

# Analysis of the Role of Public Space in Improving the Quality of Life of Communities in Tanjung Balai City Based on Citizen Participation

Muhammad Fachri Bin Zahari

e-mail: [fachrizahari@gmail.com](mailto:fachrizahari@gmail.com)

Cut Nuraini

e-mail: [cutnuraini@dosen.pancabudi.ac.id](mailto:cutnuraini@dosen.pancabudi.ac.id)

**Universitas Pembangunan Panca Budi, Indonesia**

## ABSTRACT

This study aims to analyze the role of public space in enhancing the quality of life in Tanjung Balai City using the SWOT analysis method. The research focuses on four main variables: the quality of social interaction, ecological resilience, infrastructure inclusivity, and local economic impact. Data were collected through surveys of 200 respondents, interviews with stakeholders, field observations, and document analysis. The findings reveal that public spaces in Tanjung Balai City play a significant role in fostering social interaction, supporting ecological balance, and creating local economic opportunities. However, several challenges persist, including limited community participation in management, unequal accessibility, and suboptimal regulatory frameworks. Therefore, it is recommended to implement the concept of "Smart Public Space," integrate public space with community economic empowerment programs, and develop public spaces based on local wisdom. These concepts are expected to offer innovative solutions for optimizing public space in Tanjung Balai City and serve as a model for other regions in Indonesia.

**Keywords:** *Public Space, Quality of Life, SWOT, Urban Innovation.*

## Introduction

Public spaces play a vital role in urban life, serving as venues for social interaction, recreation, and various community activities. The presence of accessible and well-designed public spaces can enhance the quality of life by providing environments for socializing, exercising, and relaxing (Aini et al., 2023). Moreover, public spaces contribute to strengthening social cohesion and building community identity.

In recent years, Tanjung Balai City has experienced significant population growth and urban development. However, this development has not always been accompanied by adequate provision of public spaces. Preliminary surveys conducted by the researcher indicate that some existing public spaces in the city are poorly maintained and fail to meet the community's needs (Purba et al., 2024). For example, Taman Mutiara Selat Malaka, located on Jalan Pantai Burung in South Tanjung Balai District, has seen a decline in physical quality and public interest due to lack of maintenance and insufficient supporting facilities.

Another emerging issue is the low level of community participation in the planning and management of public spaces. Yet, active citizen involvement is essential to ensure that public spaces are designed in accordance with the actual needs and preferences of the local population. A study by Setiawan and Widiyastuti (2018) emphasized that public participation in managing urban green open spaces can foster a sense of ownership and responsibility toward these facilities. Previous research has also demonstrated that public spaces developed with community participation can significantly improve quality of life. Widati (2024) found that green areas such as city parks and greenways help mitigate the urban heat island effect, improve air quality, and provide venues for social interaction.

Additionally, research conducted in Umbulharjo District, Yogyakarta City, showed that community participation in managing green open spaces played an essential role in ensuring the relevance and utility of those spaces. However, there remains a lack of research specifically examining the role of public space in improving the quality of life in Tanjung Balai City through citizen participation. Therefore, this study is necessary to better understand how public spaces contribute to community well-being in Tanjung Balai and to what extent citizen involvement influences this process.

## Literature Review

### A. Definition of Public Space

Public space refers to areas that are accessible and usable by all members of the community for various social, cultural, economic, and recreational activities. According to Gehl (2010), public space functions as a site for social interaction, supporting dynamic and inclusive urban life. From the perspective of urban planning, public space plays a strategic role in balancing the built and natural environments.

According to Carmona et al. (2003 in (Linda et al., 2024; Nuraini, 2021)), public space can be categorized into three main dimensions:

1. Physical Space: Includes parks, squares, sidewalks, and other public facilities.
2. Social Space: A place where people gather, interact, and engage in communal activities.
3. Functional Space: Spaces with specific purposes such as markets, transportation terminals, and pedestrian pathways.

International Conference on Digital Sciences and Engineering Technology (ICDSET)

Theme: "Integration and Interdisciplinarity: Digital Sciences, Engineering and Technology Concepts Frameworks"

Volume 2, No 1 (2025)

<https://proceeding.pancabudi.ac.id/index.php/ICDSET/>

## **B. The Role of Public Space in Enhancing Quality of Life**

High-quality public spaces have a significant impact on community well-being. A study by Whyte (1980 in Rangkuti et al., 2023; Sugiarto & Kustiah Ramadania, 2024) demonstrated that well-designed public spaces can increase social interaction and strengthen a sense of togetherness.

