

# Analysis of the Green Open Space Condition as the Children's Playground Facilities (Case Study: Cadika Park, Medan Johor, and Medan City)

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## ABSTRACT

Public places which include city parks in outdoor spaces are still deficient to be utilized or developed as children's play spaces in residential environments. Law No.23 of 2002 concerning Child Protection, it is clearly stated about playing as a child's right (Article 11) and playground as a facility that must be provided by the Government (Article 56). The provision of children's playground in outdoor spaces with an adequate facility becomes a necessity and the importance of its existence of outdoor spaces in residential areas in Medan Johor Sub district.

Medan Johor Sub district has a fairly rapid population development from year to year. This can be seen from number of built areas, especially in housing. Most of the residents in this area are immigrants, either those who live temporarily or who have regularly settled in Medan Johor District. Consequently, the need for a proper housing and equipped facilities is huge. The facility mean is the outdoor space available with a playroom facility as a tool for children to play, besides, it can also be utilized as interaction area among the residents.

This research conducted to discover the condition of outdoor space in Medan Johor Subdistrict in terms of fulfillment the criteria for children's play space requirements and the arrangement of using the open spaces in Medan Johor Sub district as a place to play for children. Analysis of the condition of the green open space as a means of children's playground is analyzed based on the following variables:

safety, health, comfort, convenience, security, and beauty.

The method used in this research is the observation and interview to identify the condition of facilities available in the children's playground. The playground still has to be addressed in order to achieve a proper playground for its users, especially children. So based on the research, we can find out about the feasibility of the playground in the research location.

**Keywords:** Outdoor Space, Children's Play Facilities, Children.

## INTRODUCTION

Play is an important activity for children in their growth period. Scientifically, play activities are very supportive for children's development, such as learning and adapting to the development of their sensory abilities (Rodger and Ziviani, 2006). The point is that there is a close relationship between play and child development, both psychosocial and cognitive growing (Mutiah, 2010).

One of the playgrounds that can be used by children is in public spaces, whether in open spaces or closed spaces, especially in urban areas that can be accessed by all levels of society, both with normal physical and mental conditions and those with physical limitations.

Efforts to provide a children's playground must be accompanied by careful planning and design to avoid dangerous risks for users, especially children. Therefore, the needs of the children's playground must be studied in detail according to the design guidelines/principles to ensure the level of safety and security.

Howard P. Chudacoff (2007), explains that there are two important things related to playing, namely: (1) place, a place where playing activities are carried out. Security issues are the main point; (2) things, play equipment. The issue of developing play equipment is an important thing in the needs of the playground. In the realm of architecture, space is the end of a thought process. However, the use of the terms space (space) and place (place) as a form of appreciation for something that shows a place for human activities.

In the playground, children can learn to socialize and interact with their environment. The concept of playing in an open space (outdoor) is different from the concept of a game in a closed room (indoor). The existence of a playground needs special attention regarding the suitability of the design such as placement, layout, standardization or the facilities contained in it related to the surrounding environment. There is a close relationship between the children's environment and the learning process, social development and play (Holloway and Valentine, 2000; Matthews et al, 2000; Punch, 2000; and Tory Deer, 2006).

The rapid physical development in the Medan Johor District can be seen from the growth of economic activities (retail trade, culinary areas, etc.) so that it triggers the development of residential areas. The number of existing housing is increasing in Medan Johor District, but not all housing provides garden facilities that can function as an area of interaction between residents and also a children's playground.

Green Open Space which is often used by children as a means of playing in Medan Johor District is a city park area

which includes Cadika Park. This location is in great demand not only for residents in the Medan Johor District, but also for residents outside the Medan Johor District. It can be seen from the enthusiasm of educational institutions/students who make this location a field trip event in schools.

Because apart from playing facilities, this location also has outbound facilities and facilities for children's education. So how the condition of the open space in Medan Johor District as a children's play facility in terms of meeting the criteria for the children's playground needs is an important thing to analyze.

## LITERATURE REVIEW

### Green Open Space

Green Open Spaces are spaces within a city or a wider area, both in the form of an area/area and in the form of an elongated area/lane where in its use it is more open and basically without buildings. Besides functioning as the lungs of the city, the green open space area also functions as one of the elements forming the city's spatial structure.

