

Analysis of the Use of Green Open Space and Its Impact on the Welfare of Residents in Batu Bara Regency

Ardi Zikri Muazro

ardizikrimuazro10@gmail.com

Cut Nuraini

cutnuraini@dosen.pancabudi.ac.id

Student, Magister of Regional & City Planning,
Universitas Pembangunan Panca Budi
Lecturer, Architecture Program and Magister of Regional & City Planning,
Universitas Pembangunan Panca Budi

Abstract

This research aims to analyze the use of green open spaces and their impact on the well-being of residents in Batu Bara Regency. The research employs a qualitative method based on post-positivist philosophy, focusing on the natural conditions of the objects studied (as opposed to experimental methods), with the researcher acting as the key instrument. Data collection techniques are conducted through triangulation (a combination of methods), and data analysis is carried out inductively/qualitatively. The presence of green open spaces in Batu Bara Regency is expected to raise awareness among the community. In addition to benefiting the ecological integrity of Batu Bara, these spaces can also support the region's progress, as both the government and the community feel that their needs are being met. Moreover, green open spaces can serve as a medium for fostering interactions among residents. This research concludes that the development of green open spaces (RTH) in Batu Bara Regency has been effectively targeted, aiming to provide sustainable development for densely populated areas, thereby improving the quality of life for the community. Economically, green open spaces (RTH) have recently gained prominence as they can stimulate trade and serve as tourist attractions.

Keywords: Use of Green Open Space, Impact, Welfare of Citizens and Batu Bara Regency

Introduction

Public spaces, such as green open spaces, which can be utilized by the community for outdoor activities, are increasingly diminishing due to various development interests that are deemed more important and economically valuable [1]. As a result, land designated for green open spaces is often considered less important and neglected. Public green open spaces not only serve as places for community activities aimed at the public but also offer specific benefits, especially in urban areas characterized by non-agricultural and non-forestry environments, unlike rural areas. Urban areas greatly need trees for water absorption, as well as for storing reserve water, filtering polluted air from industrial activities and vehicle emissions, and cooling the surrounding environment. Green open spaces are not just parks with trees; they also include

street trees, roadside medians planted with vegetation, and areas for growing plant seedlings, all of which constitute green open spaces (RTH) [2].

Based on the research conducted in Batu Bara Regency, it is evident that there are still green open spaces, some of which are well-organized while others are not. This situation indicates that there is generally a lack of seriousness in the planning of green open spaces, particularly for those that are not well-maintained. On the other hand, green open spaces are essential for Batu Bara Regency, especially since the area is designated for small-scale industries and high-density housing. Therefore, the presence of green open spaces is crucial for the health of its residents. Additionally, these spaces contribute to the aesthetic value and ecological integrity of Batu Bara, create a cooler microclimate, maintain the balance of oxygen (O₂) and carbon dioxide (CO₂), reduce pollutants, and help sustain groundwater availability. Aside from the availability of green open spaces, environmental issues frequently encountered in Batu Bara Regency include the mismatch between existing green open spaces and the limited urban land designated for such purposes. Although the government has established various written regulations regarding environmental matters, the implementation of these regulations often falls short of expectations [3]. This discrepancy arises because policies are not accompanied by consistent execution and sustainable management by the government and stakeholders, who should play a key role in driving positive change by fulfilling their responsibilities effectively.

Green open spaces are vital for enhancing the quality of urban living environments, making them comfortable, fresh, clean, and beautiful. They serve as protective measures for urban areas and help create harmony between the natural environment and built surroundings, benefiting the community. These spaces contribute to groundwater supply, prevent flooding, reduce air pollution, support microclimate regulation, and enhance the aesthetic and comfort levels of an area. They also attract community members and tourists, indirectly boosting economic activities. In Batu Bara Regency, one example of a green open space is the city park, which is envisioned as a place that promotes public health by featuring several sports facilities, including a jogging track and various sports activities. However, many urban issues today have become challenging to address. Urban development often leads to negative consequences in several aspects, including environmental concerns. In the early stages of urban growth, much of the land consisted of green open spaces [4]. However, due to the demand for land to accommodate the population and their activities, these green areas are increasingly being converted into built environments.

