

## Optimization of Active Open Space Use in Al-Hidayah Musalla Design Concept

**Sri Winarni**

Architecture Study Program, Faculty of Civil Engineering and Planning, National Institute of Technology  
Malang, Indonesia

**Putri Herlia Pramitasari**

Architecture Study Program, Faculty of Civil Engineering and Planning, National Institute of Technology  
Malang, Indonesia

**Maria Istiqoma**

Architecture Study Program, Faculty of Civil Engineering and Planning, National Institute of Technology  
Malang, Indonesia

### Keywords:

active open space,  
contoured land,  
musalla design  
concept

### ABSTRACT

*The use of active open space is one way to improve the value of environmental quality to be more optimal. It could be seen that RT. 06 RW. 05 Penanggungan Village, Malang, had an active open space in the form of contoured land that was not functioning properly. For this reason, the purpose of this study was to utilize this active open space as a forum for religious and social activities in Al-Hidayah Musalla (Islamic prayer room). The research method employed was a qualitative descriptive method with the object study approach of Musalla (Islamic prayer room) design concept. The results of this design concept were optimized for limited land use through function and space efficiency as well as optimization of green space on steep contoured land in the form of vertical gardens so that the existing land could have functioned optimally as active and contextual land with the surrounding environment.*

\*corresponding author: [sriwinarni@lecturer.itn.ac.id](mailto:sriwinarni@lecturer.itn.ac.id)

### INTRODUCTION

Active open space in the urban environment has very important roles, one of which is to support and add value to more optimal environmental quality. Settlement of RT. 06 RW. 05 Penanggungan Village, Klojen Sub-district, Malang City, was located on the banks of Brantas River in the lowlands of Major General Panjaitan Street slope. RT.06 residential environments had an active open space that could be used to improve the quality of a more functional living environment. RT.06 area was a dense urban village settlement, with quite complete settlement facilities, but this area did not have a prayer room that supported religious activities. For this reason, this active open space could be used as a place of worship that supported the activities of the residents of RT.06 RW.05 Penanggungan Village.

Hakim, R. & Utomo, H. (2002) explain that open space, seen from its activities, consists of two (2) types, namely active and passive open space. Active open space is an open space that contains elements of activities in it, such as playing, sports, or sightseeing. Examples of active open space are plazas, sports fields, children's play grounds, and riverbank greening as community recreational facilities.

One of the active open space uses, namely green space. Public green spaces include parks and nature reserves, sports fields, riverside areas such as rivers and river banks, green paths and paths, community parks, tree streets, and nature conservation areas, as well as less conventional spaces such as green walls, green alleys and graves (Roy, S., Byrne, J., & Pickering, C. 2012).

The ecosystems provided by urban green spaces not only support the ecological integrity of the city, but can also protect the health of urban communities. Green spaces can filter air, remove pollution, reduce noise, cool temperatures, absorb rainwater, replenish groundwater, and can provide food (Escobedo, F. J., Kroeger, T., & Wagner, J. E. 2011) Green spaces and urban forests can also moderate temperature by providing shade and cooling of an area, thereby helping reduce the risk of illness for city dwellers (Cummins, S. K., & Jackson, R. J. 2001).

