

Design of Inclusive Green Open Spaces as a Medium for Intergenerational Social Interaction in Urban Areas

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Abstract. *Inclusive green open spaces play a vital role in enhancing the quality of urban life by promoting social interaction, environmental sustainability, and psychological well-being. This study aims to explore the concept and design principles of inclusive green open spaces as a means of fostering intergenerational social interaction in urban areas. Using a literature review design, this research analyzes eight selected scientific articles published between 2010-2023 that discuss inclusive urban design, social interaction, and sustainable public spaces. The results indicate that inclusive design emphasizing accessibility, safety, comfort, and multifunctionality creates opportunities for interaction among various age groups and social backgrounds. Furthermore, the integration of ecological functions with social needs contributes to environmental sustainability and urban resilience. Community participation and universal design principles are identified as key elements in ensuring that green open spaces are equitable and responsive to the needs of all users. This study concludes that the development of inclusive green open spaces not only supports sustainable urban planning but also strengthens social cohesion and intergenerational connections within cities.*

Keywords: *inclusive design, green open space, social interaction, intergenerational, urban sustainability*

1. INTRODUCTION

Urbanization has led to a rapid increase in population density and the reduction of green open spaces (GOS) in cities around the world. As a result, the quality of urban life has declined, particularly in terms of social interaction and mental well-being (Carmona, 2019). Green open spaces serve not only ecological and aesthetic functions but also play a vital social role as communal areas where residents from different generations can meet, interact, and strengthen social cohesion (Kabisch et al., 2017). The decline in accessible and inclusive public spaces limits these opportunities, particularly for vulnerable groups such as the elderly, children, and people with disabilities (Ward Thompson, 2013).

Inclusive design in green open spaces emphasizes accessibility, safety, and comfort for all users, regardless of age or ability. This approach aligns with the principles of universal design, which aim to create environments that support diverse physical and social needs (Steinfeld & Maisel, 2012). Inclusive GOS can promote intergenerational interaction, reduce social isolation, and foster empathy between age groups (Dempsey et al., 2020). Studies have shown that intergenerational spaces enhance community resilience and social capital, which are critical to sustainable urban development (Jennings & Bamkole, 2019).

In the context of modern cities, social fragmentation has become increasingly pronounced due to individualistic lifestyles and the dominance of digital communication. The lack of physical spaces that facilitate organic social encounters contributes to social alienation, particularly among older adults (Gehl, 2011). Urban green spaces, when inclusively designed, can counter this trend by becoming nodes of social interaction that transcend age and social class (Peters et al., 2010). Therefore, the design of GOS should not only focus on environmental sustainability but also on fostering human connections.

Indonesia's major cities, including Jakarta, Surabaya, and Bandung, face challenges in maintaining adequate green space due to rapid urban development (Firman et al., 2019). The conversion of land for commercial and residential purposes has resulted in the loss of communal areas, which has negative implications for social cohesion (Nasution & Zahrah, 2014). In this context, inclusive green open spaces can act as instruments of social integration by accommodating various activities that encourage intergenerational engagement.

From an architectural perspective, the design of inclusive green spaces requires sensitivity to cultural context and user diversity. Landscape design elements such as seating arrangements, pathways, vegetation, and playgrounds must be configured to promote interaction and comfort for all users (Marcus & Francis, 2013). Moreover, participatory design involving local communities can enhance a sense of belonging and ensure that the spaces truly reflect user needs (Carmona, 2021). Inclusive design also supports public health by encouraging physical activity and reducing stress (Maas et al., 2017).

Intergenerational interaction is an essential aspect of social sustainability. Research indicates that spaces promoting interaction between young and old enhance mutual understanding and reduce generational stereotypes (Springate et al., 2014). Thus, inclusive green spaces serve as physical and symbolic bridges between generations, fostering shared experiences that strengthen the social fabric.

Considering the growing importance of sustainability and social inclusion in urban design, this study aims to explore how inclusive green open spaces can be effectively designed to foster intergenerational interaction in urban settings. The research highlights the role of architecture and landscape design in shaping human relationships, emphasizing that well-designed public spaces can act as catalysts for social harmony, inclusivity, and urban resilience.

