

Research Article

How Effective Are Urban Parks? Insights from Lapangan Merdeka and Taman Bambu Runcing in Langsa City

Zahratu Shafara Aiyub, Mirza Irwansyah, Arief Gunawan*, and Raja Al-Fath

Department of Architecture and Planning, Faculty of Engineering, Universitas Syiah Kuala, 23117, Banda Aceh, Indonesia

*Corresponding author: Arief Gunawan (ariefgunawan@usk.ac.id)

Abstract

Urban parks serve as vital green open spaces (RTH) that support community needs for recreation, social interaction, and relaxation. This study evaluates the effectiveness of two key parks in Langsa City - Lapangan Merdeka and Taman Bambu Runcing - based on visitor perspectives. Using quantitative methods, we collected primary data through questionnaires (n=100) and secondary data from spatial planning documents. Analysis employed descriptive statistics and Likert-scale scoring across four dimensions: comfort, safety, activities, and accessibility. Results indicate that while both parks demonstrate adequate accessibility, they show varying performance in other aspects. Lapangan Merdeka scored highest in activity provisions (2.5/3) but lacked toilet facilities (1.6/3), whereas Taman Bambu Runcing showed deficiencies in play areas (1.6/3) and lighting (2.0/3). Overall effectiveness assessment categorized Lapangan Merdeka as "Effective" (2.4/3) and Taman Bambu Runcing as "Moderately Effective" (2.2/3). The findings highlight the importance of balancing infrastructure development with user needs in urban park planning. For Langsa City, we recommend prioritizing basic amenities and shaded areas to enhance visitor experience. This study contributes to urban planning discussions by demonstrating how visitor-centered evaluation can guide RTH development in medium-sized Indonesian cities.

Keywords: Park Effectiveness; Green Open Space; Visitor Satisfaction; Urban Planning.

Introduction

Urban green open spaces (RTH) play a vital role in enhancing environmental quality, supporting biodiversity, and improving residents' well-being [1]. According to the Ministerial Regulation on Agrarian Affairs and Spatial Planning No. 14 of 2022, Indonesian cities must allocate at least 30% of their area to RTH, with 20% designated as public green spaces and 10% as private [2]. Among the various forms of public RTH, urban parks serve as crucial recreational and social hubs, offering ecological, socio-cultural, and architectural benefits [3]. Well-designed parks can mitigate urban heat, reduce pollution, and provide spaces for physical activity, relaxation, and community interaction [4]. However, simply meeting the minimum area requirement is

Article History

Received: 9 May 2025; Revised: 26 May 2025;

Accepted: 3 June 2025; Published: 9 June 2025



insufficient parks must also be functional, accessible, and responsive to visitors' needs to ensure their effectiveness.

Langsa City has made progress in RTH provision, with public green spaces covering 1,258.71 Ha (29.97% of the city's area) [5]. Two key examples are Lapangan Merdeka, the city's central square, and Taman Bambu Runcing, a historical park featuring the iconic Bambu Runcing Monument. While these spaces contribute to Langsa's RTH quota, their actual usability, visitor satisfaction, and ability to meet community needs remain understudied. Given Langsa's growing urbanization and population density [6], ensuring that parks are not only available but also well-utilized and well-maintained is critical for sustainable urban development.

The success of urban parks depends on how well they align with visitor expectations and usage patterns. Previous studies have shown [7-9] that park effectiveness is influenced by factors such as facility quality, accessibility, safety, and aesthetic appeal. Without proper evaluation, parks risk becoming underutilized or failing to serve their intended purposes. In Langsa, where urban expansion continues, understanding how visitors perceive and use these parks can provide actionable insights for policymakers and urban planners to optimize design, management, and future RTH development.

This study aims to assess the effectiveness of Lapangan Merdeka and Taman Bambu Runcing from a visitor's perspective. By focusing on how well the parks meet users' recreational and social needs, key factors influencing visitor satisfaction, and recommendations for improving park functionality and management. By evaluating these aspects, the findings can serve as a benchmark for RTH development in Langsa, ensuring that future green spaces are not only quantitatively sufficient but also qualitatively impactful for the community.

Materials

Green open spaces is a longitudinal/linear or clustered area that is more open in nature, where plants grow, either naturally or intentionally planted [2]. Public RTH refers to open spaces owned and managed by the city's local government, intended for public use.

