E-ISSN: 2808-0947

Dearsip, Vol. 06 No. 01 2026

Effectiveness of Green Space Social Functions in Ashta and PIM 3

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ABSTRACT

Green spaces are increasingly recognized as essential elements in the design of modern commercial areas, not only for improving environmental quality but also for supporting social interaction among urban communities. In large cities with limited green spaces, their presence in shopping centers can enhance visitor comfort and extend the duration of visits, allowing malls to function as social and recreational spaces. This study aims to evaluate the effectiveness of green spaces in optimizing the social functions of public spaces in commercial areas through case studies of Ashta District 8 Mall and Pondok Indah Mall 3 (PIM 3) in Jakarta. The research employs a qualitative descriptive approach using field observations, visual documentation, and semi-structured interviews with 5 respondents selected through purposive sampling.

The results show that green spaces at PIM 3 are more effective in supporting social interaction, where 3 out of 3 respondents use the space for group activities such as gathering and socializing. In contrast, green spaces at Ashta District 8 tend to support individual or paired activities, as indicated by 2 out of 2 respondents. Furthermore, all respondents (5/5) stated that the presence of green spaces increases their comfort and encourages longer visits to the mall. These findings indicate that the effectiveness of green spaces in supporting social functions is influenced by design characteristics, availability of seating, vegetation density, and thermal comfort. Green spaces that are more accommodating to group activities and provide better environmental comfort tend to generate higher levels of social interaction.

Key Words: Green space, social function, public space

INTRODUCTION

The development of commercial areas in major Indonesian cities, particularly Jakarta, shows a trend toward a reduction in green space due to the intensity of construction. The loss of green space leads to a decline in the quality of public spaces and limits opportunities for social interaction among urban residents. In (Praliya & Garg, 2019) state that a good public space must be able to support social activities, provide comfort, and facilitate interaction among users. On the other hand, shopping centers (malls) have undergone a shift in function from merely spaces for consumption to spaces for socializing and recreation. However, the use of green spaces within malls is generally still positioned as an aesthetic element, without in-depth studies regarding their effectiveness in optimizing the social function of public spaces, particularly in the context of the urban tropical climate.

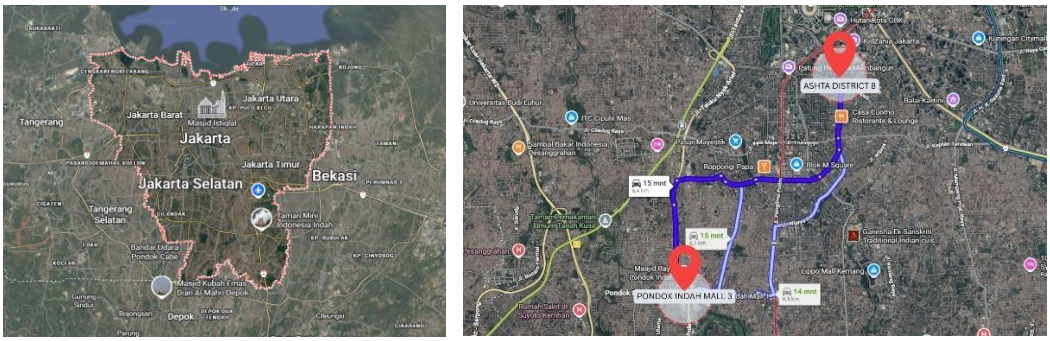

Figure 1. Map of Jakarta & locations of Ashta District 8 Mall and Pondok Indah Mall 3 in Jakarta

The presence of green open spaces within a mall has the potential to enhance the quality of public spaces by providing areas for respite, relaxation, and gathering for visitors. (Gehl, 2011) emphasizes that the quality of public space is determined by its ability to support everyday human activities, such as sitting, conversing, and lingering within the space. However, in practice, green spaces in shopping centers are often positioned as aesthetic elements and visual accents for the building, without spatial planning that specifically considers the patterns of activity and social interaction of the space's users.