2. METODE

This study employed a literature review design to analyze the concepts, principles, and implementation of inclusive green open spaces (GOS) that promote intergenerational social

interaction in urban areas. The approach aimed to identify trends, research gaps, and relevant design strategies within the context of social architecture and sustainable urban planning. Data sources were obtained from scientific journal articles, books, conference proceedings, and research reports published between 2010 and 2023, using databases such as Scopus, ScienceDirect, SpringerLink, and Google Scholar. The keywords used included *inclusive green open space*, *urban design*, *social interaction*, *intergenerational design*, and *public space accessibility*.

The literature selection process followed four stages: identification, screening, eligibility, and synthesis. The inclusion criteria comprised publications in English or Indonesian that were relevant to social architecture and discussed aspects of inclusivity and social interaction. Data analysis was carried out using a qualitative descriptive approach through content analysis, examining key themes such as universal design, spatial accessibility, social landscape elements, and the role of green open spaces in fostering intergenerational social cohesion. The synthesis results were then used to formulate architectural design recommendations that support cross-generational interaction within the framework of sustainable urban environments

3. RESULT AND DISCUSSION

Table 1. Literatur Review on Inclusive Green Open Space Design and Intergenerational Social Interaction in Urban Areas

Author(s) & Year	Main Findings / Research Focus
Gehl, J. (2010). <i>Cities for People</i>	Emphasized the importance of public space design that supports social activities, comfort, and intergenerational interaction through human-centered design principles.
Sugiyama, T., & Thompson, C. W. (2013). Environmental support for outdoor activities and older people’s quality of life.	Demonstrated that accessibility and comfort in green spaces contribute to improved quality of life for the elderly and foster social interaction in urban environments.
Peters, K., Elands, B., & Buijs, A. (2010). Social interactions in urban parks: Stimulating social cohesion	Examined the relationship between urban green spaces and social cohesion, finding that city parks serve as vital venues for cross-generational interaction.
Byrne, J., & Wolch, J. (2016). Nature, race, and access to greenspace: A review of contemporary issues.	Reviewed equity in access to green open spaces and emphasized the importance of inclusive design to accommodate diverse age and social groups.

Nordh, H., & Østby, K. (2013). Pocket parks for people: A study of park design and use.	Concluded that small-scale, simple park designs (pocket parks) enhance social interaction, particularly in densely populated urban areas.
Puspitasari, D., & Widyawati, F. (2020). Inklusivitas ruang publik kota: Studi pada taman kota di Surabaya.	Found that the implementation of inclusivity and universal accessibility principles in city park design contributes to cross-generational social interactions.
Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. (2014). Nature and health.	Showed that the presence of green spaces not only improves physical and mental health but also serves as a catalyst for social interaction within urban communities.
Pradana, A., & Nurhidayati, L. (2022). Ruang terbuka hijau sebagai sarana interaksi sosial multigenerasi di Yogyakarta.	Found that green space designs with interactive elements such as playgrounds, shared seating, and pedestrian pathways encourage intergenerational encounters.

The reviewed literature collectively highlights the critical role of inclusive green open space (GOS) design in enhancing intergenerational social interactions within urban contexts. Gehl (2010) emphasized the importance of human-centered public space design that encourages social activity and comfort while fostering interactions between different age groups. Similarly, Sugiyama and Thompson (2013) demonstrated that accessibility and comfort in green spaces significantly improve the quality of life for the elderly and promote social engagement in outdoor environments.

Building on this, Peters, Elands, and Buijs (2010) explored the connection between urban green spaces and social cohesion, concluding that city parks act as vital platforms for interaction among diverse generations. Byrne and Wolch (2016) contributed a broader perspective by addressing issues of equity and inclusivity in green space access, highlighting that inclusive design principles are necessary to accommodate social and age diversity in urban populations.

Nordh (2013) reinforced this understanding by examining pocket parks, showing that small-scale green areas can effectively foster community interactions, especially in dense urban neighborhoods. Puspitasari and Widyawati (2020) localized this discussion in the Indonesian context, finding that applying inclusivity and universal accessibility principles in city park designs strengthens intergenerational connections and community engagement.