RTH is a planned part of the urban space to fulfill the need for meeting places and shared activities in open areas [10]. RTH is an open public space located outside of buildings and functions as an ecological component of the city. Urban forests, public cemeteries, green belts along roads, rivers, and coastlines, as well as green recreational areas, are some forms of RTH. In general, a park is an area that contains space in various conditions. These conditions include location, size or area, climate, and other specific factors such as the purpose and specific function of the park's development [11]. A park is a part of the landscape within Green Open Space that is prioritized in regional development plans.

Parks are a component of RTH planning intended to balance the extensive physical built-up areas with green land. Parks are usually located in strategic areas that are easily accessible from various parts of the city. Although the responsibility for parks lies with the city government, their management can involve collaboration with private parties [12].

Effectiveness is a measure of the extent to which predetermined goals or objectives are achieved [13]. It is clear that when targets or objectives are achieved as planned, the activity is considered effective. Conversely, if goals are not achieved within the specified timeframe, the activity is ineffective. Effectiveness is a measure that indicates how far targets — in terms of quality, quantity, and time — have been met [14].

RTH are considered effective when urban communities utilize them and gain satisfaction from their activities in the park. Park management is considered successful when visitors are satisfied, which is reflected in the increasing number and frequency of park visitors [15].

Parks play an important role in urban life. Urban communities need parks to support their activities amidst high levels of urban mobility. The effectiveness of a park is not only judged by its existence, but also by how well it meets the needs of its visitors. Effectiveness is the alignment between expectations and implementation [16]

The level of effectiveness can be viewed from various perspectives. The effectiveness of parks as public spaces can be assessed through both physical and non-physical qualities. Non-physical qualities include comfort, safety, and accessibility [7]. Physical qualities refer to the facilities provided to support park activities. The existence of a park with complete and high-quality facilities is one way to measure the effectiveness of a park as a public space.

Public spaces such as parks contrast sharply with the hustle and bustle of urban life. Parks serve as destinations for city residents to unwind, take a break from their routines, and provide opportunities for interaction among visitors. To make a public space successful in achieving its purpose, the needs of visitors in public spaces include comfort, relaxation, passive engagement, active engagement, and discovery [17].

The good public space is one that functions well and meets the needs of its visitors. One example is a park, which serves as a venue for celebrations and a gathering place for people. To be considered a successful public space, it must meet four criteria: comfort and image, uses and activities, access and linkages, and sociability [18].

Public spaces such as parks are open areas that can be easily accessed by everyone without exception, for both individual and social activities [18]. Parks serve as key spaces for fostering social interaction among city residents, including both locals and migrants. Parks also provide appropriate spaces for children to play and learn amid the dense urban environment. Local governments can utilize parks as venues for daily or seasonal events that bring together the city's diverse populations.

In Indonesia, parks as part of public space are regulated under Regulation of the Minister of Agrarian Affairs and Spatial Planning/National Land Agency (Permen ATR/BPN) No. 14 of 2022. Parks are equipped with various facilities and infrastructure used by the general public for activities such as playing, exercising, and recreation, which makes accessibility crucial. As public spaces, parks play an important role in fulfilling the needs of urban communities in their daily activities.

Based on various theories regarding public spaces, parks, and visitor needs, the criteria for visitor needs in public spaces include:

a. Comfort

Comfort in public parks can be evaluated based on the duration of visits and the quality of facilities provided. Visitors who utilize park spaces effectively typically spend around 1–3 hours engaging in various activities [19]. The duration of a visitor's stay is closely linked to the availability of adequate seating areas, such as benches or open floor seating. Providing both types of seating allows visitors the freedom to choose according to their comfort and preferences [20]. In addition to seating, the presence of toilet facilities within the park is essential, as it provides convenience and accessibility for users. Weather conditions—such as heat and rain—also significantly influence comfort levels, making it necessary for parks to include sheltered areas. These can be in the form of gazebos, shelters, or shade trees that offer protection and comfort during a visit [17].