(Chiesura, 2004) Several previous studies have emphasized that green spaces play a role in improving environmental quality, psychological well-being, and social interaction among users of these spaces. Research on green roofs, vertical gardens, and open spaces in commercial areas generally focuses on ecological and aesthetic aspects, while discussions regarding the relationship between green spaces, visit duration, and the intensity of social interaction in shopping centers remain relatively limited, particularly in the context of Indonesia's tropical climate.

Given these circumstances, this study aims to examine the effectiveness of green open spaces in supporting the social functions of public spaces in shopping districts through case studies of Ashta District 8 Mall and Pondok Indah Mall 3 (PIM 3) in Jakarta. This study emphasizes the relationship between spatial design characteristics, thermal comfort, and visitors' social activity patterns as part of a study of public space architecture.

Based on observations and field data, the green spaces in both malls play distinct roles in shaping visitors' activity patterns. Design characteristics, the availability of supporting facilities, and microclimate conditions influence how green spaces are utilized, whether as spaces for individual relaxation or for social gatherings. These findings align with previous studies that emphasize the importance of the physical quality and management of public spaces in fostering social interaction (Aram et al., 2019).

In the context of current knowledge, this study enriches the discourse on green spaces in commercial areas by positioning malls as public spaces with social potential, rather than merely economic spaces. A comparative approach to two typologies of rooftop green spaces shows that the optimization of social functions depends not only on the presence of green elements but also on spatial design, thermal comfort, and the usage patterns that emerge within them. Thus, green spaces in shopping centers can be understood as part of an urban public space design strategy that is more responsive to the social needs of urban communities.

LITERATURE REVIEW

Public Spaces and Social Functions

According to Jan Gehl, a good public space must be able to support everyday social activities such as sitting, walking, chatting, and interacting with other users. These activities are divided into mandatory, optional, and social activities, all of which are greatly influenced by the physical quality of the space. The more comfortable and attractive a space is, the higher the intensity of social interaction that occurs. Stephen Carr states that public spaces must meet aspects of comfort and accessibility, as well as provide social meaning for their users. Public spaces serve not only as venues for physical activities but also as a medium for the formation of social relationships within urban communities.

The Role of Green Spaces in Urban Areas

Green open spaces play a vital role in improving environmental quality and social life in urban areas. Alessandra Chiesura explains that green spaces not only serve ecological functions but also provide psychological and social benefits, such as reducing stress, enhancing comfort, and fostering social interaction. Additionally, research by Faezeh Aram indicates that the presence of green spaces can increase the intensity of social interaction in urban environments, particularly when supported by designs that are responsive to user needs.

Green Spaces in Commercial Areas

In the context of commercial areas, such as shopping malls, green spaces have undergone a functional transformation. Malls no longer serve merely as spaces for consumption, but also as social and recreational spaces. According to Timothy Beatley, the integration of natural elements into urban design (biophilic design) can enhance users' quality of life and create a more human-centered spatial experience. However, many studies indicate that the implementation of green spaces in malls is often purely aesthetic and has not yet been fully optimized as social spaces. This highlights a gap between the visual design and the social function of these spaces.

The Influence of Physical Design on User Behavior

Amos Rapoport's theory states that the form and configuration of a space have a direct influence on human behavior. Elements such as layout, spatial scale, and the relationships between elements determine how the space is used. Additionally, William H. Whyte emphasizes the importance of supporting elements such as seating, vegetation, and visual comfort in enhancing social activity in public spaces. Without these elements, spaces tend to be used merely as transitional areas.

Thermal Comfort in Tropical Outdoor Spaces

Thermal comfort is a key factor in the success of outdoor spaces in tropical climates. Victor Olgyay explains that outdoor space design must take into account climatic factors such as solar radiation, air temperature, and wind circulation. Vegetation, shading elements, and surface materials play a crucial role in creating a comfortable microclimate. Without these strategies, outdoor spaces tend not to be used optimally due to unfavorable environmental conditions.

RESEARCH METHODOLOGY

This study employs a qualitative descriptive method with a comparative approach. This method was chosen to understand the characteristics of green open spaces and patterns of their use as public spaces in shopping center areas.