City parks are parks that are intended to serve residents of a city or part of a city area. The spatial structure of Medan Johor District consists of a tertiary center and an environmental center. The tertiary center is an agglomeration of public facilities with surrounding economic activities covering the sub-district scale of service areas.

The environmental center is a public facility with a service area on the scale of a village or sub-district. The concept of developing a city park in Medan Johor District is to establish a city park as a service center (tertiary center) that functions as an environmental conservation center and a city-scale recreation center that can be done by arranging and managing facilities for activities that can be carried out in it.

### Childran's Characteristics

Children's growth goes through different stages characterized by how they

play and develop as they grow. So that a comfortable play space can be created for every age group.

According to Helen (2003), there are different behaviors in children's games based on age levels.

1. Children aged 1-3 years tend to play side by side with one another and enjoy role playing and fantasy.
2. Pre-school children or around 3-6 years old try to do a new skill such as running, climbing, and digging.
3. Elementary school children or about 6-12 years old begin to investigate the environment such as playing sand, water and soil, and shape-building games, and more. They become more competitive and participate in group activities.

This can be used as the basis for planning a children's playground, where children have different interests according to age, so it is necessary to separate the area between younger children and children who are getting older or growing up.

### **Children's Play Activity Pattern**

Playing activities according to Hurlock (1978) can be divided into two main groups, namely active play and passive play or known as entertainment (amusement). Active play activities are activities that involve movement and physical activity of children such as running, going up and down stairs, playing in the sand, and others.

On the other hand, passive play is entertaining and does not involve the child's body movements such as watching other children play, watching TV and playing video games. Based on the number of interactions that occur, Mildred Parten divides play activities into social play and non-social play (Sugianto 1995).

Based on the identification of the categories of types of games that can be accommodated in the children's playground, it can be seen that the condition of the children's playroom needed by users, especially children, is a structured playroom

based on age level with certain physical conditions. So it will be more coordinated and easier to supervise when children play.

### **Children's Playground Condition**

Children's play activities require a place that can support and facilitate this activity. A good play environment requires enough time and space for play activities.

A good playground can affect all users, especially children who use it. There are important indications in planning a children's playground (Baskara, 2011), including:

#### **1. Safety**

Aims to ensure the safety of children when playing and use safe facilities / equipment to avoid accidents.

#### **2. Healthy**

Aims to ensure that children's health is not disturbed by playing in the play space.

#### **3. Comfort**

Aims to provide comfort for children to play activities. Aspects of children's comfort in public spaces are determined by the space for movement, the interrelationships between games, the number of games, the use of appropriate materials, and the influence of the surrounding environment.

#### **4. Flexibility**

Aims to provide ease of movement and activity for all children. So that children with physical and mental limitations will be easy to do game activities.

#### **5. Security**

Aims to provide a sense of security for children who play. So that it is easy to supervise and the child is protected from danger.

#### **6. Aesthetic**

Giving the value of beauty and aesthetic to the playground so that it has harmony with the surrounding environment which can

increase the visual value and be able to strengthen the character of the area.

## **MATERIALS AND METHODS**

This type of research is carried out by researchers/authors either through interviews or direct observation /observations in the research area using qualitative methods. The method in this research is used to analyze the condition of open spaces in Medan Johor District in terms of meeting the criteria for children's playground facilities.

This research is located in Cadika Park which is a green open space in the form of a city park located in Medan Johor District, Medan City. Sampling technique used is accidental sampling (Moleong, 2007: 224). Accidental Sampling is used by grouping the respondents with certain considerations and goals who are considered to know about the needs of children's playground in open spaces in the study area.

What is meant by the interviewees in this case is the user in the playground, both adults and children. In this playground, apart from children, adults, especially parents, also have an important role in it. In addition to supervising the children playing, parents should also be able to feel the feasibility of the playground.

The data collection technique in this research is based on the problem formulation which aims to determine the condition of open space in the Medan Johor sub-district, Medan City, using the observation method or direct observation and interviews with users about the facilities contained in the children's playground in order to determine the suitability between the facilities and the needs of the children's playground. This can be done by conducting direct interviews with 5 interviewees who often use the open space as a means of playing. So that it can be summarized, the data collection techniques in this research are make observations or direct observations, and informal interviews with users.