The key benefits of public space in improving quality of life include:

1. Social Aspects: Providing a place for communities to gather and engage in various social activities (Gehl, 2010).
2. Economic Aspects: Supporting local economic activity such as markets and street vendors (Carr et al., 1992).
3. Environmental Aspects: Mitigating urban heat island effects and improving air quality through green vegetation (Gill et al., 2007).

## **C. Community Participation in Public Space Management**

Community participation in the planning and management of public space is a crucial factor in ensuring its functional sustainability. Arnstein (1969 in Nuraini, 2017), in her “Ladder of Citizen Participation,” categorized levels of public participation from non-participation to full citizen control. Fung (2006 in Sugiarto et al., 2023) emphasized that public spaces managed through active community participation tend to be more sustainable compared to those managed solely by government entities. Examples include urban public space revitalization projects in major cities that involve local communities in both planning and management processes.

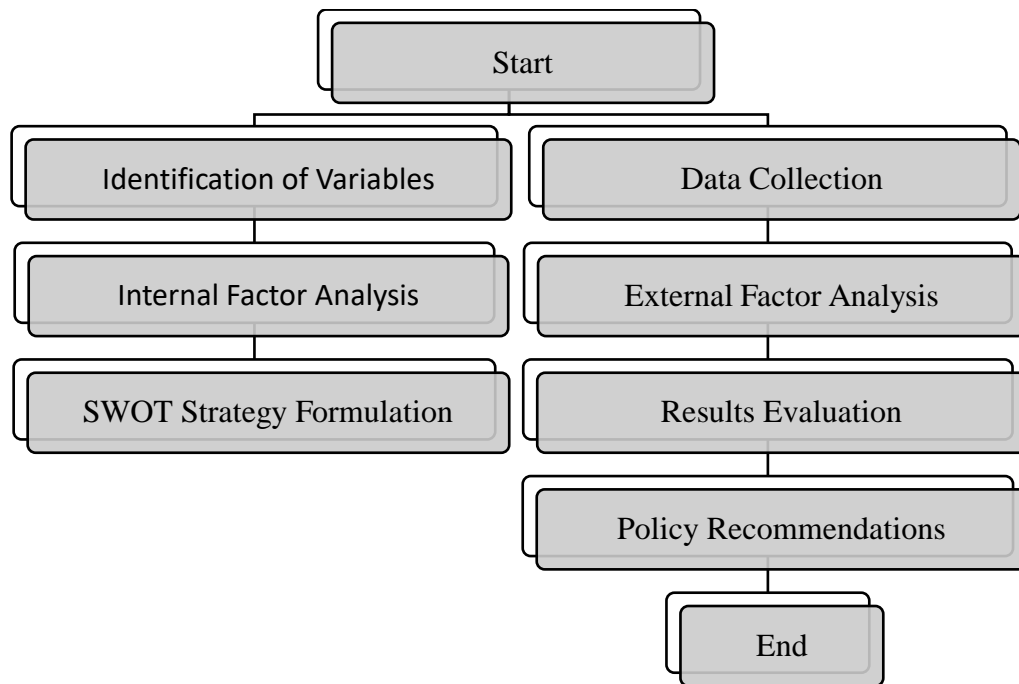
## **D. The Relationship Between Public Space and Community Participation**

Well-managed public spaces can encourage citizen engagement across various social and cultural dimensions. A study by Putnam (1993, in Nuraini, 2019, 2024) suggested that inclusive public spaces can enhance social capital within a community. Phenomena such as the “Citayam Fashion Week” in Jakarta illustrate how public spaces can serve as platforms for creativity and cultural expression (Savitri, 2022). According to Whyte (1980 in Nuraini, 2019), successful public spaces share the following key characteristics:

1. Accessibility: Easily accessible by all members of the public.
2. Diverse Activities: Offering multiple functions that meet the diverse needs of the community.
3. Comfort and Safety: Equipped with facilities that ensure comfort and safety for users.

