

STRATEGY FOR IMPROVING THE QUALITY OF LIVABILITY AS AN EFFORT TO REALIZE A SUSTAINABLE TANJUNGBALAI CITY

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Abstract

Improving the quality of livability in Tanjungbalai City is highly dependent on urban planning and management that integrates social, economic, and environmental aspects. This study aims to explore strategies that can be applied to improve the quality of livability through the principle of sustainability. The role of local governments in formulating policies and providing basic infrastructure that is environmentally friendly is crucial, while the community also has an important role in supporting policy implementation and protecting the environment. Synergy between the government and the community is key to realizing a sustainable and livable Tanjungbalai City. Strategies that can be applied include increasing community participation, developing sustainable infrastructure, increasing green open spaces, implementing environmentally friendly technologies, and environmental awareness education.

Keywords: *Livability, Sustainability, Urban Planning, Green Infrastructure and Community Participation*

INTRODUCTION

Tanjungbalai City, as one of the cities that continues to develop, faces a major challenge in ensuring good quality of livability for its citizens. Rapid population growth and the development of the industrial sector often go hand in hand with livability issues that cannot be ignored. This condition requires serious efforts to maintain the quality of the environment, infrastructure, and social welfare of the community, so that this city can continue to develop sustainably. Livability issues in Tanjungbalai City not only cover physical aspects such as the provision of decent housing, but also include the availability of facilities and infrastructure that support daily life, such as access to clean water, adequate sanitation, and an efficient transportation system. In addition, air quality, waste management, and green open spaces are also important parts that must be considered in improving the quality of livability in this city.

Sustainable cities require careful planning and management in order to create a friendly environment for their residents without damaging existing natural resources. (Marwazi et al., 2023). Therefore, a comprehensive strategy is needed to improve the quality of livability that not only includes the fulfillment of basic human needs, but also creates a better and more sustainable quality of life for future generations. This condition encourages the need for in-depth research on the various factors that influence the quality of livability in Tanjungbalai City, as well as the identification of strategic steps that can be taken to achieve these goals. Therefore, a strategy to improve the quality of livability based on the principles of sustainability is very important so that Tanjungbalai City can develop in a more focused and sustainable manner.

The phenomenon of problems related to improving the quality of livability in Tanjungbalai City is increasingly apparent along with the rapid development of this urban area. Tanjungbalai City, as the center of economy and trade in North Sumatra Province, has experienced significant population growth. The increasing population has a direct impact on the need for decent housing, adequate facilities and infrastructure, and optimal public services. However, this rapid growth is not balanced by planned and quality urban space management. One of the most visible phenomena is the narrowing of green open spaces due to the conversion of land into residential and commercial areas. This reduces air quality and disrupts the balance of the city's ecosystem. On the other hand, many residential areas do not yet have adequate access to basic infrastructure such as clean water, proper sanitation,

and an effective waste management system. This problem worsens the quality of life of the community, hindering the creation of a healthy and comfortable environment for city residents. Unsustainable management of natural resources, urban space, and infrastructure can reduce the attractiveness of the city as a comfortable place to live. Therefore, it is important to design strategies to improve the quality of livability that pay attention to the balance between economic growth, environmental sustainability, and social welfare.(NA Rangkuti *et al.*, 2023). The urgency of this research is very important considering the condition of Tanjungbalai City which is facing major challenges in creating sustainable livability quality. Along with the rapid population growth and development of the industrial sector, the quality of life of the city's residents is increasingly threatened by the imbalance between urbanization growth and less than optimal management of city resources. Therefore, this research is very urgent to provide a deeper understanding of the factors that influence livability and to find strategic solutions to improve the quality of life in this city. First, this research is important to identify problems that occur in the provision of basic infrastructure that supports livability, such as the provision of clean water, sanitation, waste management, and efficient transportation systems. These problems can hinder the creation of a healthy and comfortable environment for residents, which in turn has an impact on the social and economic welfare of the community.

This study aims to provide solutions in maintaining or even improving the quality of green open spaces, which are vital for the balance of the ecosystem and air quality in Tanjungbalai City. In order to realize a sustainable Tanjungbalai City, this study is expected to contribute to the formulation of better public policies in city management, sustainable development, and the provision of decent infrastructure. The urgency of this study lies in its ability to identify strategic steps that can be taken by local governments and related parties in creating a more livable and sustainable city for future generations. This study has strong relevance when compared to several previous studies that have discussed topics related to livability and sustainable development in other cities. For example, a study conducted by Sutrisno (2020) entitled "The Influence of Infrastructure on Urban Livability" emphasizes the importance of basic infrastructure such as roads, clean water, and sanitation in improving the quality of life in urban areas. Although this study provides a clear understanding of how infrastructure plays a role in livability, its focus is more limited to the physical aspect and does not comprehensively link social and environmental factors. In contrast to Sutrisno's study, this study emphasizes a more holistic approach, covering various elements such as green open spaces, air quality, and transportation systems, which are integral parts of sustainable livability. Another relevant study is the study by Wulandari and Dwi (2019) entitled "The Role of Green Open Space in Improving the Quality of Urban Livability". This study highlights the importance of green open space in creating a healthy environment and improving the quality of life of the community. This study offers a more comprehensive approach, combining green open space with broader issues of urban sustainability, including how integrated urban planning can create livability that is not only healthy but also sustainable.