This is especially important in tropical regions like Indonesia, where sunlight can be intense. Clean and well-maintained seating areas encourage longer visits, while clean, odor-free toilets further contribute to user satisfaction. The presence of cleanliness management—such as dedicated cleaning staff and scheduled maintenance—ensures these facilities remain in good condition and enhance the overall comfort experienced by park visitors [17].

b. Safety

As a public space, parks are intended for general use and serve as gathering places for people from diverse backgrounds and with varying interests. Therefore, a sense of safety is a fundamental need for visitors. The physical design of a park significantly affects its level of safety. Parks with obstructed visibility are often avoided by users. In contrast, open and easily visible parks are more likely to be preferred by the public. The absence of high walls or barriers that block sightlines can help reduce the risk of criminal activity.

In addition, parks located near roadways should have clear separations from traffic, such as pedestrian pathways or green open spaces (RTH), to minimize the risk of accidents [18]. Adequate lighting throughout the park, especially at night, contributes greatly to creating a safe environment and reducing the likelihood of crime.

Methods

The research employed a descriptive quantitative approach to evaluate the effectiveness of Lapangan Merdeka and Taman Bambu Runcing in Langsa City. Data was collected through field observations, structured questionnaires, and literature review. The questionnaire was distributed online via Google Forms to residents of Langsa who had visited either park.

A non-probability purposive sampling technique was applied, ensuring respondents met the criteria of being Langsa residents with prior park visitation experience. The sample size was determined using Slovin's formula (with a 10% significance level for social studies) based on Langsa's 2022 population (188,878), yielding 100 respondents. This approach allowed for efficient data collection while maintaining relevance to the study's objectives.

The data analysis methods used in this study consist of descriptive statistical analysis, scoring analysis, and descriptive analysis. The analysis process was supported by a scoring technique applied to four key variables: comfort, safety, activities, and accessibility. The scoring technique used a Likert scale, with three assessment parameters: Effective (score = 3), Quite Effective (score = 2), Ineffective (score = 1).

Indicators containing sub-indicators were first evaluated at the sub-indicator level. Then, the scores of the sub-indicators were summed to obtain the final value for the main indicator. The overall analysis was divided into two stages:

1. Identification and analysis of visitor needs

The identification and analysis of visitor needs were carried out by calculating scores for four variables: comfort, safety, activities, and accessibility. The Equations (1) and (2) were used for the calculations.

Indicator score calculation:

$$\text{Indicator Score} = \frac{\text{total score}}{\text{Number of sub indicators}} \quad (1)$$

Variable score calculation:

$$\text{Variable score} = \frac{\sum \text{indicator score}}{\text{Number of Sub Indicator}} \quad (2)$$

2. Analysis of the effectiveness level of Langsa City parks based on visitor needs
The identification and analysis of comfort, safety, activities, and accessibility in the parks of Langsa City serve as the foundation for this analysis. Based on the previously calculated scores for the four variables, further calculations were carried out to determine the effectiveness score of each city park in Langsa. The Equation (3) was used.

Effectiveness score calculation:

$$\text{Effectiveness Score} = \frac{\sum \text{Variabel Score}}{4} \quad (3)$$

The resulting score from this calculation is interpreted using an equal interval scale across each category (**Table 1**). The interval category calculation is as Equation (4).

$$\text{interval} = \frac{\text{Highest Score} - \text{Lowest Score}}{\text{Number of Catagories}} \quad (4)$$

$$\text{interval} = \frac{3-1}{3}$$

$$\text{interval} = 0.7$$

Table 1. Class of effectiveness

No	Category	Category Range
1	Effective	2.4 – 3
2	Quite Effective	1.7 – 2.4
3	Not Effective	1 – 1.7