Hartig, Mitchell, de Vries, and Frumkin (2014) added a health-oriented perspective, revealing that green spaces not only improve mental and physical well-

being but also serve as catalysts for social interaction and collective experiences in urban communities. Finally, Pradana and Nurhidayati (2022) emphasized the importance of interactive design elements such as playgrounds, shared seating areas, and pedestrian paths in encouraging encounters and relationships between generations within green spaces.

Overall, these studies demonstrate a consistent pattern: the integration of inclusive design, accessibility, and social functionality within green open spaces is essential for promoting intergenerational interaction, enhancing community cohesion, and improving urban livability.

The reviewed literature collectively underscores the vital role of inclusive green open space (GOS) design in fostering intergenerational interaction and strengthening social cohesion in urban settings. Gehl (2010) argued that human-centered urban design promotes comfort and social activity, forming the foundation for active and inclusive communities. When public spaces are designed around human needs rather than vehicular or commercial priorities, they become environments where people from different generations naturally gather, interact, and share experiences.

Accessibility and comfort emerge as key factors influencing the frequency and quality of intergenerational interactions. Sugiyama and Thompson (2013) demonstrated that older adults are more likely to use outdoor spaces when those spaces provide easy access, safe walking paths, and supportive amenities such as benches and shade. This finding aligns with Peters, Elands, and Buijs (2010), who emphasized that parks act as social equalizers—spaces where differences in age, culture, and social background are bridged through shared activities and encounters.

Moreover, social cohesion within urban environments is enhanced when green spaces are designed inclusively. Byrne and Wolch (2016) highlighted the issue of social equity and the importance of ensuring that all age groups, regardless of physical ability or socioeconomic status, have access to quality green spaces. Inclusive design practices, such as universal accessibility and mixed-use layouts, allow individuals of all generations to participate in social life without exclusion or segregation.

The scale and typology of green spaces also influence the nature of social interactions. Nordh and Østby (2013) found that small-scale pocket parks provide intimate and frequent social encounters, especially in densely populated urban neighborhoods. These spaces are not only physically accessible but also psychologically inviting, creating a sense of ownership and belonging among community members.

Similarly, Puspitasari and Widyawati (2020) confirmed that inclusivity principles applied in Indonesian city parks—such as barrier-free access and multi-functional zones—encourage diverse groups to use the same space simultaneously, thus fostering intergenerational engagement.

Health and well-being are additional benefits derived from inclusive green space design. Hartig, Mitchell, de Vries, and Frumkin (2014) revealed that exposure to nature and green environments enhances mental restoration, reduces stress, and promotes social interaction. These health benefits are not isolated but interrelated when people feel physically and emotionally well, they are more inclined to engage in social activities that strengthen intergenerational ties and community resilience.

The integration of interactive spatial elements further supports these social functions. Pradana and Nurhidayati (2022) observed that playgrounds, shared seating areas, and pedestrian-friendly pathways enhance the likelihood of spontaneous social interaction among children, adults, and the elderly. Such spatial arrangements transform green spaces into dynamic social nodes rather than passive recreational areas. In this sense, inclusive GOS functions not only as physical infrastructure but also as a social catalyst that bridges generational gaps in urban environments.

Overall, the discussion suggests that designing inclusive green open spaces requires a holistic approach integrating accessibility, inclusivity, environmental psychology, and cultural sensitivity. Urban planners and architects should prioritize human-scale design, equitable access, and multifunctional use to foster sustainable social interaction among generations. As cities continue to densify, the creation of inclusive green spaces will play a pivotal role in promoting community well-being, social integration, and the long-term resilience of urban societies.

4. CONCLUSION

The design of inclusive green open spaces in urban areas plays a crucial role in fostering intergenerational social interaction and enhancing community well-being. This study highlights that inclusive design principles such as accessibility, safety, comfort, and multifunctionality are key to creating spaces that can be used by people of all ages and abilities. By integrating universal design concepts, public participation, and ecological sustainability, inclusive green spaces can become environments that encourage physical activity, social engagement, and a sense of belonging among residents. Moreover, such spaces contribute to urban resilience by improving environmental quality and promoting social cohesion. The literature also emphasizes the importance of involving local communities in the design and

management processes to ensure that the spaces reflect their social and cultural values. Therefore, the implementation of inclusive green open spaces is not only a matter of urban design but also a social investment that supports sustainable urban development and strengthens intergenerational connections.