Data collection was conducted through field observations, visual documentation, and semi-structured interviews with visitors engaging in activities within the green open spaces of Mall

Ashta District 8 and PIM 3. Observations focused on the physical condition of the spaces, design elements, supporting facilities, as well as the social activities and interactions taking place.

The analysis was conducted descriptively by comparing the characteristics of the green open spaces at both locations based on several aspects, including spatial accessibility, thermal comfort, spatial facilities, and patterns of visitor activities and social interactions. This approach was used to identify the influence of spatial design on the use of green spaces as public spaces.

1. Data Collection Methods

Data collection was carried out through field observations, visual documentation, and semi-structured interviews with visitors who were active in the green open spaces of Ashta Mall District 8 and Pondok Indah Mall 3 (PIM 3). Interviews were conducted on 5 respondents who were selected purposively, consisting of 2 respondents in Ashta District 8 and 3 respondents in PIM 3.

Observations were conducted directly using a non-participatory approach. The observation activities focused on monitoring visitor activities in the green spaces, including the types of activities performed, the duration of space usage, and the forms of social interaction that occurred. Through direct observation at the research sites, the author was able to understand the actual behavior of green space users without intervening in visitor activities. Visual documentation in the form of photographs of existing conditions and user activities was used as supporting data to reinforce the results of the field observations.

Semi-structured interviews were conducted in person with mall visitors who were present and engaging in activities in the green spaces. The interviews were conducted using a pre-prepared list of questions, while still allowing respondents the freedom to freely express their views, experiences, and perceptions. Respondents were selected through purposive sampling, specifically by choosing visitors who were in the green spaces and willing to be interviewed. The interviews were conducted at the research sites, specifically in the open green spaces of Ashta District 8 Mall and Pondok Indah Mall 3.

Table 1. List of questions

No.	List of Questions
1	How often do you visit this mall?
2	What do you usually do when you're at this mall?
3	Do you often go to the green space in this mall?
4	In your opinion, what is the main function of the green space in this mall?
5	What are your impressions of the green space in this mall? Is it attractive and does it make the atmosphere more comfortable?
6	Do you think this green space is well-maintained and well-designed?
7	Have you ever used this green space for social interaction (for example, chatting with friends or other people)?
8	Does this green space help create an atmosphere conducive to socializing?
9	In your opinion, does this green space play a role in enhancing visitors' comfort so they stay longer at the mall?
10	In your opinion, how could the green space in this mall be improved to more effectively support social interaction?
11	What are your personal thoughts or suggestions regarding the design, location, or facilities that could be added to this green space to make it more optimal for visitors?

2. Data Analysis Methods

This study employs a descriptive qualitative method with a comparative approach as the basis for analysis. Comparative analysis is used to examine two green open spaces (GOS) located within

shopping centers: Mall Ashta District 8 and Pondok Indah Mall 3 (PIM 3). This approach aims to identify similarities and differences in the characteristics of green spaces within a commercial context, particularly in terms of design, function, comfort, and the level of use by visitors.

Data were analyzed based on direct field observations, interviews with visitors, and visual documentation. The analysis was conducted descriptively by grouping and interpreting field data into several pre-determined study variables. These variables include the environmental quality of green spaces, visitor intensity, accessibility, spatial capacity, visual appeal, social function, as well as aspects of space management and maintenance. The selection of the two study locations was conducted using a purposive approach, considering that both share the basic function of serving as green open spaces within malls but exhibit differences in design character, spatial scale, and locational context. These differences in character form the basis for the comparative analysis process to understand how variations in the design and management of green spaces influence visitor usage patterns and social activities.

Data analysis was conducted through the stages of data reduction, data presentation, and drawing preliminary conclusions. During the data reduction stage, information from observations and interviews was selected and focused on aspects relevant to the research objectives. The data presentation stage was carried out in the form of descriptive narratives and comparative tables between case studies to facilitate reading and interpretation. Subsequently, conclusions were drawn in stages by linking field findings to relevant theoretical frameworks and literature reviews. The use of this descriptive-comparative qualitative analysis method allowed for the contextual construction of knowledge regarding the role and character of green spaces in commercial areas, as well as providing an overview of the factors influencing the optimization of the social functions of green spaces in shopping centers.