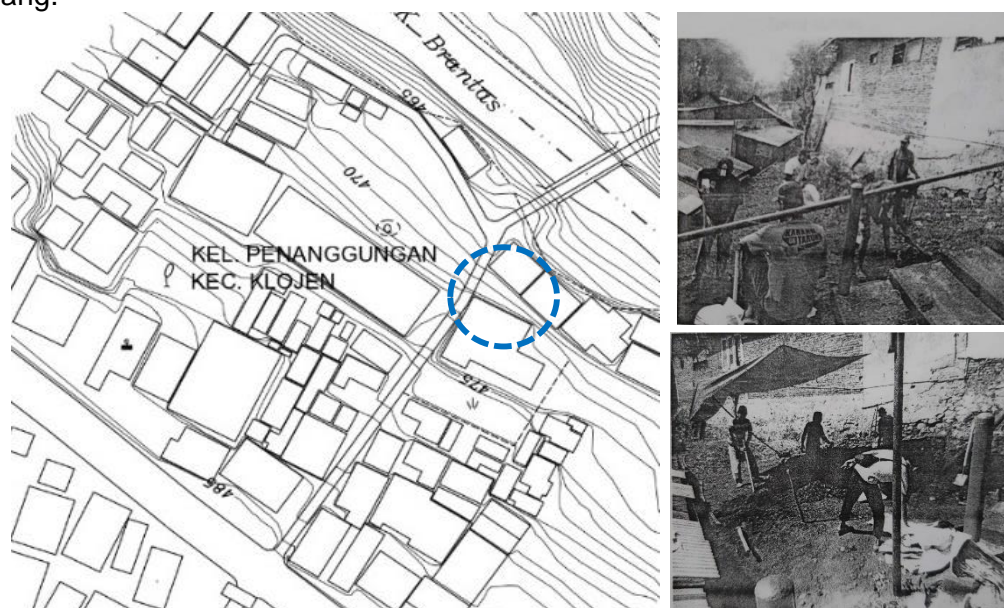
The existence of city parks and green spaces also has an empirical psychological impact (Ernstson, H. 2012). The experience of visiting parks and green open spaces has been shown to reduce stress, provide opportunities for city dwellers to discover plants and animals and opportunities to recover or experience solitude (Fuller, R. A., Irvine, K. N., Devine-Wright, P., Warren, P. H., & Gaston, K. J. 2007), rejuvenating residents, and provides a sense of peace and calm (Song, Y., Gee, G. C., Fan, Y., & Takeuchi, D. T. 2007). Kweon, B. S., et al. (2010) show that the existence of green spaces can withstand stress and can be used as a center for social interaction in society.

Thus, landscape components (such as trees, sidewalks, and structures) and land use (such as housing, commercial, open space) have an important role and have a very significant relationship to population satisfaction in the surrounding environment (Kweon, B. S., et al. 2010).

The existing problem in RT. 06 RW. 05 area was a contoured land, so it was necessary to have a Musalla (Islamic prayer room) planning concept that needed to pay attention to site conditions and the surrounding environment. The abundant water sources on the site were also potentials that could be used by Musalla's (Islamic prayer room) needs and the surrounding environment.

## METHODS

The research method employed was descriptive qualitative research with Musalla (Islamic prayer room) study object approach. There were two data collection methods: primary data gained from observation and interviews, secondary data gained from documents and book information, and similar research publications. The method of analysis was carried out by identifying the character of the site, the function of the space according to Musalla (Islamic prayer room) design components. The study object was Al-Hidayah Musalla (Islamic prayer room) at RT.06 RW.05 Penanggungan Village, Malang.



**Figure 1. Study Object Location**  
(Source: Author's documentation, 2020)

**RESULT AND DISCUSSION**

The discussion of the results of this design concept was more directed to the use of active open space on limited land through efficient function and space and optimization of green space. The design concept referred to was the design concept that supported religious and social activities at RT.06 RW.05 Penanggungan Village, Malang.

**Room function**

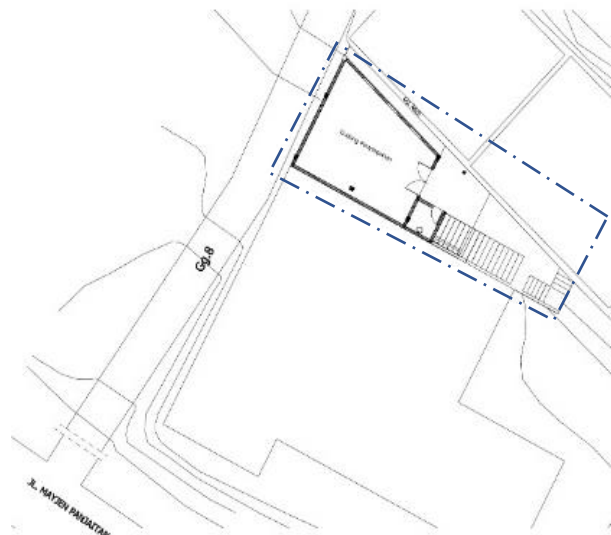
The active open space function in RT.06 was directed to religious activities and social activities of the local community.