The utilization of green open spaces (RTH) in Batu Bara Regency has not been optimal, as indicated by several issues. First, the proportion of RTH is low, considering the requirement set

forth in Law No. 26 of 2007, Article 29, Paragraph 2, which mandates that at least 30% of urban areas must consist of green open spaces. In reality, as of 2023, the area designated for RTH only reached 12.15%. Second, the expansion of RTH in Batu Bara Regency has not been evenly distributed. Evidence from the 2022 map shows that most RTH developments are concentrated in the central area of Batu Bara Regency. As stated in Law No. 26 of 2007 regarding Spatial Planning, one of the principles and objectives of spatial planning in Batu Bara is based on balance. Third, the Batu Bara government has not adequately evaluated employee performance standards, as there has only been a 1% increase in RTH from 2022 to 2024. The low proportion of urban green open spaces, along with the high rate of land conversion, the existence of slum residential areas, and the lack of land for public burial sites (TPU) are ongoing issues. Green open spaces are crucial for supporting urban development, and meeting the needs for RTH facilities in urban areas is increasingly important due to limited land resources, leading to the conversion of green spaces to meet urban development needs. This change in land use can result in environmental degradation. Furthermore, "this development will also cause the existence of urban green open spaces, as a component of the urban ecosystem, to be less prioritized, even though their presence is expected to address environmental issues in urban areas" [5].

The Batu Bara Regency government is currently focused on building environmentally friendly public facilities that benefit the community. City parks can play a crucial role in urban planning, as they not only help maintain the quality of the urban environment but also serve as spaces for interaction in communities that tend to lean towards individualism. Taman Dadaha is one of the green open spaces located in Batu Bara Regency. At that time, the only city park was Taman Alun-Alun, and its management was not optimal because both the government and the community had yet to recognize the importance of urban green spaces. As a result, the park was poorly maintained, leading to a lack of interest among visitors. Initially, the park's condition was unappealing and underdeveloped, offering only basic sports facilities, shrubs, and agricultural land that had not been properly managed. This inadequate planning and development by the government hindered the park's potential.

The community plays a crucial role in utilizing green open spaces, as many people use parks as social spaces, leading to various social activities among different groups of visitors. This will allow for an analysis of which community groups are using the park as a social space and to identify the characteristics of park visitors based on their distance from home, socioeconomic conditions, purposes for visiting, activities conducted in the park, duration of use, and frequency of visits. The significance of green open spaces is essential to study, as they play a vital role in creating sustainable cities, and the benefits of green open spaces can be felt by the entire urban

population. Different community groups, including residents and visitors, who utilize these spaces will be examined to ensure that green open spaces function according to the objectives set by the government. However, public green open spaces in Batu Bara Regency are currently facing typical issues, including development that is not matched by the minimum required green space, leading to increased challenges in urban management. Therefore, an assessment of green open spaces in Batu Bara Regency is necessary to determine the availability of green spaces that meet established standards.

The provision of green open spaces is an obligation of the government, particularly the local government of Batu Bara Regency. In addition to providing green spaces such as city parks, the government must effectively manage and maintain these park areas. However, the government has not been fully effective in managing city parks due to limitations in resources and budget [6]. The funding allocated for park management is insufficient, leading to the neglect of existing facilities. The lack of human resources and the absence of community involvement in the management of city park facilities have resulted in damage to these facilities. Furthermore, local authorities have not designated a specific management entity responsible for overseeing park management [7]. The role of the government is crucial for ensuring that city parks are healthy environments that serve the needs of the community. Community participation in the development and management process is a vital aspect of involvement. This participation is important for effective management, with the community acting as a key player in the development and maintenance processes. However, the roles and participation of the surrounding community in city park management are not yet comprehensively regulated. The involvement of the community is essential for the preservation of city parks [8]. Field observations have shown a lack of community participation in managing city parks in South Tangerang [7]. The roles of the community must be clearly defined in a collaborative management approach between the management entity and the community. The success of park management is highly dependent on the level of community participation in the maintenance and preservation of city parks [8].