The research was conducted in a green open space located in the Medan Johor Subdistrict, Medan City which has a planning area based on administrative data is 1,696 Ha, while based on the results of measurements through the description of the administrative area of Medan Johor Subdistrict is 1,657.89 Ha.

The reason the researcher chose the location in a green open space in the Medan Johor sub-district was because this sub-district is a densely populated residential area. This can be seen from the increasingly dense population, which can be indicated by the number of housing units built and it is certain that not all housing provides garden facilities/children's playground which can also function as an area of interaction between local residents. So that with the dense population, the need for children's playground is also increasing. In addition to playing facilities, it is also a forum for interaction between residents in the sub-district / urban village environment.

Analysis of the data carried out to answer the problem formulation in order to determine the condition of green open spaces as a means of children's play is to analyze the results of data collected from direct observations or observations to research locations carried out in open spaces in the form of city parks in Medan Johor District to examine the quality of open spaces. to be used as a children's playroom. Quality analysis is used to ensure that children can play safely and comfortably. The suitability of the open space is analyzed by using the criteria for analyzing the suitability of the space as a playroom based on safety, health, comfort, convenience, security and beauty (Baskara, 2011).

## **RESULT AND DISCUSSION**

Based on the results of interviews with informants, the open space in the Medan Johor District is very good. This can be seen from the availability of Cadika Park which is located on the Karya Wisata road. Cedika Park can also function as a City Forest.



Most people choose to spend time in Cadika Park because this area has quite complete facilities in it. For the function of the playground, most of the interviewees strongly agree that it is available in the Cadika Park area.

It is intended that visitors who spend time with their families, especially children in this park, can enjoy the playroom facilities as a place for children to explore themselves. The children's play facilities available at Cadika Park are complete, such as; swing, seesaw, slide, kayak, archery, horseback riding, etc.

Meanwhile, maintenance at Cadika Park is considered neglected. It can be seen

from the facilities that are damaged but never repaired, the scattered garbage, be it organic or inorganic waste. It is undeniable, given the current pandemic conditions where the number of visitors is reduced than usual, many cleaners have been affected by the reduction in the number of officers.

### 1. Conditions of Open Space from The Safety Aspect

Based on the results of the survey/observation, the safety is quite good, because there is a security post and the location is also shaded by a parapet so that it is minimal for children to be released onto the highway.

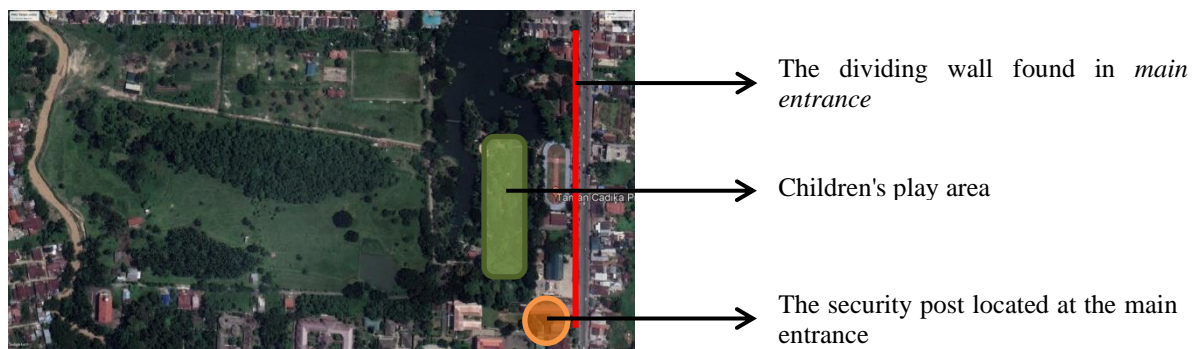


Figure 1. Limitations of The Safety Aspect of Cadika Park, Medan Johor  
Source: BAPPEDA of Medan City, 2011 and Google Map

### 2. Conditions of Open Space from The Healthy Aspect

During the pandemic, based on the survey results, Cadika Park also took part in maintaining health protocols. It can be seen from the availability of hand washing facilities at certain points to make it easier

for visitors to maintain cleanliness in this area.

There are four points for hand washing in the garden area, namely; at the entrance area, at the entrance to the roller skating arena, at the Parks Service office yard area and the prayerground, as well as in the kayak boat game area.