**a. Religious Functions**

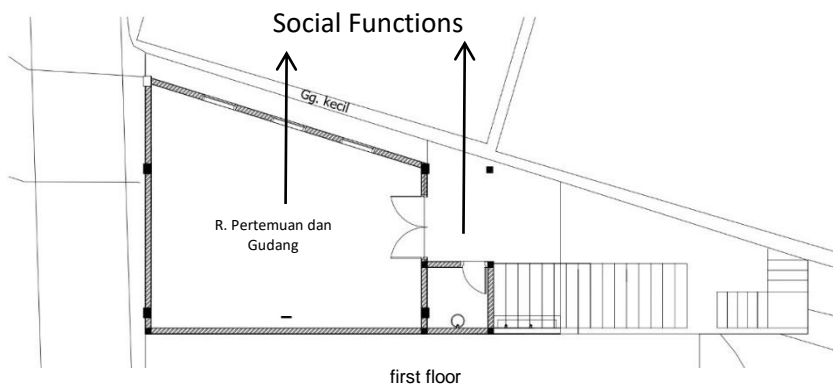
Based on the results of the analysis, the main function of this active open space was utilized as Musalla (Islamic prayer room) which could accommodate various activities, including; a place to carry out the five daily prayers, Al -Qur'an Learning Center (TPQ), conduct group recitation and other holiday activities. The rooms that would be accommodated by Musalla (Islamic prayer room) were as follows: the congregational prayer room; bathroom / WC; and wudu (ablution) place. Following the needs of RT.06 residents for the fulfillment of prayer facilities, this active open space was very suitable and appropriate to have functioned as a Musalla (Islamic prayer room).

**b. Social Functions**

Based on the results of the analysis, the supporting function was used to accommodate community development activities, discussion activities between residents, community social interaction centers, and storage of citizen death facilities such as coffins and chairs. Space requirements for social functions are such as meeting/discussion rooms and storage rooms.

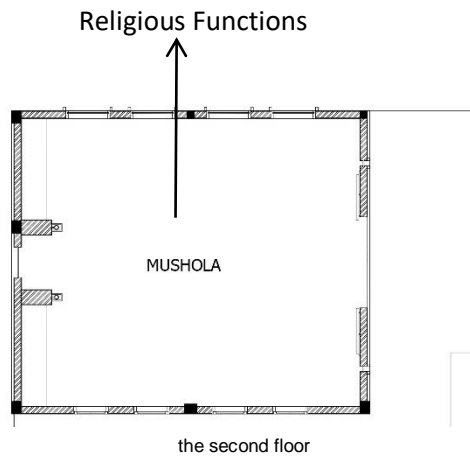


**Figure 2. Lay Out plan**  
(Source: Author's documentation, 2020)



**Figure 3. Room Functions - first floor**  
(Source: Author's documentation, 2020)

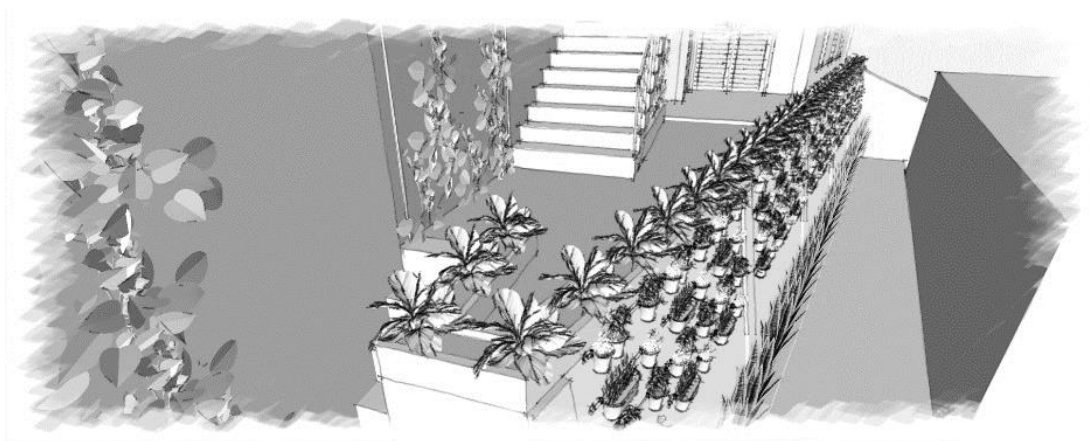
The spatial concept in this Musalla (Islamic prayer room) design was directed towards a natural atmosphere, this was supported by RT.06 area which was so-called as **The Clear Village**, and its position was in contour land close to the banks of the Brantas river so that the unification of the concept of inner and outer space was adjusted to the contextual environment.