Literature Review

The Use of Green Open Spaces

Green Open Spaces (Ruang Terbuka Hijau) refer to undeveloped areas within a region, which can include villages, neighborhoods, districts, regencies, provinces, and so on. The existence of these open spaces is significant for community dynamics, as they provide opportunities for residents to engage in social interactions. Typically, these spaces consist of vacant land covered with plants, hence the designation as green open spaces. Green open spaces serve not only to foster social interactions within a community but also play a crucial role in maintaining the ecological system of the environment as a whole. Additionally, they contribute to the aesthetic

elements of the environment [9]. Green Open Spaces (RTH) are considered urban green infrastructure and are integral components of the open spaces in urban areas, filled with plants, vegetation, and greenery. They provide both direct and indirect benefits, such as safety, comfort, well-being, and beauty in urban regions.

Welfare of Citizens

According to Soetomo [10], welfare is a condition that encompasses elements such as order, security, justice, tranquility, prosperity, and a well-structured life. This definition has a broad meaning, indicating that welfare is not only about achieving order and security but also about ensuring justice across various dimensions. The concept of welfare can be differentiated into individual welfare and social welfare. Individual welfare relates to the connection between welfare and individual choices in an objective manner. The choices made by individuals serve as objective tests when comparing their welfare across different situations. On the other hand, social welfare involves aggregating the satisfaction of all individuals within a community [11].

Method Approach

This research employs a qualitative method grounded in post-positivist philosophy, aimed at studying natural conditions of objects (as opposed to experimental methods), with the researcher serving as the key instrument. Data collection techniques are conducted through triangulation (a combination of methods), and data analysis follows an inductive/qualitative approach. The results of qualitative research emphasize meaning rather than generalization [12] [13]. The study utilizes both primary and secondary data. Primary data is collected directly from the community, while secondary data is sourced from government agency reports, journals, articles, magazines, and the internet. Data analysis involves a series of processes that range from data collection to systematically organizing the information obtained from observations, interviews, field notes, and documentation [14]. This process includes categorizing the data, breaking it down into units, synthesizing the information, arranging it into patterns, identifying key elements for study, and drawing conclusions [15]. The goal is to produce an analysis that is clear and comprehensible for both the researcher and others.

1. In the data collection phase, the researcher employs three techniques: interviews, observations, and documentation. Interviews serve as a primary data collection method in qualitative research. Meanwhile, data collection through observations and documentation is also conducted to support and strengthen the information obtained from the interviews. During this stage, the researcher engages in repetitive data collection to reach saturation, ensuring that the gathered data is comprehensive and maximized.
2. After the data collection, the researcher reviews the gathered information. The raw data undergoes a process of selection, aggregation, simplification, and transformation into summaries, tables, or visual representations. The transformed data is then aligned with the focus of this research. During this stage, the researcher also disregards any data that is irrelevant to the research problem and focus.

3. In qualitative research, data presentation can take various forms, including brief descriptions, charts, relationships between categories, and similar formats. Such presentations facilitate the understanding of what has occurred, enabling the researcher to plan subsequent actions based on this understanding. In other words, the purpose of data presentation is to assist the researcher in identifying an overall picture or patterns that emerge from the conducted study.