Identification of problems:

Tanjungbalai City, as one of the developing cities in North Sumatra Province, faces a number of problems related to the quality of livability. Rapid population growth and rapid urbanization have led to an increase in the need for housing, basic facilities and infrastructure, and better spatial management. However, despite these developments, the management of urban space, infrastructure, and the environment in Tanjungbalai City has not been able to fully meet the demands of creating sustainable livability.

The main problems facing this city include:

1. Basic Infrastructure Limitations: Many areas in Tanjungbalai City still lack access to basic infrastructure such as clean water, sanitation, and adequate waste management, which hinders the creation of a healthy environment for its citizens.
2. Limited Green Open Space: Reduction in green open space due to land conversion for residential and commercial development reduces air quality and the balance of the city's ecosystem, which in turn impacts public health and well-being.
3. Poorly Planned Development: Lack of integrated and sustainability-based urban planning leads to an imbalance between economic development and environmental conservation, which can impact long-term livability.

Formulation of the problem:

Based on the identification of the problems that have been explained, the formulation of the problem in this study is as follows:

1. What is the current condition of habitability in Tanjungbalai City, especially regarding the provision of basic infrastructure, green open spaces, and transportation systems?

2. What are the factors that influence the quality of livability in Tanjungbalai City, both from a physical, social and environmental perspective?
3. What are the challenges faced in managing urban space and developing infrastructure that can support sustainable livability in Tanjungbalai City?
4. What strategies can be implemented to improve the quality of livability in Tanjungbalai City by considering the principles of sustainability and integration between economic, social and environmental aspects?
5. What is the role of local government and society in realizing a sustainable Tanjungbalai City through better city planning and management?

LITERATURE REVIEW

2.1 Definition of Livability and Sustainable Cities

Livability is a condition that describes the extent to which an area can provide a good quality of life for its residents.(MT Rangkuti *et al.*, 2023). According to Suryadi *et al.* (2023), livability includes aspects of health, education, accessibility, public facilities, and environmental quality that support community welfare. Meanwhile, sustainable cities focus on achieving a balance between economic development, social justice, and environmental preservation for future generations (Amin, 2023).

2.2 Strategy for Improving the Quality of Habitability

The strategy for improving the quality of habitability requires a holistic approach, starting from the development of basic infrastructure such as habitable housing to improving the quality of public services.(Harahap *et al.*, 2024). Rini and Farida (2023) explain that effective strategies include the use of technology in city management, improving the quality of health services, and managing public spaces that can support social interaction. This is very important to create a healthy living environment and support community economic activities.

2.3 The Role of Government in Improving Livability

The government plays an important role in creating policies that support sustainable development.(Ramadhani & Nuraini, 2024). According to Budi (2023), a policy strategy that integrates social and environmental aspects in housing and public infrastructure development can be a determining factor in realizing a sustainable city. Community participation-based development is also considered effective in creating targeted policies, taking into account the needs of local communities.

2.4 Framework of Thought

- 1) Livability and Sustainable Cities: The core objective of the research is to create cities with a decent and sustainable quality of life.
- 2) Livability Improvement Strategies: Key strategies to improve quality of life include infrastructure, environmental management, social facilities, and community participation.
- 3) Role of Government: The government regulates and plans policies to support sustainable development.
- 4) Livability Indicators: Measuring success based on well-being, environment and infrastructure.
- 5) Challenges: Barriers faced in achieving sustainable city goa