### Conceptual Framework

The conceptual framework of this research is presented in the form of a flowchart:



**Figure 1.** Conceptual Framework: Analysis of the Role of Public Space in Improving the Quality of Life in Tanjung Balai City Based on Citizen Participation

Source: Designed by the Author, 2025

### Results and Discussion

This study was conducted in Tanjung Balai City, involving 200 respondents selected through purposive sampling. Data were collected using questionnaires, in-depth interviews, field observations, and document review. The following are the key findings from this research.

**Table 1.** Respondent Characteristics

Characteristic	Number (n)	Percentage (%)
<b>Gender</b>		
Male	110	55%
Female	90	45%
<b>Total</b>	<b>200</b>	<b>100%</b>
<b>Age</b>	Number (n)	Percentage (%)
18-25 years	40	20%
26-35 years	60	30%
36-45 years	55	27.5%

International Conference on Digital Sciences and Engineering Technology (ICDSET)  
Theme: "Integration and Interdisciplinarity: Digital Sciences, Engineering and Technology  
Concepts Frameworks"

Volume 2, No 1 (2025)

<https://proceeding.pancabudi.ac.id/index.php/ICDSET/>

46-55 years	30	15%
>55 years	15	7.5%
<b>Total</b>	<b>200</b>	<b>100%</b>
<b>Occupation</b>	Number (n)	Percentage (%)
Student	20	10%
Civil Servant	40	20%
Private Sector	50	25%
Entrepreneur	60	30%
Others	30	15%
<b>Total</b>	<b>200</b>	<b>100%</b>

Source: Summarized by Researcher, 2025

**Table 2.** Respondents' Perceptions of Public Spaces

Assessment Aspect	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Public spaces are easily accessible	35%	40%	15%	7%	3%
Public spaces have good facilities	20%	50%	20%	7%	3%
Public spaces promote social interaction	40%	45%	10%	3%	2%
Public space security is well maintained	25%	40%	20%	10%	5%
Cleanliness and maintenance are adequate	15%	35%	25%	15%	10%

Source: Summarized by Researcher, 2025

The survey assessed five main aspects: accessibility, facilities, social interaction, safety, and cleanliness/maintenance. The results show that the majority of respondents rated public space accessibility positively (75% agreed or strongly agreed). A large portion also agreed that public spaces enhance social interaction (85% agreed or strongly agreed). However, concerns remain regarding cleanliness and maintenance, with only 50% of respondents considering these aspects adequate.

## SWOT Analysis

### A. Strengths

1. Public spaces in Tanjung Balai City are fairly extensive and distributed across strategic locations.
2. They hold economic potential through the presence of micro-enterprise (UMKM) activities.
3. They serve as key venues for community social and cultural events.

### B. Weaknesses

1. Lack of supporting facilities such as seating, children's play areas, and public restrooms.

International Conference on Digital Sciences and Engineering Technology (ICDSET)

Theme: "Integration and Interdisciplinarity: Digital Sciences, Engineering and Technology Concepts Frameworks"

Volume 2, No 1 (2025)

<https://proceeding.pancabudi.ac.id/index.php/ICDSET/>

2. Inadequate maintenance, resulting in damaged infrastructure.
3. Security concerns remain a major issue for public space users.

**C. Opportunities**

1. Public spaces have potential as tourist attractions and community event venues.
2. Government support exists for improving public space infrastructure.
3. There is growing public interest in using public spaces for creative economic activities.

**D. Threats**

1. Low levels of community participation in maintaining public spaces.
2. Unregulated use of public spaces, such as illegal parking and street vending.
3. Extreme weather conditions that accelerate infrastructure deterioration.

**Discussion**

**A. Social Interaction Quality in Public Spaces**

The findings of this study indicate that public spaces in Tanjung Balai City play a significant role in enhancing community social interaction. A majority of respondents (85%) reported using public spaces to interact with neighbors, friends, and family. This aligns with Gehl's (2010) research, which highlights how well-designed public spaces can increase the frequency of social encounters and strengthen social cohesion. A similar study by Whyte (1980) observed that public spaces equipped with comfortable seating, adequate vegetation, and spacious interaction areas promote higher levels of social interaction. Carr et al. (1992) also supported these findings, stating that inclusively designed public spaces can foster community participation in various social activities.