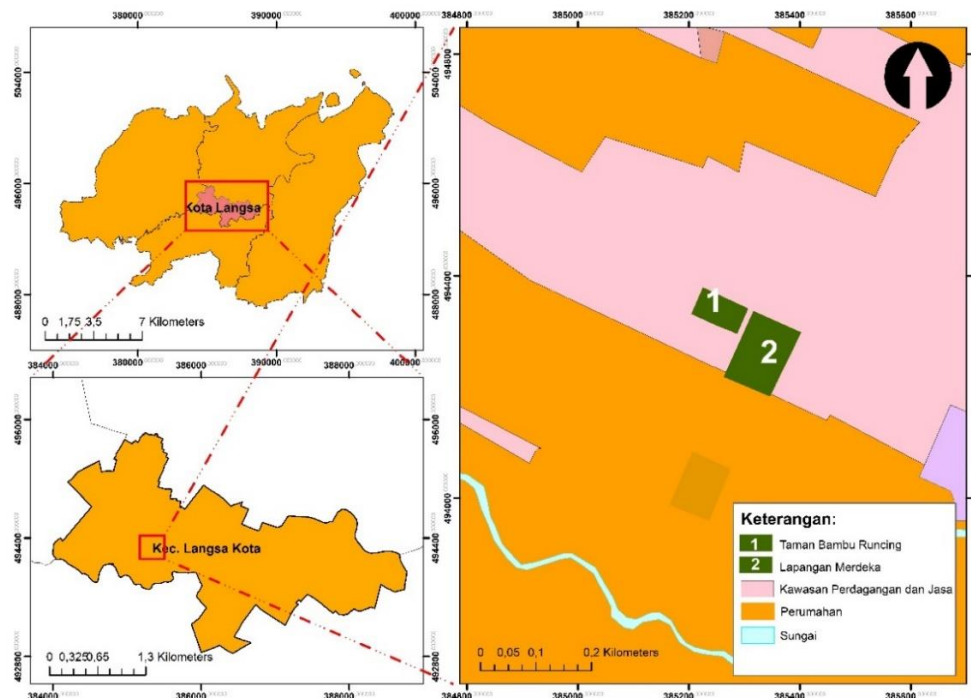


Figure 1. Map of study location

Results and Discussions

This study covers two active parks in Langsa City, namely Lapangan Merdeka and Taman Bambu Runcing (**Figure 1**). Based on data obtained from the Environmental Agency (DLH) of Langsa City, both parks included in the study are categorized as city-scale parks. However, according to Regulation of the Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency of the Republic of Indonesia Number 14 of 2022, based on their area, both parks fall under the sub-district-scale park category.

Visitor Comfort Needs in Parks

Comfort is one of the basic needs that must be fulfilled in public spaces. The comfort of a park creates a lasting impression for visitors while engaging in their activities. The analysis of park comfort in Langsa City is based on four indicators: duration of visit, shaded areas, seating areas, and toilet availability in each park within the city.

Table 2. Questionnaire data results for the park comfort variable in Langsa City

No.	Indicator	Lapangan Merdeka		Taman Bambu Runcing	
		Average Score	Category	Average Score	Category
1	Duration of Visit	1.8	Quite Effective	1.4	Not Effective
2	Shaded Area	2.7	Effective	2.3	Quite Effective
3	Seating Area	2.8	Effective	2.3	Quite Effective
4	Toilet	1.6	Not Effective	2.1	Quite Effective
	Total	2.2	Quite Effective	2.0	Quite Effective

Comfort is a critical factor influencing park visitation frequency and duration. As shown in **Table 2**, Lapangan Merdeka scored higher in comfort (2.2, Quite Effective) compared to Taman Bambu Runcing (2.0, Quite Effective).

Lapangan Merdeka excelled in seating areas (2.8) but lacked toilets (1.6), aligning with studies emphasizing the importance of basic amenities for prolonged stays. Taman Bambu Runcing scored poorly in visit duration (1.4), likely due to limited activities and shade, corroborating prior research linking facility diversity to visitor retention. Toilet installation at Lapangan Merdeka could enhance comfort, and also Shade expansion at Taman Bambu Runcing may increase visit duration.

Safety in Parks

Safety in parks is a crucial aspect in providing a sense of comfort and protection for visitors. Park safety is assessed based on three indicators: fencing, pedestrian pathways, and park lighting. Fencing in parks contributes to a sense of security, while park lighting and the park's proximity to main roads also play significant roles in determining the overall safety of the area (**Table 3**).