ANALYSIS AND DISCUSSION

1. Overview of Green Open Space Locations

Ashta District 8 Mall is located in the Sudirman Central Business District (SCBD) area of Jakarta and was designed using a sustainable architectural approach that integrates green open spaces as part of the building's concept. The green open space at Mall Ashta District 8 takes the form of a sky garden situated on the rooftop, serving as both a recreational area and a respite space for visitors from the commercial activities inside the mall. According to (Rapoport Amos, 1977) the configuration of space and the physical elements of the built environment influence how people utilize and respond to space. The dominance of hardscape elements and the limited vegetation in this space cause it to function more as a transitional area and a stopover space. The presence of vegetation on this rooftop plays a role in reducing the dominance of hard materials and the urban heat island effect, thereby creating a relatively cooler and more comfortable atmosphere amidst a dense business environment.

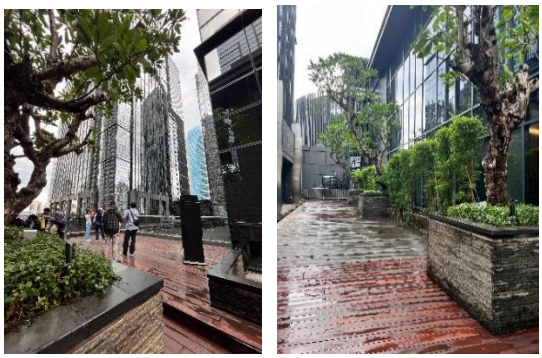

Figure 2. RTH ASHTA District 8

Visitors use this green space for various activities, such as relaxing, resting, working on digital devices, and engaging in casual interactions. The open layout, set against the backdrop of the high-rise buildings in the SCBD area, offers a distinctive visual experience and serves as a unique attraction in its own right. These conditions encourage photography and selfies, which indirectly foster light social interaction among visitors, such as chatting or helping each other take photos. The presence of seating is one of the key elements supporting the use of green spaces as social spaces, although the number of seats remains limited. (Willyam H Whyte, 1980) explains that the availability of seating, shade, and visual comfort are the primary factors driving the intensity of public space usage.

Pondok Indah Mall 3 (PIM 3) is located in South Jakarta and is known as a modern shopping center that integrates commercial functions with social spaces. The main green open space at PIM 3 is a rooftop garden known as Love On Top. This space is designed as a rooftop garden dominated by vegetation, featuring relatively more seating, and oriented to allow visitors to enjoy panoramic views of Jakarta. Compared to Mall Ashta District 8, the green space at PIM 3 has a more open and recreational character.

Figure 3. RTH ASHTA District 8

The Love On Top area serves as a gathering space for visitors, whether they are there alone or in groups, such as families and friends. Activities here include relaxing, chatting, taking photos, and enjoying the outdoor atmosphere without the need to make a purchase. This green space contributes to a more diverse visitor experience, ensuring that the mall functions not only as a shopping destination but also as a social and recreational space within the urban commercial district.