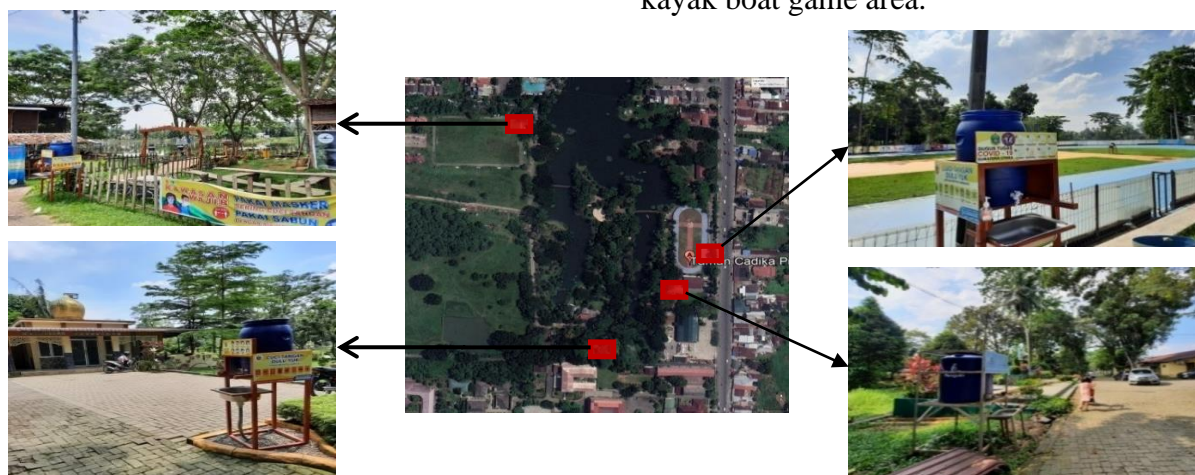


Figure 2. Placement of Hand Washers at Cadika Park, Medan Johor  
Source: Personal Documentation/Author

### 3. Conditions of Open Space from The Comfort Aspect

Based on observations, the types of vegetation found in the Cadika Park area are quite complete, including vegetation that functions as a guide, vegetation as a shade, or vegetation that functions as an aesthetic adder. Low shrubs serve as guides along the walking path. There are also shady trees that serve as shade so pedestrians will feel comfortable. However, the vegetation condition is still poorly maintained. The selection of vegetation in the play area tends to be safe, because there are no types of vegetation that can harm children while playing. The selection of vegetation in the

play area tends to be safe, because there are no types of vegetation that can harm children while playing.

The noise level in the Cadika Park area, either to the road or between the facilities contained therein, is very minimal, considering the distance between Cadika Park and the highway is quite far, as well as the distance between facilities within Cadika Park. The use of materials contained in the surrounding play area play facilities, pedestrian areas or sitting areas are considered less comfortable for children considering that almost all materials use hard materials such as concrete or iron.



Figure 3. Conditions of Pedestrian Areas at Cadika Park, Medan Joho  
Source: Personal Documentation/Author

### 4. Conditions of Open Space from The Flexibility Aspect

Accessibility and circulation in the play area are also very well coordinated. This can be seen from the achievements between the play area and the sitting area/gazebo which are usually used to monitor children when playing connected/ connected.

The play facilities in the play area are very easy to understand for children to use, either individually or in groups which can be noticed when children play, which generally do not require adult assistance to use these facilities.



Figure 4. Accessibility at Cadika Park, Medan Johor  
Source: Personal Documentation/Author



## 5. Conditions of Open Space from The Security Aspect

The level of security contained in the Cadika Park is very good. Where at the main gate of Cadika Park there is a security post and this park is also surrounded by a wall fence so that the level of security is more maintained.

The security in the play area is very good, where the sitting area which is usually used as a place to supervise children while

playing is located side by side with the play area itself. However, the materials contained in the play facilities do not meet the safety values.

Because the play facilities are made of concrete and iron which have a hard texture so it is very dangerous for children if they hit it, most of the paint conditions on the play facilities also start to peel off so it will be dangerous for children if swallowed.