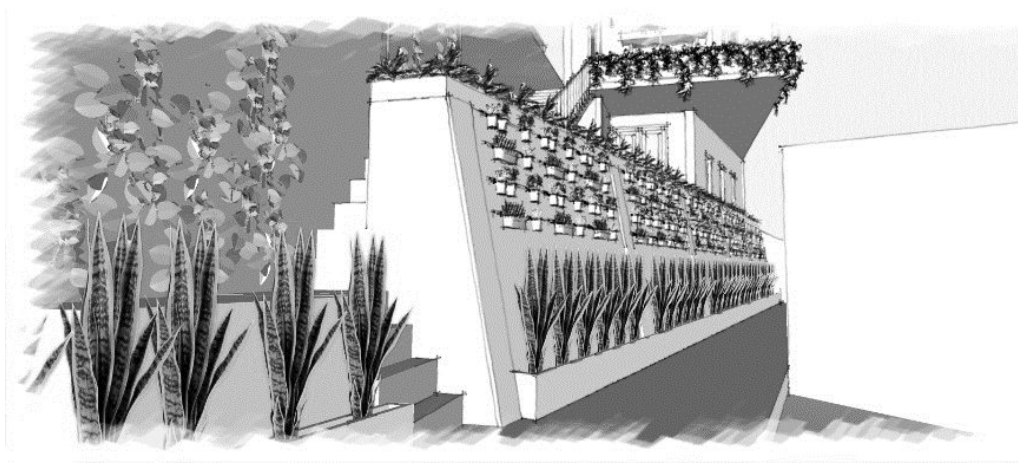
**Figure 4. Room Functions – the second floor**  
 (Source: Author's documentation, 2020)

**Green Space**

The design concept of this Musalla (Islamic prayer room) was directed by utilizing contoured land, namely green space by planning and arranging the plants vertically (vertical garden) along the retaining wall that was beside the site, on the terrace of Musalla (Islamic prayer room) on the 2nd floor, under the stairs on the 1st floor and making access from the 8 alleys on the west side and the east side at the eastern end of the retaining wall. The access from the west side is sufficient for one person walking so that residents who were at the highest contour elevation west of the Musalla (Islamic prayer room) did not go down to the east door.



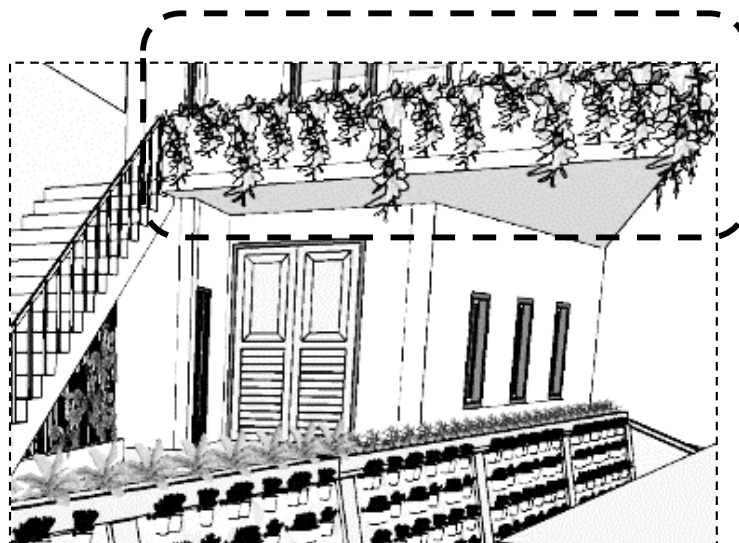
**Figure 5. Utilization of Vertical Garden on Retaining Wall**  
 (Source: Author's documentation, 2020)