Discussion

The Use of Green Open Space for the Welfare of Residents in Batu Bara Regency

Space is a container that includes sea space, air space, and land space, including space in the earth as a scope of unity, as well as a place for humans to carry out daily activities. Space can also be interpreted as a space that is in a rural or wider urban area that is in a certain area and this space is built by having its main characteristics as a public space. This open space is usually overgrown with green plants both naturally and non-naturally, for example, such as rice fields, plantations, and so on. Public space is a place or area that is built due to the needs of the community, such as a place to gather or a place to interact with fellow social beings. With the holding of associations between fellow social beings, it is certain that various activities will appear that are held in the public space.

With this statement, it can be said that public space is a place that can accommodate activities carried out by the community, both individuals and large groups. Open space is a room that is created because of human needs in places of association and group activities in a space where the air is open. To organize the activities of residents in a space or area, efforts are needed to organize the community so that a mutually beneficial situation is realized between the community and the environment they occupy. This effort can be called spatial planning. Spatial planning is a rule about the use of the environment in order to realize welfare for people's lives. All of this can be achieved if the main goal is for suitability, balance, and similarity, whether in the form of economic, social livelihoods or sustainable use of nature. The efforts in spatial planning in an area will definitely raise several questions. This needs to be clarified because green open space is one of the parts of the environment that is very influential for the realization of a balance between the space that has been built and the space that has not been built. This alignment is the main goal of spatial planning. Green open space is an extensive area, whose use is general, growing green plants, which grow wild or grow by planting. A general green open space is a place or area where the room is open, the meaning of open here is that the building is open with a natural air temperature from nature. Usually, green open spaces are

managed by local governments that function as a place for large gatherings together. Green open spaces that are public such as city parks, green plants along the road that are deliberately made

The functions of green open space include:

1. Green Open Space as a place to interact between fellow social creatures. The meaning of this understanding is that green open space can be a gathering between individuals and individuals, groups and individuals and groups with groups. From meeting them, there must be interaction that occurs, and this can be used as a means to develop their interaction. From the interactions that have occurred, they certainly tend to be more familiar because they have interacted with each other, therefore green open spaces are the most suitable place to be used as a means to develop correlations between fellow social beings.
2. Green open spaces serve as ecology. The meaning of green open space as ecology because green open space is likened to a lung of a village or city, because plants and green plants that grow in the area can change the temperature of the surrounding air, add beauty, reduce air pollution, and many other benefits.
3. Green Open Space has a function as beauty. The existence of green open spaces can add to the beauty of this area overgrown with greenery, such as gardens in residents' homes, parks in malls, gardens in schools and others. If there is no green open space, it can be ensured that the air temperature in those places is very hot because there is nothing that can balance the temperature in the place. And if there are green open spaces in these places, surely the beauty and coolness in that place are still maintained.
4. Green Open Space serves as Education. Green open spaces can be used as a space to plant green plants that have many benefits for life. The open space in the school can be used as a means of learning for students. If in maintaining and preserving the green plant ecosystem, the students will have new skills and skills.

The Impact of Green Open Space on the Welfare of Residents in Batu Bara Regency

Green Open Space needs to be preserved because it has benefits for life, direct benefits that can be felt, for example adding to the beauty of an area and providing direct comfort to the people who occupy that area. Meanwhile, the indirect benefits produced by the existence of green open space are appropriate that have a positive effect on the area, reduce air pollution, increase oxygen supply, and can provide a supply of groundwater, and can be used as a place for the preservation of plants that live in a fertile and fresh manner. Green open space (RTH) as part of the urban spatial planning, can have an impact on the direction of development of a city, so that the development of RTH in accordance with Permendagri No. 1 of 2007 concerning the Arrangement of Green Open Space in Urban Areas (RTHKP), previously Inmendagri no.

4/1988, can provide a balance of the urban environment. In development there are two factors that affect, there are internal factors and there are external factors. For external factors, the participation of the community, both private and the general public, can be development stakeholders, so that various urban development policies tend to ignore the potential of the community so that community participation in urban development is a problem that must be answered by policymakers who are in internal factors.