Figure 5. Security Post at The Main Gate of Cadika Park, Medan Johor  
Source: Personal Documentation/Author

## 6. Conditions of Open Space from The Aesthetic Aspect

Aspects of beauty or aesthetics can be seen from the arrangement of the garden area or the selection of vegetation found in Cadika Park. From the observations, not all areas are well coordinated. Likewise with the selection of vegetation. Some areas of

the selection of vegetation are still classified as careless, but in some areas the arrangement is quite good. Unlike the play area, this area does not use many types of vegetation. The vegetation used is only a barrier shrub and protective trees. This is because children usually tend to focus more on playing facilities.



Figure 6. Vegetation Conditions at Cadika Park, Medan Johor  
Source: Personal Documentation/Author

The arrangement of the play area which includes the placement of playing facilities or other supporting components is quite good, it's just that the maintenance is

still not getting enough attention. This of course can reduce the aesthetic value found in the Cadika Park area, especially in the play area.

## CONCLUSION

Based on the results of the research analysis that has been done, the conclusions can be described as follows.

In this Safety Aspect, the author concludes that there are many elements in the play area that do not support the safety value of its users, especially children. The condition of the playing facilities is also unfit for use because most of them have suffered severe damage. However, in terms of monitoring the play area, it is quite good, considering that this area is equipped with a gazebo and garden chairs which are also located side by side with the play area. So it will be much more controlled if something happens to the children while playing.

In terms of health contained in the play area, there are three things that can be assessed by the author, namely the condition of air pollution related to vegetation, laying trash cans, and providing hand washing facilities to support health protocols during the pandemic season. For the existence of trash bins in the study area, it has met the health criteria, where on each pedestrian path there is a trash can which is about 4-6 meters away. Laying hand washing places at certain points as a means to maintain health protocols is quite good.

The comfort aspect, this area is still not good. The existence of gazebos and garden chairs is also less noticed. The condition of the dirty gazebo and damaged garden chairs will make visitors feel uncomfortable to occupy it. While the noise level in this area is very minimal, so visitors feel comfortable to just spend time here. This is because the distance of the park is quite far from the highway, as well as the distance between the play facilities.

In terms of flexibility, the writer concludes that circulation and accessibility conditions in this area are quite good. This can be seen from the road leading to the area and the condition of the main gate which is wide enough to make it easier for vehicles to enter and exit simultaneously.

Then, on the aspect of security, the author can conclude that the level of

security in the study area is classified as very good. This can be seen from the presence of a security post located at the entrance of the main gate. However, the material in the play facilities is classified as unsafe because the material is made of concrete and iron with a hard texture so that it has a dangerous impact on children. as well as the condition of the paint starting to peel off.

Last on the aesthetics aspect is still very bad. This can be seen from the arrangement and selection of vegetation contained in the park area. Not all areas are well coordinated. Meanwhile, the arrangement of the play area is quite good because it is well connected.

## Recommendation

In this safety aspect, the play area must also be supported by sidewalks in certain parts so that if the weather is not good (rain) children can still play. The condition of the playing facilities, which are mostly badly damaged, must be repaired immediately so that children are more flexible and comfortable when playing. Material selection for children's play facilities is also important to note.

Recommendations on the health aspects contained in the play area, for the hand washing area it is better to add a few more units. And for this comfort aspect, the author suggests that seating facilities such as gazebos and garden chairs need to be considered so that visitors feel comfortable when occupying them. Vegetation in this area should also be considered properly.

Then on the aspect of flexibility in the study area including accessibility and circulation, it is quite good so that it does not need to be addressed or repaired again. However, in the parking area, the placement of vehicles must be more coordinated so that the parking of both four-wheeled and two-wheeled vehicles is more controlled. At certain points in the Cadika Park area, it is also recommended to place patrol posts as an anticipatory measure so that unwanted actions do not occur in the area.



In this safety aspect, the author suggests that more attention should be paid to the materials in the play facilities. The material used should not be hard textured so it is not dangerous for children.

Finally, recommendations based on aspects of beauty or aesthetics related to the arrangement and selection of vegetation contained in the park area should be better coordinated. The arrangement and selection of vegetation needs further attention in its placement. Not only in the entrance area, the arrangement of vegetation also covers the entire area in the study area, so that it looks beautiful and comfortable for visitors from all over the park to enjoy.

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