

Effectiveness of Public Open Spaces for Residents in Gated Communities: Case Study of Citra Wisata Medan Johor

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Abstract

The number of gated community housing is increasing and becoming a popular option in urban areas because of the security and privacy. Public open spaces in housing areas have a crucial role in improving environmental quality and the welfare of residents and the surrounding community. Therefore, this study will analyze the quality and test the effectiveness of Public Open Space research in Gated Community, Case Study of Citra Wisata Medan Johor. This study uses a qualitative approach with 5 variables used, namely; security, comfort, achievement, livability, and image. This study will be conducted for 1 month using 2 data collection methods, namely primary data (Observation and Questionnaire) and secondary data (Literature study). The results of this study are expected to contribute to the field of science, housing developers, housing residents, and the government in terms of the use and benefits of public open spaces in gated community housing.

Keywords effectiveness, public open space, gated community housing.

INTRODUCTION

The city of Medan has had a significant influence on the development of the city area. This has resulted in an increasing number of residents in Medan City, comprising both native residents and immigrants from other areas, leading to an increase in residential land. The rapid growth of residential areas necessitates supportive spaces, particularly public spaces. Public spaces serve as venues accommodating specific community activities (Scurton, 1984).

The effectiveness of open spaces can be observed through visitor activities that foster a sense of safety and comfort among the community. Freedom is crucial for users, as these areas are expected to accommodate diverse needs and activities. When visitors feel secure in public spaces, they can fully utilize the available spaces, resulting in user satisfaction (Porajouw et al., 2017).

Public open spaces within housing estates are communal areas that are easily accessible, frequently visited, and shared by residents for socializing and discussion. These spaces are typically open without enclosures, although some are semi-private, fenced, and restricted to limited users at specific times (Woolley, 2003; Madanipour, 1996). Public open spaces play a crucial role in enhancing environmental quality and residents' well-being (Towers, 2005; Zhou, 2006; Biddulph, 2007; Hwang et al., 2009).

Public open spaces have five essential qualities: safety, comfort, accessibility, livability, and image. These aspects collectively contribute to assessing elements and diverse activities undertaken by space users. The quality of these public spaces significantly impacts the safety and comfort of residents within gated communities.

A gated community is defined as a residential area with restricted access, typically controlled by physical barriers, perimeter fences, gates and security personnel, thereby



privatizing public spaces (Blakely & Snyder, 1997, 1998a, 1998b). Residents of gated communities often face perceptions from outsiders that they lead individualistic lifestyles and lack social interaction.

Citra Wisata Housing Estate demonstrates excellent effectiveness in facilitating visitor movement to green spaces. The entrance gate and parking system exhibit commendable effectiveness, meeting portal, security, and parking facility requirements.

METHOD

This research employs a descriptive quantitative methodology (Sugiyono, 2016: 7). Quantitative research presents numerical data as its findings. Descriptive research examines the status of human groups, objects, conditions, thoughts, or current events. Descriptive quantitative research describes variables as they exist, supported by numerical data derived from real conditions. Its objective is to systematically, factually, and accurately portray population characteristics or specific regions. This research adopts variables from previous studies, focusing on *security*, *comfort*, *accessibility*, *livability*, and *image*, to evaluate Public Open Space Effectiveness in Gated Communities, specifically Citra Wisata Medan Johor.

This study integrates primary and secondary data. Primary data collection entails:

a. Primary Data Collection

1. Observational Research: Direct observations assess Citra Wisata Housing's security, comfort, accessibility and visual appeal.
2. Questionnaire Survey: Random online questionnaires (Google Forms) collect data from residents, focusing on public open space effectiveness.

b. Secondary Data Acquisition

The secondary data collection method involves reviewing existing literature from previous studies, including journals, websites, documents, and other relevant sources.

This study's respondents comprise residents of Citra Wisata housing complex in Medan Johor District, Medan, North Sumatra. The questionnaire consists of two sections: Section 1 gathers demographic information, while Section 2 utilizes a Likert scale (1-5, ranging from "very low" to "very high") to assess respondents' attitudes toward available facilities in their residential area.

This research sampled residents from Citra Wisata housing complex, Medan Johor District, Medan, North Sumatra. The questionnaire comprises two sections: socio-demographic characteristics and Likert-scale assessments (1-5) evaluating respondent attitudes toward local facilities (Table 1).