The development of Green Open Space (RTH) is a form of government activity that is prioritized for the community, especially in the social and economic fields. The government has set goals and objectives to be achieved in the construction of this Green Open Space (RTH). The development and improvement of Green Open Space (RTH), provides job opportunities, especially for the surrounding community. Based on the data we obtained during our research, it is known that the community around the Green Open Space (RTH) has opened various businesses. Through the Regional Government's policy, it provides opportunities for the public to open various kinds of businesses which indirectly also provide entrepreneurial opportunities for the community around the Green Open Space (RTH) location. The process of building Green Open Space (RTH), is a natural phenomenon when viewed from the meaning of development which is a conscious, planned and continuous effort carried out by a nation, state and government towards a modern society to improve the quality of life of the community through the use of its own.

The Green Open Space (RTH) apparently occupies an important position in the process of cultural meeting dynamics, because through this space is connected the cultural fabric between the regions and as an icon of Batu Baru Regency. The Green Open Space (RTH), which is located on the side of the pintura road, is a strategic place in introducing the culture or typical food of the region itself. This is a very good opportunity and gold if it can be used to the best of it. Therefore, the management of Green Open Space (RTH) is really managed properly with the Regional Government, as well as the surrounding community working together so that the construction of Green Open Space (RTH) that has been built by the Regional Government meets maximum results for the lives of the local community. Green Open Space (RTH) is where cultural interaction with all its implications occurs. This cultural interaction has given rise to social groups of different ethnicities and formed certain ethnic villages with their cultural culture flourishing around the park. So in terms of the economy, the people of Batu Bara Regency will also increase.

The purpose of developing green open space is an effort to help improve the community's economy. The definition of economy itself is a human action related to exchange, services, and production. The meaning of economics in depth is a management in the household or household rules. Economics can also be interpreted as a science that decrypts the ways of marketing,

creating, and using goods and services so that it can help human activities in daily activities. The role of the economy in society is to regulate all affairs related to property, ownership and distribution. With the main focus being on the management of the use of open space used by the community, this has been fully supported by the government, because to develop the progress of the district can be started in various efforts. One of these efforts is the existence of green open space in Batu Bara Regency to add beauty, beauty and make the place for visits for local and non-regional communities. In addition, the location of the green open space owned by Batu Bara Regency has a very strategic location and this is very supportive if this green open space is developed optimally. The district government strongly supports this, because in addition to helping in the progress of Batu Bara Regency, the community also feels helped by the existence of green open spaces, people feel comfortable living in their neighborhood.

Conclusion

Based on the results of the research and discussion in the previous chapter, it can be concluded as follows:

1. With the existence of green open space in Batu Bara Regency, it is hoped that the community will have awareness in them. Because in addition to being useful for the beauty of Batu Bara Regency, green open space can also be used as a support for the progress of Batu Bara Regency. Because with the existence of green open space, the government and the community feel that their needs are met. In addition, the existence of green open space can be used as a means to develop interaction between communities. The use of Green Open Space carried out by Batu Bara Regency is included in the theory of social solidarity because there is a community group that works together to make the most of Green Open Space.
2. In this study, it can be concluded that the development of Green Open Space (RTH) in Batu Bara Regency has been on target with the aim of a densely populated environment to get sustainable development that can improve the standard of living of the community. Economically, the city Green Open Space (RTH) has been very prominent lately because it can create trade and tourist attractions. Green Open Space (RTH) is a place where people or people meet cannot be separated from trade, and of course the development of trade is also very related to the role and function of the Park. In fact, Max Weber said, that trade is a decisive variable in the development of a city.
3. The Green Open Space (RTH) apparently occupies an important position in the dynamic process of cultural gatherings, because through this space is connected the cultural fabric between regions and as an icon of Batu Bara Regency to get to know the culture. The Green Open Space (RTH) which is positioned on the side of the road is a strategic place in

introducing the culture or typical food of the region itself. This is a very good opportunity and gold if it can be used to the best of it. Therefore, the management of Green Open Space (RTH) is really managed properly with the Regional Government, and the surrounding community works together so that the development of Green Open Space (RTH) that has been built by the Regional Government produces maximum results for the lives of the local community, especially the local community.