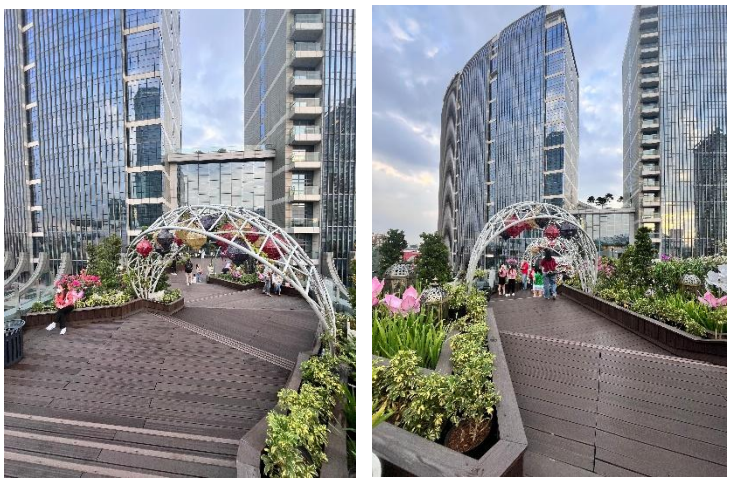

Figure 4. RTH PIM 3 Jakarta

2. Comparative Analysis of Green Open Space Characteristics

Table 2. Comparative analysis

No.	Aspects	ASHTA District 8	PIM 3 Jakarta
1	Design & Location	Open (rooftop), minimalist	Open (rooftop), elongated
2	Visual Aesthetics	Futuristic urban	Natural, attractive, calming
3	Social Interaction	Not very much, mostly individual	High, strongly fosters a sense of community due to the large number of visitors
4	Photographic Appeal	Attractive for urban-style photos	Attractive for family/nature-style photos
5	Thermal Comfort	Hot during the day, strong winds; cooler when cloudy	Hot during the day – late afternoon
6	Visit Duration	>30 minutes on average	<20 minutes on average
7	Visitor Recommendations	More likely to recommend	Less likely to recommend
8	Seating, elements	Limited seating, no water features, limited greenery or vegetation	More seating, plenty of live and ornamental plants, birds present, more diverse vegetation
9	Activity patterns and social functions	Individuals, couples, photography, and social functions are more moderate	Groups, families, socializing, and social functions are more intensive
10	Visitor recommendations	Recommended by young people and couples	More recommended by families and older people

These differences indicate that spatial design, the availability of facilities, and the ambient atmosphere influence how visitors utilize green spaces. The green spaces at Ashta District 8 Mall tend to be used for brief relaxation and visual activities, whereas the green spaces at PIM 3 are better suited for group-scale social activities. Based on the responses to the questions posed to visitor respondents: Regarding visit frequency at Mall ASHTA District 8, respondents often visit the mall 2–3 times per month, whereas at PIM 3, respondents visit the mall at least once a week.

Activities in the green spaces at Mall ASHTA District 8 include relaxing, taking photos, and working on laptops, whereas at PIM 3, respondents' activities include relaxing, taking photos, and chatting with family or relatives who are visiting. According to visitors, the function of the green spaces is as a place for a brief rest to enjoy the fresh air and as a gathering spot for families after visiting the mall, as well as to enhance the mall's ambiance.

Based on interviews with respondents, it can be concluded that at ASHTA District 8 Mall, respondents stated they use the RTH as a place for socializing, while at PIM 3, respondents stated they often chat or gather with friends or family. Furthermore, the majority of visitors stated, "We stay longer at the mall because of the RTH."

This study identified several negative aspects or challenges that could hinder the optimization of social functions: The limited size of the open green spaces (RTH) at both malls is relatively small compared to the number of visitors, especially on weekends. At PIM 3 in particular, the open green spaces tend to be crowded. This can reduce visitor comfort and disrupt social interaction due to limited seating and space for movement. At ASHTA District 8 Mall, a maximum visitor capacity has been established, but at PIM 3, no rules regarding maximum visitor capacity have been established.

Figure 5. (a) Outdoor Rules ASHTA District 8 (b) Outdoor Rules PIM 3

The open green space at Ashta District 8 Mall is better suited for private activities (individuals or couples) rather than groups or communities. This is because the visitors there are mostly couples or individuals, rather than large groups or families.

During the observation session, it was found that some plants appeared unhealthy or dry, especially during the summer. Insufficient irrigation and a lack of a regular plant maintenance schedule were identified as contributing factors. This directly impacts visitors' perception of the space's aesthetic quality. Additionally, after recent rain at PIM 3 Jakarta, some artificial grass and decorative carpets became wet, causing visitors to feel uncomfortable when stepping on them.

This green space tends to function primarily as an aesthetic element, with limited seating availability, a lack of water features, and exposure to extreme weather conditions, such as strong winds and excessive heat during the day. This makes visitors uncomfortable staying for extended periods, so the intended social function is not optimally achieved. A finding at Ashta District 8 Mall is low thermal comfort, particularly during the day. The rooftop area, which is directly exposed to sunlight and wind, causes temperatures to become uncomfortable for most visitors. The strong gusts of wind also make some visitors feel reluctant to stay for long.

