Open space function in plaza area in Central Java Great Mosque

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Abstract. The plaza area at the Great Mosque of Central Java is a non-green open space of the Central Java Grand Mosque building complex. The Plaza area has an important role in the building, because the plaza area at the mosque is the first place we meet, and becomes the center of circulation and socio-religious activities for visitors. Thus, it is necessary to design a plaza area at the Grand Mosque of Central Java which considers all aspects. Open space has a role as a container that can accommodate certain activities of the community in certain areas, therefore open space has a contribution to be given to humans in the form of positive impacts. This research was conducted at the Grand Mosque of Central Java using qualitative-descriptive methods. This research focuses on studies in the plaza area of the Grand Mosque of Central Java in terms of open space functions. The results of this study, in the plaza area at the Great Mosque of Central Java, show that it has not fulfilled both as a general function of open space and an ecological function.

1. Introduction

Until now, the use of space is still not in accordance with expectations, namely the creation of a comfortable, productive and sustainable space. The decline in the quality of settlements in urban areas can be seen from the worsening congestion, the development of slum areas that are prone to flooding/landslides and the increasing loss of open space for articulation and public health. As a vehicle for social interaction, open space is expected to link all members of society regardless of their social, economic, and cultural backgrounds. Activities in public spaces can tell a clear story of how fast the dynamics of a society's social life are.

Open space creates the character of urban society [1]. Without public spaces the society that is formed is a non-conformist-individualist-asocial society, whose members are unable to interact, let alone cooperate with one another. To be effective as a platform, the public sphere must be neutral. That is, it can be reached (almost) every city dweller. Neither party has the right to claim itself as owner and restrict access to public space as a political forum.

Open space is a space that can be accessed by the public either directly within a limited period of time or indirectly in an indefinite period of time [2]. The open space itself can be in the form of roads, sidewalks, green open spaces such as city parks, forests and so on. Judging from its nature, open space can be divided into private open space (having a certain time limit for accessing it and private ownership, for example a residential home page), semi-private open space (public space whose ownership is private but can be accessed directly by the public, for example Senayan, Ancol) ) and public open spaces (ownership by the government and can be accessed directly by the public indefinitely, for example
squares, sidewalks). In addition, open space can also be interpreted as a space for interaction (zoo, recreational park, etc.).

Open space (open space) is a space that is planned because of the need for meeting places and activities together in the open air. With the existence of joint meetings and relationships between people, it is possible that various kinds of activities will arise in the open public space [3]. Open space has a role as a container that can accommodate certain activities of the community in certain areas, therefore open space has a contribution will be given to humans in the form of a positive impact [4]. Open space has both general and ecological functions [5]. Central Java Grand Mosque is a mosque located in an urban area. The Grand Mosque of Central Java is located in the eastern Semarang area, precisely located on Jalan Gajah Raya, Sambirejo Village, Gayamsari District, Semarang Municipality. Central Java Grand Mosque is divided into several regional areas. One area that has a large area is the plaza area. In this study, the open space in the plaza area of the Great Mosque of Central Java is divided into two zones, namely:

- **Zone I**, namely the collosium room (the term used in this study to refer to the part of the plaza which contains the 25 circular tall pillar icon), starting from the stairs going up the colosium to the floor of the sacred boundary in the zone.
- **Zone II** is the umbrella room (the term used in this study to refer to the part of the plaza where there is a hydraulic umbrella icon), starting from the sacred boundary floor with the collosium room to the main mosque of the Grand Mosque of Central Java [6].

This study aims to determine the function of open space according to the ecological and social functions at the Grand Mosque of Central Java. The results of this study are expected to provide input on the development of the Great Mosque of Central Java.

![Figure 1. Research sites.](image)

### 2. Methodology

The method used in this research is observation methods. The observation method used is the participatory type of observation method. The participatory observation method can be described as an observation method in which the researcher positions himself as a participant like other people who are being observed. In positioning themselves as participants, researchers still have to maintain a distance so that the element of objectivity is maintained. The results of observation and documentation are then adjusted to the open space function. The function of open space consists of two functions, namely ecological functions and social functions [3]. Ecological functions among others are [3]:

- Refreshing the air, affecting and improving the microclimate
- Absorbing rainwater and controlling floods and controlling water systems
- Maintaining certain ecosystems and protection of germplasm
- Building architectural softener

Apart from having an ecological function, open space has another function, namely a social function.
Social functions at the Great Mosque of Central Java, among others:
1. Playground and sports
2. Place of social communication
3. The place of intermediation and waiting
4. A means of connecting from one place to another
5. The barrier between the building masses
6. Research and education facilities as well as outreach for the community to form religious and environmental awareness
7. Means to create cleanliness, health, harmony and beauty of the environment

3. Results and discussion
The results of observation and documentation in area 1, namely area 1, is the arrival area which is directly opposite the vehicle parking area, the zone space does not use a roof and uses andesite stone floors. The attraction of this zone as a plaza space is that there are 25 pillars arranged in a 180° circle. And connected with calligraphy blocks. In this zone visitors can freely use footwear.