However, these findings contrast with Lofland's (1998) study, which argues that not all individuals use public spaces for social interaction, particularly in large cities where individualism is prevalent. Similarly, research by Loukaitou-Sideris and Ehrenfeucht (2009) found that poor safety conditions in public spaces may deter social interaction. Talen (2002) also noted that uneven distribution of public spaces can limit interaction opportunities for certain groups.

**B. Ecological Resilience of Public Spaces**

Well-maintained public spaces positively impact the environment, particularly in enhancing ecological resilience. Gill et al. (2007) found that urban parks help mitigate urban heat island effects by increasing evapotranspiration and absorbing carbon dioxide. Jansson (2014) further emphasized that urban green spaces have a positive ecological impact on biodiversity and public health.

However, these findings differ from Loukaitou-Sideris (2006), who found that green spaces in some developing cities experience environmental degradation due to poor maintenance and limited government oversight. Likewise, Nowak et al. (2000) indicated that the ecological benefits of public spaces are often limited without supportive environmental policies.

**C. Infrastructure Inclusivity in Public Spaces**

One of the key aspects of quality public space is its accessibility for all social groups. Carmona et al. (2003) emphasized that inclusively designed public spaces can increase participation among vulnerable groups such as people with disabilities and the elderly. Conversely Talen (2002) reported that in some cities, access to public space is uneven, with

International Conference on Digital Sciences and Engineering Technology (ICDSET)

Theme: "Integration and Interdisciplinarity: Digital Sciences, Engineering and Technology

Concepts Frameworks"

Volume 2, No 1 (2025)

<https://proceeding.pancabudi.ac.id/index.php/ICDSET/>

low-income communities having limited access to green areas. Parnell and Poyser (2012) also found that public space infrastructure often fails to consider the needs of minority groups, thereby limiting their participation in social activities.

#### D. Local Economic Impact of Public Spaces

Carr et al. (1992) stated that well-managed public spaces can support local economic activity by attracting visitors and creating business opportunities. Survey results show that 70% of respondents believe public spaces in Tanjung Balai City have a positive impact on the local economy, especially for small traders and microenterprises (UMKM).

However, Loukaitou-Sideris and Ehrenfeucht (2009) warned that without clear regulation, economic activities in public spaces can lead to conflicts between vendors and visitors. Mitchell (2003) also highlighted how the gentrification of public spaces can displace economically vulnerable groups, leading to unequal access to the economic benefits produced.

#### Conclusion

Based on the findings of this research, it can be concluded that public spaces in Tanjung Balai City play a highly significant role in improving the quality of life of its residents. Well-managed public spaces are capable of strengthening social interaction, enhancing ecological resilience, creating a more inclusive environment, and supporting local economic growth. However, several challenges remain to be addressed, including limited facilities, low levels of community participation in management, and suboptimal policies related to public space development. Therefore, strategic actions are required to ensure that public spaces truly serve as long-term assets for community well-being.

To optimize the role of public space in improving quality of life, the following key recommendations should be implemented:

1. **Development of "Smart Public Space" Based on Green Technology**

Utilize digital technologies such as the Internet of Things (IoT) and renewable energy systems in public space management to improve efficiency, safety, and user comfort. While this model has been successfully applied in several developed countries, it remains underutilized in small urban areas in Indonesia.

2. **Integration of Public Spaces with Community Economic Empowerment Programs**

Create a public-space-based economic ecosystem by providing dedicated zones for local MSMEs, business incubation, and entrepreneurship training directly linked to public space infrastructure. This approach can increase community involvement in management and deliver greater economic benefits.

3. **Implementation of "Thematic Public Spaces" Based on Local Wisdom**

Design public spaces around concepts that reflect local cultural identity—such as educational parks based on regional history, open-air art markets, or intercultural interaction zones. Though rarely implemented in Indonesia, this concept has strong potential to reinforce city identity and enhance tourism appeal.

4. **Adoption of a "Community-Managed Public Space" Scheme with Incentive Systems**

Launch programs in which local communities are directly responsible for the maintenance and management of public spaces, incentivized through grants or shared

International Conference on Digital Sciences and Engineering Technology (ICDSET)

Theme: "Integration and Interdisciplinarity: Digital Sciences, Engineering and Technology

Concepts Frameworks"

Volume 2, No 1 (2025)

<https://proceeding.pancabudi.ac.id/index.php/ICDSET/>



economic gains from public space activities. This model has proven successful in several European cities but has yet to be widely adopted in Indonesia.