3. Interpretation and Discussion

Field findings indicate that the presence of green open spaces in mall areas serves as a transitional space between commercial activities and visitors' recreational needs. (Chiesura, 2004) view that green spaces hold social and psychological value in an urban context. However, the analysis results indicate that the social function of green spaces is determined not only by the presence of vegetation but also by the quality of the space's design, thermal comfort, and the availability of supporting facilities.

Compared to the study (Francis D.K. Ching, 1995), which emphasizes the importance of physical elements in fostering social interaction, this study shows that spatial orientation and the nature of the activities facilitated also influence the intensity of interaction among visitors. Green spaces with designs that are more accommodating to group activities, such as at PIM 3, tend to be utilized as social spaces more intensively than green spaces that are visually oriented and geared toward individual use. The presence of participatory design elements, such as seating, pedestrian paths, live plants, and visual aesthetics, has been shown to enhance social interaction. At PIM 3, the "Love On Top" rooftop concept—featuring a green garden with an open and natural atmosphere—fosters comfort and a relaxed ambiance for visitors. This aligns with the concept in (Francis D.K. Ching, 1995), which explains that socially friendly public spaces require physical amenities that encourage encounters and interactions among users.

Ashta District 8 Mall also demonstrates a significant influence from sustainable design concepts. The sky garden concept built on the mall's rooftop helps mitigate the urban heat island effect and provides a refreshing visual experience. This supports the theory (Byrne & Sipe, 2010) that green roofs offer both ecological benefits and social value in urban areas. In the context of state-of-the-art research, this study enriches the analysis of green spaces in commercial areas through a user-behavior-based comparative approach. Unlike previous studies that emphasized ecological and aesthetic aspects, this study highlights how variations in green space design within malls shape distinct patterns of usage and social interaction. Thus, green spaces in shopping centers can be understood as contextual public space elements that are strongly influenced by design strategies and management practices.

From the perspective of user behavior, the majority of visitors stated that they felt more comfortable and were more likely to extend their visit when there were cool, clean, and aesthetically pleasing green spaces. In fact, at PIM 3, it was found that 70% of respondents often chatted and gathered in green open spaces. This reinforces the idea (Blokland, 2009) that the accessibility and quality of green spaces determine the success of a public space as a venue for social interaction. Thermal comfort is a key factor in increasing space utilization. Public open spaces that offer protection from the sun, wind, and balanced humidity are more desirable, as explained by (Indraswari et al., 2025), which notes that thermal comfort is strongly correlated with visit duration in open spaces in tropical regions.

(Victor Olglay, 1963) states that thermal comfort in outdoor spaces in tropical climates is significantly influenced by the presence of vegetation, shading elements, and air circulation. The issue of thermal comfort, which remains unresolved to this day, aligns with the view expressed in (Salsabella et al., n.d.) that tropical open spaces require microclimate mitigation strategies to enhance visitor comfort. Without this approach, the potential of green spaces as places for interaction will be hindered because visitors tend to stay only briefly. However, the main challenges identified are limitations in the management and maintenance of green open spaces in some areas, as well as a lack of supporting facilities such as additional shade or amenities for children. This serves as an important consideration for developers to prioritize sustainability and the functional use of green spaces, as noted by (Beatley, 2011) that sustainability extends not only to design but also to the operational phase of the space.

CONCLUSION

1. Green open spaces in shopping centers serve as elements that support the social functions of public spaces.
2. Green spaces are used for relaxing, gathering, and casual social interaction, thereby enhancing visitors' comfort and the quality of their experience.
3. The use of green spaces is influenced by several key factors, namely: accessibility of the space, availability of seating, visual and aesthetic elements, presence of vegetation
4. There are differences in usage patterns between the two case studies, which are influenced by the design and management of the space.
5. Green spaces with an open design that encourage social interaction tend to be used more frequently as gathering places.
6. Green spaces designed for visual appeal and relaxation are more commonly used for individual activities.
7. Optimizing the social functions of green spaces depends not only on their existence, but also on: spatial design strategies, the quality of management and maintenance

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