Meanwhile, the benchmark in zone II is a hydraulic umbrella area, besides being intended as a shade, this umbrella is a characteristic and icon that is an attraction in zone II. In addition to being used as a means of getting to the main worship room of the Great Mosque of Central Java, it is also used as a prayer room, if the main room is full. Finishing the floor using a granitile floor and it is mandatory to remove the footwear when passing this area.

The results of observations and documentation that have been carried out are in accordance with the function of open space in ecological functions.

3.1. Refreshing the air, affecting and improving the microclimate.
In accordance with the results of observations and documentation in the plaza area related to ecological functions, namely air freshening, influencing and improving the microclimate, it was not found in accordance with the ecological function. Areas that do not have permanent cover or protection, hydraulic umbrellas are only opened during certain activities causing sunlight during the day to directly enter the floor area, causing the temperature to rise. The increase in temperature is not only caused by exposure to the hot sun but also caused by bounce from floor heat. There are no trees in the plaza area which also makes the temperature around the plaza area hotter.

Figure 2. Conditions in the plaza area.

3.2. Absorbing rainwater and controlling floods and controlling water systems.
In accordance with the results of observations and documentation in the plaza area related to ecological functions, that is, rainwater absorber and flood control and water management are not found in accordance with ecological functions. The entire area in the plaza is an area covered by concrete and granitile floors, causing water to directly enter the waterways in the plaza area.
3.3. **Maintaining certain ecosystems and protection of germplasm.**
In accordance with the results of observations and documentation in the plaza area related to ecological functions, namely maintaining certain ecosystems and protecting germplasm, it is not obtained according to ecological functions. The entire area in the plaza is an area covered by concrete and granitile floors so that no area can maintain certain germplasm and ecosystems.

![Figure 3. Conditions in the plaza area.](image)

3.4. **Building architectural softener.**
In accordance with the results of observations and documentation in the plaza area related to ecological functions, namely building architectural softener was found to be in accordance with ecological functions. The 25 pillars arranged in a 180 ° circle and connected with calligraphy blocks are softener for the architecture of the buildings around the great mosque of Central Java. The plaza area is filled with concrete structures.

![Figure 4. Ecosystem conditions in the plaza area.](image)

The results of the observations and documentation that have been carried out are in accordance with the functions of open space in social functions in the plaza area of the Grand Mosque in Central Java.

![Figure 5. Pillar in the plaza area.](image)
3.5. Playground and sports.
In accordance with the results of observations and documentation in the plaza area related to social functions, namely a place to play and sports, it was found to be in accordance with social functions. At the time of the observation there were several small children running in the area of the Grand Mosque in Central Java.

![Figure 6. Children playing in the plaza area.](image)

3.6. Place of social communication.
In accordance with the results of observations and documentation in the plaza area that is related to social functions, namely where social communication is found in accordance with social functions. At the time of the observation, several people were chatting and carrying out activities together in the plaza area of the Great Mosque of Central Java.

![Figure 7. Communication in the plaza area.](image)

3.7. The place of intermediation and waiting.
In accordance with the results of observations and documentation in the plaza area related to social functions, namely the place of transition and waiting to be found in accordance with social functions. At the time of the observation there were several people who were sitting and waiting for something in the area of the Grand Mosque in Central Java.

![Figure 8. Transitional activity and waiting in the plaza area.](image)
3.8. *A means of connecting from one place to another.*
In accordance with the results of observations and documentation in the plaza area related to social functions, namely the means of connecting one place to another were found in accordance with social functions. At the time of the observation, there were several people passing the plaza area of the Grand Mosque in Central Java.

![Figure 9. Liaison function in the plaza area.](image)

3.9. *The barrier between the building masses.*
In accordance with the results of observations and documentation in the plaza area related to social functions, namely the barrier between the building masses was found in accordance with the social function. At the time of the observation there was an architect who functioned as a barrier between the buildings in the plaza area of the Great Mosque of Central Java.

![Figure 10. Barrier function in the plaza area.](image)

3.10. *Research and education facilities as well as outreach for the community to form awareness of religiosity and the environment.*
In accordance with the results of observations and documentation in the plaza area related to social functions, namely research and education facilities as well as counseling for the community to form religious and environmental awareness in accordance with social functions. At the time of the observation there were people doing research and counseling activities to people who were in the area of the Grand Mosque in Central Java.

![Figure 11. Research activities in the plaza area.](image)
3.11. Means to create cleanliness, health, harmony and beauty of the environment.
In accordance with the results of observations and documentation in the plaza area related to social functions, namely the means to create cleanliness, health, harmony and environmental beauty were found to be in accordance with social functions. At the time of the observation, there were several people who were doing cleanliness and environmental beauty activities in the area of the Grand Mosque in Central Java.

![Image of activities in the plaza area]

**Figure 12.** Activities to create cleanliness in the plaza area.

4. Conclusion
The conclusion of this study is the plaza area in the great mosque of Central Java does not fulfill the function of open space ecologically and fulfill the function of open space socially.

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