Table 3. Questionnaire results for park safety indicators in Langsa City

No.	Indicator	Lapangan Merdeka		Taman Bambu Runcing	
		Average Score	Category	Average Score	Category
1	Fencing	1.6	Not Effective	2.5	Effective
2	Pedestrian	2.4	Effective	2.3	Quite Effective
3	Park Lighting	2.3	Quite Effective	2.0	Quite Effective
	Total	2.1	Quite Effective	2.3	Quite Effective

The safety assessment revealed distinct challenges at both parks, significantly influencing visitor perceptions. Lapangan Merdeka's overall safety score of 2.1 (Quite Effective) was primarily compromised by the complete absence of perimeter fencing (1.6), creating security concerns common in high-traffic urban parks. While its pedestrian pathways scored highest (2.4), the missing physical barriers remain a critical vulnerability. Conversely, Taman Bambu Runcing achieved a better overall safety rating (2.3) with effective fencing (2.5), but was hindered by inadequate lighting infrastructure (2.0) that fails to illuminate the entire park after dark. This partial lighting creates unsafe zones that diminish visitors' sense of security, particularly during evening hours. Both cases demonstrate how specific infrastructure gaps - whether missing boundaries or insufficient illumination - can substantially impact park safety perceptions and night time usability, suggesting targeted improvements could yield significant benefits for visitor experience.

Park Activity Needs

Park activities are a variable related to the main activities of visitors in the park, both active and passive. Activities in the park vary and can include a range of engaging events that attract visitors' interest. These activities reflect the role of parks as open spaces that can fulfill the diverse needs of the community and provide an environment that supports a healthy, creative lifestyle and social interaction. Therefore, the activity variable has three indicators: sports areas, play areas, and relaxation areas.

Table 4. Questionnaire results for park activity indicators in Langsa City

No.	Indicator	Lapangan Merdeka		Taman Bambu Runcing	
		Average Score	Category	Average Score	Category
1	Sport Area	2.7	Effective	1.7	Not Effective
2	Play Area	2.6	Effective	1.6	Not Effective
3	Relaxation Area	2.3	Quite Effective	2.3	Quite Effective
	Total	2.5	Effective	1.9	Quite Effective

The analysis of park activities shown in **Table 4** revealed significant differences between the two locations. Lapangan Merdeka demonstrated stronger performance in activity provision (2.5, Effective), with its sports facilities (2.7) being particularly well-utilized, confirming the importance of active recreation spaces in urban parks. However, its relaxation areas scored lowest (2.3) due to insufficient sheltered spaces like gazebos or shaded seating, limiting usability during inclement weather. In contrast, Taman Bambu Runcing showed weaker overall performance (1.9, Quite Effective), with its relaxation areas being the most adequate feature. The park's most notable deficiencies were the complete absence of dedicated play areas (1.6) for children and lack of sports facilities, significantly reducing its appeal for family recreation and physical activities. These findings highlight how targeted improvements in specific activity zones could substantially enhance each park's functionality - adding sheltered relaxation spaces at Lapangan Merdeka while incorporating play equipment and sports areas at Taman Bambu Runcing would better serve diverse visitor needs and improve overall satisfaction.

Park Accessibility Needs

Accessibility in parks refers to how easily a park can be accessed by visitors. Good accessibility ensures that the park can be enjoyed by all visitors, including those with special needs or limited mobility. This creates an inclusive environment and ensures that the park serves as a recreational

and social activity space for everyone. The accessibility variable has two indicators: park location and public transportation.

Table 5. Results for park accessibility indicators in Langsa City

No.	Indicator	Lapangan Merdeka		Taman Bambu Runcing	
		Average Score	Category	Average Score	Category
1	Park Location	2.8	Effective	2.5	Effective
2	Public Transportation	2.3	Quite Effective	2.2	Quite Effective
	Total	2.6	Effective	2.4	Effective

The accessibility assessment shown in **Table 5** showed both parks benefit from central locations (scoring >2.5), aligning with urban planning principles that emphasize proximity for public space utilization. However, their accessibility potential is undermined by inadequate public transportation links, with both Lapangan Merdeka (2.3) and Taman Bambu Runcing (2.2) scoring poorly on this indicator. This deficiency stems from the absence of dedicated public transport routes serving the parks directly, creating barriers for visitors dependent on mass transit. While the parks' strategic locations make them theoretically accessible, the practical limitation of transportation options disproportionately affects certain user groups, potentially excluding those without private vehicles. These findings suggest that improving last-mile connectivity through targeted public transit interventions could significantly enhance the parks' inclusivity and overall accessibility, particularly for vulnerable populations who rely most on public transportation services.

