep during the day. Trees surround this seating environment, so the seating area is very shady. In addition to a place to sleep, in the morning, when the majority of activities in the park are active recreation, this seat accommodates visitors who want to take sit for a break after active recreation.

**Figure 7.** Square Seating in Banteng Field Park.

The last type of seat is a large square-shaped seat, as shown in the figure above. This seat can accommodate up to 8 people. This third type of seat is also a seat built-in with concrete and wood material. From the layout, this seat is intended for casual seating and can accommodate visitors to interact with each other. The layout can accommodate various kinds of passive recreation, such as sitting, sleeping, and picnic. The sleeping activity is usually carried out by visitors during the day because the surface is flat and hard and also the area is quite wide. Also, the location is located in the jogging track area so many visitors rarely passed by during the day so that this area could provide more privacy. Then in the afternoon, this seat is often used as a picnic place whether at the upper or lower side. The lower part of the seat is used as a picnic place because the material is made of wood with a flat surface and hard but not hot when occupied. Also, the existing space allows visitors to sit closer together.

In addition to passive recreation, on this seat, there is also active recreation, especially in the morning. Active recreation that happens here is usually warm-up sports such as stretching, push-ups, and sit-ups. This activity is usually carried out at the lower side of the seat. The lower part of the seat becomes a potential for variant activities due to the use of materials that are different from other materials in this park.

4. **Conclusions**

The physical element in the park is one of the factors forming activities that occur in the park. As Hakim said, hard material and soft material are two types of physical elements of the park that affect the way
humans move in the park [4]. One form of a hard material element is a seat. Seating in an open space is one of the important aspects to accommodate humans in outdoor activities. As what occurred in Bintaro Xchange Park and Banteng Field Park. Both parks have numerous type of seating that could accommodate various outdoor activities. Outdoor activities carried out by humans in the park are also classified into two, namely passive recreation and active recreation. Passive recreation is mild physical activity, while active recreation is a physical activity with heavier physical movements. From the explanation of the two forms of outdoor activities, both parks have a similar type of activities inside. Active recreation that occurs in both parks are jogging, running, sports, etc. As for passive recreation that occurs are sitting, reading books, taking photos, and chatting. All of those activities are affected by seat.

Affordance is the possibilities given by the environment to living things. Affordance allows humans to occupy space in different ways according to the physical environment available. In the case study of this paper, the environment is the sitting place. Seating in open spaces should be multipurpose or can accommodate a variety of activities besides sitting [5]. This theory is proven in both Bintaro Xchange Park and Banteng Field Park. The seating place in both parks is multipurpose seating that can accommodate passive and active recreation. Because of this, the parks seem more alive with those various activities inside with different kind of occupancy by each individual.

From the two parks that have been discussed previously, Taman Bintaro Xchange and Banteng Field Park, both of them have numerous types of seating. The primary seating, such as a bench or small seating and the secondary seating, such as the seating podium. These types of seats surely have various materials and layouts so that the characteristics of the surfaces are more diverse. This diversity of characteristics and layouts allows seating in both parks to accommodate a variety of activities, both passive recreation and active recreation.

Overall seating on Taman Bintaro Xchange and Banteng Field Park can accommodate passive recreation and active recreation. For passive recreation activities which consist of sitting, sleeping, reading books, playing cellphones, and eating all types of seating can accommodate these activities. That is because the surface of the seat is flat and also the layout that allows the activity. But there is one passive recreation that cannot be done in some places, that is sleeping. For sleeping, a flat surface with a straight layout is needed. So that on the seat with a circular layout, this activity cannot occur. Also, the location of the seat affects this activity because sleep requires comfort from the quality of the space produced by the trees and the privacy that can be obtained from the location of the seat away from the crowds.

Then for active recreation, which consists of sports warming up, walking, running, skateboarding, taking pictures, dancing, and playing roller skates cannot occur in all types of seating. The majority of active recreation that happens in seating is a warm-up exercise such as stretching, sit-ups, and push-ups. The amount of space available greatly influences active recreation that happens in seating because this activity requires a lot of physical movement so that it requires a bigger space. Also, layouts affect the movements that can be done on active recreation.

It can be concluded that to perform a variety of affordances in a park seating place, physical conditions are the most important aspect, especially the characteristics of the material and layout. Because characteristics and layouts have a significant influence on the comfort and also the way activities can be done. When the characteristics and layout of the seats are as needed, it will be able to accommodate the desired activities.

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