Table 1. Likert-Type Scale Assessment Table

Response Option	Numeric
Very Dissatisfied	1
Dissatisfied	2
Neutral	3
Satisfied	4
Very Satisfied	5

The total scores from all respondents will be summed and divided by the number of respondents to obtain the average evaluation score for each evaluation component. To interpret percentage and interval scores, indicating respondent score effectiveness in this study, the following formula will be applied:

$$\begin{aligned}\text{NJI (Interval Level Value)} &= \frac{\text{Highest value} - \text{Lowest value}}{\text{Number of Statement Criteria (S)}} \\ &= \frac{5-1}{5} \\ &= 0,8\end{aligned}$$

The sampling technique employed is Proportional Sampling. Based on field surveys, the population size for Citra Wisata housing is 500 households. The minimum sample size can be calculated using Solvin's formula, as proposed by Husein Umar (2004). To determine the minimum sample size, Solvin's formula (Husein Umar, 2004) can be applied as follows:

$$n = \frac{N}{1 + N(e)^2}$$

n = sample size

N = population size (500 households)

e = tolerance percentage (10% or 0.1)
(0.01)

Given a 10% tolerance and Citra Wisata Medan Johor's population (N) of 500 households, the sample size determination results in:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{500}{1 + 500 (0.1)^2}$$

$$n = \frac{500}{6}$$

$$n = 83,33...$$

Following calculation using Solvin's formula, the sample size obtained is 83 respondents.

This research utilizes Place-Centered Mapping to investigate individuals' spatial experiences, perceptions, and interactions, as conceptualized by Tuan (1977) in *Space and Place: The Perspective of Experience*. Place-Centered Mapping employs maps, images, or visual aids to illustrate research-focused locations. The methodology comprises four stages:

1. Site Identification: Researchers select relevant locations aligned with research questions.
2. Data Collection: Techniques like interviews, observations, and surveys gather information from interacting participants.
3. Visual Mapping: Collected data is visually represented on maps to demonstrate spatial relationships between individuals and locations.
4. Analysis: Researchers analyze visual data to identify patterns, relationships and influential factors shaping individual experiences.

Place-centered mapping methodology is utilized to examine and chart elements in Citra Wisata's public open areas.



RESULTS AND DISCUSSION

Security Performance Indicators for Public Open Spaces

1. Security Post

The security post at Citra Wisata Housing Estate is strategically located at the entrance. Its condition is satisfactory, serving as both a security checkpoint and information center. Security posts play a pivotal role in implementing Crime Prevention Through Environmental Design (CPTED) principles, particularly active surveillance and access control. Their presence enhances monitoring and reduces criminal potential in public spaces (Jeffery, 1971). Strategically located posts enable direct surveillance, mitigating disruptions and criminal activity. Additionally, security posts facilitate access control, regulating entry to public spaces with operational restrictions or secured zones.

2. CCTV

CCTV installation is crucial for ensuring park security, monitoring user activities, and promoting community confidence. Citra Wisata's malfunctioning CCTV systems undermine this objective. Research emphasizes well-maintained surveillance systems boost public perception of safety and management commitment (Felson, 2002).

A survey of 83 respondents assessed security effectiveness at Citra Wisata Housing Estate's park, yielding an average rating of 4.37, indicating exceptional performance. Continuous security presence, facilitated by shift scheduling, supports this finding. However, facilities for individuals with disabilities, CCTV, ramps, and pedestrian crossings are lacking, contradicting Ministry of Public Works Regulation No. 5/2019. Research by Erni (2024) emphasizes enhancing disability facilities (guiding blocks and ramps) to ensure visitor safety in public spaces.

Criteria for Evaluating Comfort in Public Open Spaces

To ensure visitors' comfort in public open spaces, the following supporting facilities are essential:

1. Vegetation

The landscape design of Citra Wisata Housing Estate's park predominantly features lush green spaces with grass. The park boasts diverse vegetation, including: Pucuk Merah, pohon Kelapa, pohon Palembang, Ketapang, pohon Trembesi, pohon Kiara Payung.

A survey of 83 respondents yielded an average vegetation effectiveness score of 4.29, indicating exceptional vegetation quality at Citra Wisata Park. This aligns with Ministerial Regulation No. 05/PRT/M/2008, emphasizing well-maintained vegetation in public spaces enhances cleanliness and comfort.