Park Effectiveness in Langsa City based on Visitor Needs

Effectiveness refers to the alignment between expectations and implementation. In the context of this study, the effectiveness assessment focuses on how well the parks in Langsa City, as green open spaces, are able to meet the needs of their visitors. The level of park effectiveness in Langsa City is determined by scoring four variables: comfort, safety, activity, and accessibility. These scores are calculated for each park to determine their overall effectiveness in meeting visitor needs, along with the corresponding category.

Table 6. Park effectiveness scores in Langsa City

Parks	Total Score				Effectiveness Score	Category
	Comfort	Safety	Activity	Accessibility		
Lapangan Merdeka	2.2	2.1	2.5	2.6	2.4	Effective
Taman Bambu Runcing	2.0	2.3	1.9	2.4	2.2	Quite Effective

Based on the analysis results in the table above, the effectiveness scores and categories for each park can be identified (**Table 6**). The categories are divided into three levels: Effective, meaning the park in Langsa City successfully meets the needs of visitors, Quite Effective, meaning the park is making efforts to meet visitor needs, and Not Effective, meaning the park has not succeeded in meeting those needs. The effectiveness analysis conducted on the two active parks in Langsa City—Lapangan Merdeka and Taman Bambu Runcing—shows that they fall under the categories of effective and quite effective, respectively, in fulfilling visitor needs.

Lapangan Merdeka achieved the highest effectiveness score of 2.4, placing it in the effective category. This indicates that the park is capable of meeting visitor needs and demonstrates its ability to accommodate the high level of activity occurring in Langsa City. Meanwhile, Taman Bambu Runcing scored 2.2, which falls into the quite effective category. This park faces challenges in two key visitors need variables: comfort and activity. In terms of comfort, the issue lies in the length of visit indicator, where the low score reflects that visitors do not spend much time in the park due to a lack of comfort. This is typically influenced by limited available activities, inadequate facilities, and suboptimal conditions. Regarding activities, the park lacks both sports and play areas, preventing visitors from engaging in sports or children's recreational activities.

Taman Bambu Runcing's placement in the "quite effective" category suggests that the park is making efforts to meet visitor needs. To improve its effectiveness as a public space, enhancements and upgrades to facilities are necessary in order to provide more optimal services.

Conclusion

This study reveals that while Lapangan Merdeka effectively meets visitor needs, Taman Bambu Runcing requires improvements in shade, play areas, and lighting to enhance its functionality. Both parks face accessibility challenges due to limited public transport. The findings highlight the need for targeted upgrades particularly basic amenities like toilets and shaded seating to align with urban sustainability goals. Future research should expand to other green spaces in Langsa while incorporating mixed-method approaches. These results emphasize that visitor-centered design and better transit connectivity are crucial for developing parks that truly serve Langsa's community.

Acknowledgments

The authors would like to thank the staff of the Department of Architecture and Planning, Faculty of Engineering, Universitas Syiah Kuala, Indonesia, for their opportunity, guidance, and knowledge in completing this research.

Conflict of Interest

The authors declare no conflicts of interest.

Author Contribution Statement

Zahratu Shafara Aiyub: Investigation, Software, Writing- Original draft preparation. **Mirza Irwansyah:** Conceptualization, Validation, Supervision. **Arief Gunawan:** Methodology, Visualization, Data Curation, Writing- Reviewing and Editing. **Raja Al-Fath:** Data Curation, Writing- Reviewing and Editing.

Data Availability Statement

The data used to support the findings of this study are included within the article.

Ethics Approval

Not required.