**Figure 6. Vertical Garden on Retaining Wall**  
(Source: Author's documentation, 2020)

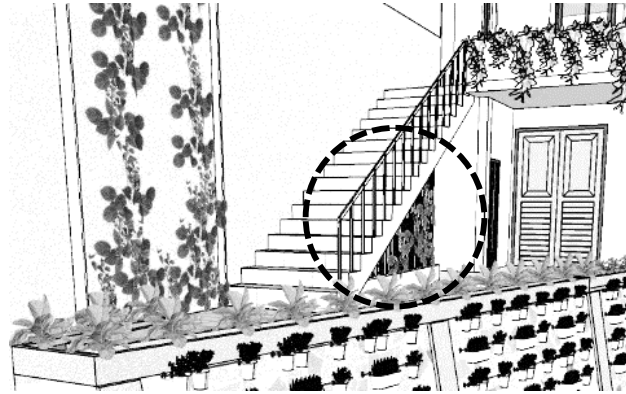


**Figure 7. Vertical Garden on Musalla (Islamic prayer room) Terrace (2<sup>nd</sup> Floor)**  
(Source: Author's documentation, 2020)



**Figure 8. Vertical Garden on Musalla (Islamic prayer room) Terrace (2<sup>nd</sup> Floor)**  
(Source: Author's documentation, 2020)

This green space optimization could be done under the 2nd-floor stairs with a vertical garden, hydroponics, as well as *vertikultur* (farming techniques in narrow space by utilizing the vertical plane as the farming was done in stages, either indoor or outdoor). This could be supported by the existing potential by utilizing springs for vertical gardens, hydroponic, and *vertikultur*.



**Figure 9. Vertical Garden under the stairs**  
(Source: Author's documentation, 2020)

## CONCLUSION

One of the active open spaces uses is green space. Green space provides several benefits, namely filtering the air, reducing pollution and noise, absorbing rainwater, making fresher air, and also reducing stress. Besides, active open spaces also play important roles in the social environment of urban communities, like places to gather, discuss, and interact socially among communities.

The design concept of this Musalla (Islamic prayer room) was optimized for limited land use through the efficiency of function and space as well as optimization of green space on steep contoured land in the form of vertical gardens so that the existing land could function optimally as active land and contextual to the surrounding environment. The further study is design development so that the implementation of Musalla (Islamic prayer room) design can be realized optimally to be utilized by locals.

## REFERENCES

- Cummins, S. K., & Jackson, R. J. (2001). The Built Environment and Children's Health. *Pediatric Clinics of North America*, 48(5), 1241-1252.
- Ernstson, H. (2012). The Social Production of Ecosystem Services. *A Framework For Studying Environmental Justice and Ecological Complexity in Urbanized Landscapes. Landscape and Urban Planning*, 109(1), 7-17.
- Escobedo, F. J., Kroeger, T., & Wagner, J. E. (2011). Urban Forests and Pollution Mitigation: Analyzing Ecosystem Services and Disservices. *Environmental Pollution*, 159(8), 2078-2087.
- Fuller, R. A., Irvine, K. N., Devine-Wright, P., Warren, P. H., & Gaston, K. J. (2007). Psychological Benefits of Green Space Increase with Biodiversity. *Biology Letters*, 3, 390-394.
- Hakim, R., & Utomo, H. (2002). *Komponen Perancangan Arsitektur Lanskap: Prinsip-Unsur dan Aplikasi Desain*. Jakarta: PT., Bumi Aksara.
- Kweon, B. S., & et al. (2010). Landscape Components, Land Use, and Neighborhood Satisfaction. *Environment and Planning B: Planning and Design*, 37, 500-517.
- Roy, S., Byrne, J., & Pickering, C. (2012). A Systematic Quantitative Review of Urban Tree Benefits, Costs, and Assessment Methods Across Cities in Different Climatic Zones. *Urban Forestry and Urban Greening*, 4(11), 351-363.
- Song, Y., Gee, G. C., Fan, Y., & Takeuchi, D. T. (2007). Do Physical Neighborhood Characteristics Matter in Predicting Traffic Stress and Health Outcomes? *Transportation Research, Part F: Traffic Psychology and Behaviour*, 10, 164-176.