2. Infrastructure Facilities

- Garden Lights. Citra Wisata Housing Estate's park features garden lights that provide nighttime illumination and enhance the landscape's aesthetic appeal.
- Streetlight. The housing estate's park features streetlights spaced 6-10 meters apart. Public space lighting is crucial, especially at night, as it serves both functional and aesthetic purposes

- Signage. The housing estate's park features prominently displayed signage, facilitating visitor navigation and awareness of location information, guidelines, and regulations.
- Trash Bin. The housing estate's park features strategically located waste disposal facilities, categorized into recyclable and non-recyclable waste.

A survey of 83 respondents yielded an average infrastructure facility effectiveness score of 3.86, categorizing Citra Wisata Park's facilities as effective. Erni's study (2024) emphasizes that adequate public space facilities enhance recreational and relaxation experiences.

Accessibility Criteria in Public Open Spaces

1. Accessibility

A survey of 83 respondents yielded an average accessibility effectiveness score of 4.16, indicating satisfactory accessibility at Citra Wisata Park, consistent with Ministry of Environment and Forestry Regulation No. 13/2020.

2. Entrance Gate

Analysis of 83 questionnaire responses revealed Citra Wisata Park's entrance gates scored 4.10, categorizing them as effective. This supports Permen LHK No. 13/2020, highlighting entrance gates' importance in public spaces

3. Parking System

A survey of 83 respondents yielded an average parking system effectiveness score of 3.96, indicating satisfactory performance at Citra Wisata Park. This supports Erni's (2024) research on public space effectiveness, emphasizing the importance of adequate parking facilities.

Livability Indicators for Public Open Spaces

1. Visit Duration

A survey of 83 respondents yielded an average visit duration effectiveness score of 2.88, indicating fairly good performance at Citra Wisata Park. This aligns with Detuage et al.'s (2019) assertion that successful public spaces encourage users to utilize and linger.

2. Age

A survey of 83 respondents yielded an average visitor age effectiveness score of 4.07, indicating satisfactory performance at Citra Wisata Park, aligning with Hasanuddin et al.'s (2019) findings that demographic factors influence public space quality.

3. Stay Length

Analysis of 83 questionnaire responses revealed Citra Wisata Park's visit duration effectiveness scored 3.21, categorizing it as moderately effective, supporting Paningkat and Khadiyanto's (2019) research on public space design.

4. Socio-Economic

Outcomes A survey of 83 respondents yielded an average socio-economic effectiveness score of 4.00, indicating satisfactory performance at Citra Wisata Park. This aligns with



Ika et al.'s (2018) definition of social activities, emphasizing interactions among individuals.

Image Indicators for Public Open Spaces

1. Landmark

A survey of 83 respondents yielded an average landmark effectiveness score of 3.89, indicating fairly good performance at Citra Wisata Park. This supports Prof. Hermawan's on Nazilah (2021) notion that landmarks serve as symbolic identifiers, enhancing place recognition

2. Attractive spot

A survey of 83 respondents yielded an average attractiveness score of 4.19 for Citra Wisata Park's scenic spots, indicating satisfactory effectiveness. This aligns with Suminar and Sari's (2021) research highlighting attractive spots' role in captivating visitors.

CONCLUSION

This study on public open space effectiveness in gated communities, using Citra Wisata Medan Johor as a case study, reveals high effectiveness in analyzed variables, but identifies areas for improvement. Analysis of five key variables (*security, comfort, accessibility, livability, and image*) yields the following findings:

1. Citra Wisata's security effectiveness boasts excellent security posts. However, additional facilities like disability access, ramps, CCTV, and pedestrian crossings are necessary.
2. The housing estate's comfort effectiveness features outstanding vegetation, providing excellent public space comfort. Infrastructure facilities are well-regarded.
3. Citra Wisata's accessibility effectiveness supports visitor movement, with efficient entrance/exit points, parking, and pathways.
4. Livability effectiveness is notable, with suitable visiting hours, age diversity, and social interaction. Enhanced facilities could prolong visitor stays.
5. Image effectiveness is commendable, featuring landmarks and attractive spots that boost aesthetics and identification.

Citra Wisata Medan Johor's public spaces exhibit satisfactory effectiveness, but livability requires enhancement, primarily due to insufficient disability facilities, ramps, CCTV and pedestrian crossings.

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