References

- [1] Aziizah, Q., Nuraini, C., & Syam, F. H. (2024). Analysis of Natural Day Lighting Concepts in Al-Raudhah Mosque in Medan, North Sumatra, Indonesia. *East Asian Journal of Multidisciplinary Research*, 3(6), 2379-2390.
- [2] Pasaribu, S. P., Nuraini, C., & Andriana, M. (2023). DESIGN OF A PAINTING ARTS MUSEUM IN MEDAN USING A GREEN ARCHITECTURE CONCEPT APPROACH. *PROSIDING UNIVERSITAS DHARMAWANGSA*, 3(1), 929-940.
- [3] Alfyyah, S., Ramayana, R., & Nuraini, C. (2023). DESIGNING CO-WORKING SPACE WITH SUSTAINABLE ARCHITECTURE APPROACH IN MEDAN. *PROSIDING UNIVERSITAS DHARMAWANGSA*, 3(1), 952-965.
- [4] Munthe, A. A. Y., Nuraini, C., & Wisdianti, D. (2023). CO WORKING SPACE AND CAFÉ DESIGN IN MEDAN WITH A TROPICAL ARCHITECTURAL APPROACH. *PROSIDING UNIVERSITAS DHARMAWANGSA*, 3(1), 941-951.
- [5] Zoer'aini, Prinsip-Prinsip Ekologi Ekosistem, Lingkungan dan. Pelestariannya, PT.Bumi Aksara: Jakarta, 2014.
- [6] Kurniawan, M. Budi. Kajian Implementasi Program Pembangunan Ruang Terbuka Hijau di Kota Tangerang Selatan Tahun 2012-2016. *Journal of Politic and Government Studies*, 6(4), 381–390, 2017.
- [7] Asti, A. P., Wirawati, S., & Tjung, L. J. (2021). Strategi Pengelolaan Taman Kota Sebagai Destinasi Wisata (Objek Studi : Taman Kota 2 Bsd, Kota Tangerang Selatan). *Jurnal Sains, Teknologi, Urban, Perancangan, Arsitektur (Stupa)*, 3(2), 3413.
- [8] Qodriyatun, sri nurhayati. (2019). peran dan partisipasi masyarakat dalam pengelolaan kawasan konservasi secara kolaboratif. *Ekonomi Dan Kebijakan Publik*, 41–54.
- [9] Hidayah, Retna. (2012). Tata Bangunan dan Lingkungan. Diktat Mata kuliah TBDL tidak dipublikasikan. Yogyakarta : PPS UNY.
- [10] Soetomo. (2014). Kesejahteraan dan Upaya Mewujudkannya dalam Perspektif Masyarakat Lokal. Yogyakarta: *pustaka* pelajar.
- [11] Rudy, Badarudin. (2017). *Ekonomika Otonomi Daerah*, Edisi Kedua, UPP. STIM YKPN.
- [12] Sugiyono. (2015). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung : ALFABETA.
- [13] Nuraini, C. The Architectural Tectonics of Traditional Buildings in Mandailing, North Sumatera, Indonesia, *Civil Engineering and Architecture*, 12 (2), 892-916.
- [14] Aris, M., & Nuraini, C. (2024). Optimizing City Spatial Plans: Development Strategy Urban Sustainability in Medan. *International Journal of Society and Law*, 2(1), 255-269.
- [15] Purba, B. M., & Nuraini, C. (2024). Integrated Area Development as A Sectoral and Regional Development Model (Kuala Tanjung Industrial and Port Area). *East Asian Journal of Multidisciplinary Research*, 3(7), 3159-3176.