### 5. Development of "Eco-Public Spaces" with Sustainable Waste Management Systems

Introduce more innovative waste management systems in public spaces, such as on-site recycling technologies, biopore systems for water infiltration, and solar panels for lighting. These strategies can raise environmental awareness while creating more eco-friendly public spaces.

With the implementation of these strategies, Tanjung Balai City has the potential to become a pioneer in innovative and sustainable public space management, setting an example for other regions in Indonesia in developing truly beneficial public spaces for their communities.

### References

- [1] Aini, C. N., Azizah, Q., & Muharrani, S. (2023). ARAHAN PELESTARIAN TATA RUANG PERMUKIMAN MASYARAKAT ETNIS MANDAILING DI SUMATERA UTARA. *NALARs*, 23(1), 1. <https://doi.org/10.24853/nalars.23.1.1-16>
- [2] Arnstein, S. R. (1969). A Ladder of Citizen Participation. *Journal of the American Planning Association*, 35(4), 216-224.
- [3] Bryson, J. M. (1995). *Strategic Planning for Public and Nonprofit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement*. Jossey-Bass Publishers.
- [4] Carmona, M., Heath, T., Oc, T., & Tiesdell, S. (2003). *Public Places - Urban Spaces: The Dimensions of Urban Design*. Architectural Press.
- [5] Carr, S., Francis, M., Rivlin, L. G., & Stone, A. M. (1992). *Public Space*. Cambridge University Press.
- [6] David, F. R. (2011). *Strategic Management: Concepts and Cases*. Pearson.
- [7] Fung, A. (2006). Varieties of Participation in Complex Governance. *Public Administration Review*, 66, 66-75.
- [8] Gehl, J. (2010). *Cities for People*. Island Press.
- [9] Gill, S. E., Handley, J. F., Ennos, A. R., & Pauleit, S. (2007). Adapting Cities for Climate Change: The Role of Green Infrastructure. *Built Environment*, 33(1), 115-133.
- [10] Habermas, J. (1989). *The Structural Transformation of the Public Sphere*. MIT Press.
- [11] Hill, T., & Westbrook, R. (1997). SWOT Analysis: It's Time for a Product Recall. *Long Range Planning*, 30(1), 46-52.
- [12] Jansson, M. (2014). Green Space in Compact Cities: The Benefits and Values of Urban Ecosystem Services in Planning. *Nordic Journal of Architectural Research*, 26(2), 139-160.
- [13] Kotler, P., & Keller, K. L. (2012). *Marketing Management*. Pearson Education.
- [14] Linda, N., Andiyan, A., Nuraini, C., Milanie, F., & Novalinda, N. (2024). Characteristics and Gender Interaction Patterns of the Mandailing Natal Community in the Housing Area of Sorik Marapi Sub-District: A Case Study of Sibanggor Julu Village 186 *JOURNAL OF INTERNATIONAL CRISIS AND*

International Conference on Digital Sciences and Engineering Technology (ICDSET)

Theme: "Integration and Interdisciplinarity: Digital Sciences, Engineering and Technology Concepts Frameworks"

Volume 2, No 1 (2025)