References

- [1]. M. J. Koohsari et al., "Public open space, physical activity, urban design and public health: Concepts, methods and research agenda," *Health Place*, vol. 33, pp. 75–82, May 2015, doi: 10.1016/j.healthplace.2015.02.009.
- [2]. Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional, "Peraturan Menteri Agraria dan Tata Ruang/Kepala Badan Pertanahan Nasional Republik Indonesia Nomor 14 Tahun 2022 tentang Penyediaan dan Pemanfaatan Ruang Terbuka Hijau," 2022.
- [3]. Y. A. Hilma, "Efektifitas pemanfaatan ruang publik melalui taman kota di kabupaten ponorogo," *Ganaya: Jurnal Ilmu Sosial dan Humaniora*, vol. 1, no. 2, pp. 155–172, 2018.
- [4]. B. A. Norton, A. M. Coutts, S. J. Livesley, R. J. Harris, A. M. Hunter, and N. S. G. Williams, "Planning for cooler cities: A framework to prioritise green infrastructure to mitigate high temperatures in urban landscapes," *Landscape Urban Plan*, vol. 134, pp. 127–138, Feb. 2015, doi: 10.1016/j.landurbplan.2014.10.018.
- [5]. Pemerintah Kabupaten Aceh Timur, "Qanun Kabupaten Aceh Timur Nomor 10 Tahun 2013 Tentang Rencana Tata Ruang Wilayah Kabupaten Aceh Timur Tahun 2012-2032," 2013.
- [6]. BPS, Kota Langsa Dalam Angka Tahun 2024. Langsa: Badan Pusat Statistik, 2024.
- [7]. D. D. Saputri, "Penilaian Fungsi Taman Kota Sebagai Ruang Terbuka Publik di Kota Surabaya," *Jurnal Penataan Ruang*, vol. 13, no. 2, pp. 40–47, 2018, doi: 10.12962/j2716179x.v13i2.7113.
- [8]. L. Wood, P. Hooper, S. Foster, and F. Bull, "Public green spaces and positive mental health – investigating the relationship between access, quantity and types of parks and mental wellbeing," *Health Place*, vol. 48, pp. 63–71, Nov. 2017, doi: 10.1016/j.healthplace.2017.09.002.
- [9]. L. A. Milasari et al., "Efektivitas Fungsi Ruang Terbuka Hijau Pada Kawasan Perkotaan Samarinda," *Kurva S: Jurnal Keilmuan dan Aplikasi Teknik Sipil*, vol. 12, no. 03, pp. 122–126, 2024, doi: 10.31293/teknikd.
- [10]. A. Madanipour, "Urban design and dilemmas of space," *Environment and Planning D: Society and Space*, vol. 14, pp. 331–355, 1996.
- [11]. M. Sintia and Murhananto, *Mendesain, Membuat dan Merawat Taman Rumah: Kiat mengatasi permasalahan praktis*. Jakarta: Agro Media Pustaka, 2004.
- [12]. A. Arifin, Hadi S, N. H. S. Munandar, Q. P. Arifin, and V. D. Damayanti, *Sampoerna Hijau Kotaku Hijau: Buku Panduan Penataan Taman Umum, Penanaman Tanaman, Penanganan Sampah dan Pemberdayaan Masyarakat*. Jakarta, 2007.
- [13]. S. Handyaningrat, *Pengantar Suatu Ilmu Administrasi Dan Manajemen*. Dalam jurnal Rivino, *Efektivitas Ruang Terbuka Publik Kecamatan Sario Kota Manado*. Jakarta: Gunung Agung, 2002.
- [14]. Hidayat, *Teori Efektivitas Dalam Kinerja Karyawan*. Yogyakarta: Gajah Mada University Press, 1986.
- [15]. S. Meira, "Analisis efektivitas taman melalui pendekatan kondisi tapak dan perilaku pengunjung Bogor. Dalam jurnal Rivino, *Efektivitas Ruang Terbuka*," Tesis, Bogor Agricultural University, 2002.
- [16]. Makmur, *Efektifitas Kebijakan Kelembagaan Pengawasan*. Bandung: Refika Aditama, 2011.
- [17]. C. Stephen, *Public Space*. Dalam jurnal Rivino, *Efektivitas Ruang Terbuka Publik Kecamatan Sario Kota Manado*. Australia: Press Syndicate of University of Cambridge, 1992.
- [18]. M. Carmona, T. Heath, T. Oc, and S. Tiesdell, *Public Place Urban Space: The Dimensions of Urban Design*. In *Journal of Chemical Information and Modeling* (second Edi), 2010.
- [19]. J. C. U. Bachtiar and H. E. Kusuma, "Pengelompokan Pengunjung Berdasarkan Durasi Kunjungan Dan Karakteristik Taman: Relaksasi, Pelarian, Dan Penikmat," *Jurnal Lanskap Indonesia*, vol. 11, no. 1, pp. 11–16, 2019.
- [20]. J. Gehl, *Life Between Buildings Using Public Space*. In DC: Island Press, 2011.