REFERENCES

- Abraham, A., Sommerhalder, K., & Abel, T. (2010). Landscape and well-being: A scoping study on the health-promoting impact of outdoor environments. *International Journal of Public Health*, 55(1), 59–69.
- Byrne, J., & Wolch, J. (2016). Nature, race, and access to greenspace: A review of contemporary issues. *Progress in Human Geography*, 40(6), 807–836. <https://doi.org/10.1177/0309132516659707>
- Carmona, M. (2019). Principles for public space design, planning to do better. *Urban Design International*, 24(1), 47–59.
- Carmona, M. (2021). *Public Places Urban Spaces: The Dimensions of Urban Design* (3rd ed.). Routledge.
- Dempsey, N., Burton, M., & Duncan, R. (2020). Evaluating the social sustainability of urban regeneration: Learning from the United Kingdom. *International Journal of Urban Sustainable Development*, 12(3), 321–337.
- Firman, T., Kombaitan, B., & Pradono, P. (2019). The continuity and change of mega-urbanization in Indonesia: A survey of Jakarta–Bandung region. *Habitat International*, 89, 102–111.
- Gehl, J. (2010). *Cities for People*. Island Press.
- Gehl, J. (2011). *Life Between Buildings: Using Public Space*. Island Press.
- Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. (2014). Nature and health. *Annual Review of Public Health*, 35(1), 207–228. <https://doi.org/10.1146/annurev-publhealth-032013-182443>
- Jennings, V., & Bamkole, O. (2019). The relationship between social cohesion and urban green space: An avenue for health promotion. *International Journal of Environmental Research and Public Health*, 16(3), 452.
- Kabisch, N., Qureshi, S., & Haase, D. (2017). Human–environment interactions in urban green spaces: A systematic review. *Urban Forestry & Urban Greening*, 21, 49–62.
- Maas, J., Verheij, R. A., Spreeuwenberg, P., & Groenewegen, P. P. (2017). Physical activity as a possible mechanism behind the relationship between green space and health: A multilevel analysis. *BMC Public Health*, 17, 485.
- Marcus, C. C., & Francis, C. (2013). *People Places: Design Guidelines for Urban Open Space* (3rd ed.). Wiley.
- Nasution, A. D., & Zahrah, W. (2014). Community perception on public open space and quality of life in Medan, Indonesia. *Procedia - Social and Behavioral Sciences*, 153, 585–594.
- Nordh, H., & Østby, K. (2013). Pocket parks for people: A study of park design and use. *Landscape and Urban Planning*, 112, 31–42. <https://doi.org/10.1016/j.landurbplan.2012.12.009>

- Peters, K., Elands, B., & Buijs, A. (2010). Social interactions in urban parks: Stimulating social cohesion? *Urban Forestry & Urban Greening*, 9(2), 93–100.
<https://doi.org/10.1016/j.ufug.2009.11.003>
- Pradana, A., & Nurhidayati, L. (2022). Ruang terbuka hijau sebagai sarana interaksi sosial multigenerasi di Yogyakarta. *Jurnal Arsitektur dan Perkotaan*, 10(2), 101–114.
- Puspitasari, D., & Widyawati, F. (2020). Inklusivitas ruang publik kota: Studi pada taman kota di Surabaya. *Jurnal Tata Ruang dan Lingkungan Binaan*, 9(1), 65–78.
- Sugiyama, T., & Thompson, C. W. (2013). Environmental support for outdoor activities and older people's quality of life. *Journal of Environmental Psychology*, 33, 37–44.
<https://doi.org/10.1016/j.jenvp.2012.10.001>
- Steinfeld, E., & Maisel, J. (2012). *Universal Design: Creating Inclusive Environments*. Wiley.
- Ward Thompson, C. (2013). Activity, exercise, and the planning and design of outdoor spaces. *Journal of Environmental Psychology*, 34, 79–96.