<https://proceeding.pancabudi.ac.id/index.php/ICDSET/>



- RISK COMMUNICATION RESEARCH Characteristics and Gender Interaction Patterns of the Mandailing Natal Community in the Housing Area of Sorik Marapi Sub-District: A Case Study of Sibanggor Julu Village. *Article in Journal of International Crisis and Risk Communication Research*. <https://www.researchgate.net/publication/386344996>
- [15] Lofland, L. H. (1998). *The Public Realm: Exploring the City's Quintessential Social Territory*. Aldine de Gruyter.
  - [16] Loukaitou-Sideris, A., & Ehrenfeucht, R. (2009). *Sidewalks: Conflict and Negotiation over Public Space*. MIT Press.
  - [17] Mitchell, D. (2003). *The Right to the City: Social Justice and the Fight for Public Space*. Guilford Press.
  - [18] Nowak, D. J., & Crane, D. E. (2000). *The Urban Forest Effects (UFORE) Model: Quantifying Urban Forest Structure and Functions*. USDA Forest Service.
  - [19] Nuraini, C. (2017). ROOM ARRANGEMENT CONCEPT: THE SACRED-PROFANE OF HEIRLOOM HOUSES IN HUTAGODANG VILLAGE, MANDAILING. *International Journal on Livable Space*, 2(2), 109–118. <https://doi.org/10.25105/livas.v2i2.4820>
  - [20] Nuraini, C. (2019). Morphology of residential environment of Singengu village in Mandailing Julu, North Sumatra. *Journal of Regional and City Planning*, 30(3), 241–260. <https://doi.org/10.5614/jpwk.2019.30.3.5>
  - [21] Nuraini, C. (2021). *KARAKTER LINGKUNGAN PERUMAHAN BERBASIS SPACE ATTACHMENT YANG ADAPTIF DAN RESPONSIF DI MANDAILING*. <https://jurnal.umj.ac.id/index.php/nalars/article/view/8035/4962>
  - [22] Nuraini, C. (2024). The Architectural Tectonics of Traditional Buildings in Mandailing, North Sumatera, Indonesia. *Civil Engineering and Architecture*, 12(2), 892–916. <https://doi.org/10.13189/cea.2024.120217>
  - [23] Nuraini, C., Alamsyah, B., Novalinda, Sagala, P., & Sugiarto, A. (2023). Planning With ‘Three-World Structures’: A Comparative Study of Settlements in Mountain Villages. *Journal of Regional and City Planning*, 34(1), 55–82. <https://doi.org/10.5614/jpwk.2023.34.1.4>
  - [24] Parnell, S., & Poyser, M. (2012). Making Cities Inclusive: Challenges and Opportunities. *Urban Studies Journal*, 49(10), 2123–2141.
  - [25] Purba, B. M., Sugiarto, A., Dian, R., & Kurniawan, H. (2024). KAJIAN PEMANFAATAN RUANG TERHADAP SISTEM TRANSPORTASI PADA KAWASAN PERKOTAAN BATANG KUIS. *Jurnal Darma Agung*, 32(4), 188–199. <https://doi.org/10.46930/ojsuda.v32i4.4621>
  - [26] Putnam, R. D. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton University Press.
  - [27] Rangkuti, N. A., Nuraini, C., Millanie, F., & Sugiarto, A. (2023). STRATEGI TATA KELOLA PENANGANAN PEMUKIMAN KUMUH DI KOTA TEBING TINGGI. *ARMADA: Jurnal Penelitian Multidisiplin*, 1(12), 1426–1432. <https://doi.org/10.55681/armada.v1i12.1082>
  - [28] Savitri, M. A. (2022). Peran Ruang Publik dalam Memfasilitasi Kebutuhan Masyarakat secara Inklusif: Belajar dari Citayam Fashion Week. BINUS University.

- [29] Sugiarto, A., & Kustiah Ramadania, R. (2024). Manajemen Lahan Bantaran Sungai Deli Untuk Pembangunan Kota Yang Berkelanjutan Berdasar Peraturan Daerah (RTRW/RDTR) (Studi Kasus : Bantaran Sungai Deli, Kecamatan Medan Maimun). *Jesya*, 7(1), 618–626. <https://doi.org/10.36778/jesya.v7i1.1378>
- [30] Sugiarto, A., Manalu, S. P. R., & Pakpahan, E. (2023). Pengaruh Jumlah Kunjungan Wisatawan Dan Pajak Restoran Terhadap Pertumbuhan Ekonomi Kabupaten Tapanuli Utara Dengan PAD Sebagai Variabel Intervening. *Jesya*, 6(1), 221–232. <https://doi.org/10.36778/jesya.v6i1.903>
- [31] Sugiyono. (2013). Metode Penelitian Kualitatif. Bandung: Alfabeta.
- [32] Talen, E. (2002). The Social Goals of New Urbanism. *Housing Policy Debate*, 13(1), 165-188.
- [33] Whyte, W. H. (1980). *The Social Life of Small Urban Spaces*. Project for Public Spaces.
- [34] Wright, P., Kroll, M. J., & Parnell, J. (2012). *Strategic Management: Concepts*. Sage Publications.