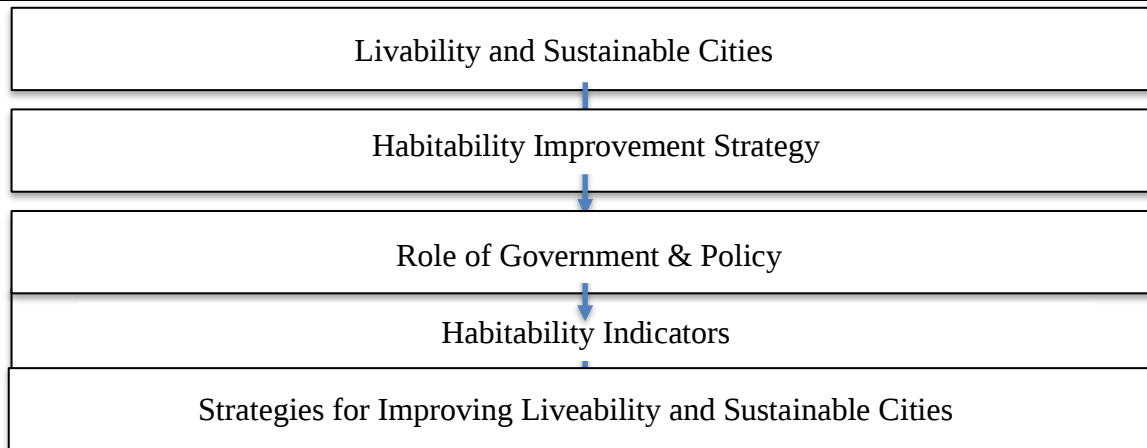


Figure 2.1 Framework of Thought

RESEARCH METHODS

3.1 Research Approach

This study uses a qualitative approach that aims to explore and understand phenomena related to strategies for improving the quality of habitability in Tanjungbalai City.(Sugiarto et al., 2024). The qualitative approach was chosen because it can deeply explore the experiences, perceptions, and views of the community and related parties regarding the livability and sustainability of the city. According to Supriyadi (2023), a qualitative approach is suitable for understanding complex social phenomena in the context of sustainable cities.

3.2 Aspects used for habitability assessment

There are 11 aspects assessed in this study, including:

1. Natural Environment
2. Health
- 3.Housing
4. Population and social conditions,
- 5.Open Space, Culture and Sports
6. Waste
- 7.Telecommunications and Energy
8. Transportation,
9. Spatial Planning,
10. Clean water
- 11.Education

3.3 Data collection

Data collection was carried out by collecting primary data and secondary data. Primary data collection was carried out by collecting data from related Regional Apparatus Organizations in Tanjungbalai City and the Tanjungbalai City RPJMD document. While secondary data was carried out by conducting a survey of the Tanjungbalai city community which was carried out online.

3.4 Assessment Scoring

a. Primary Data

Aspect	Indicator	Assessment Components	Scoring assessment
Natural Environment	Environment and Climate Change	Humidity 40-60% Rh and Temperature 18-30 C based on the provisions of the Minister of Health Regulation Number 2 of 2023	1. Not Achieved (Score 1): if both assessment indicators (Humidity and Temperature) are not met 2. Not Optimal (Score 2): if one assessment indicator (Humidity and Temperature) is not met 3. Achieved (Score 3): if both assessment indicators (Humidity and Temperature) are met
	Air	Max 78.53 RPJMN 2025-2029	1. Not Achieved (Score 1): > 1002. Not Optimal (Score 2): 78.53-100 3. Achieved (Score 3) : 78.53
Health	Health Center	SNI 03-1733 2004	1. Not Achieved (Score 1): 0 Units 2. Not Optimal (Score 2): 1 Unit 3. Achieved (Score 3): > 1 Unit
	Life Expectancy	Human Development Index 74.43 RPJMN 2025-2029	1. Not Achieved (Score 1): > 702. Not Optimal (Score 2): 70-74.433. Achieved (Score 3): 74.43
Housing area	A habitable house	65.25% of households live in habitable houses in the 2025-2029 RPJMN	1. Not Achieved (Score 1): > 502. Not Optimal (Score 2): 50-65.25%3. Achieved (Score 3): > 65.25%
Population and Social Conditions	Poverty Rate	Max 7% of RPJMN 2025-2029	1. Not Achieved (Score 1): > 8% 2. Not Optimal (Score 2): 7-8% 3. Achieved (Score 3): <7%
	Social Equality	Gini Ratio Level 0.374 RPJMN 2025-2029	1. Not Achieved (Score 1): > 0.3822. Not Optimal (Score 2): 0.374-0.3823. Achieved (Score 3): < 0.374
	Manpower	Unemployment Rate Max 5 RPJMN 2025-2029	1. Not Achieved (Score 1): > 62. Not Optimal (Score 2): 5%-6%3. Achieved (Score 3): < 5%
Open Space, Culture and Sports	Open space area	30% of the city area, where 20% is public green open space and 10% is private green open space. ATRBPN Regulation 14 of 2022 concerning Green Open Space	1. Not Achieved (Score 1): if both assessment indicators (Public and Private RTH) are not met 2. Not Optimal (Score 2): if one of the assessment indicators (Public and Private RTH) is not met 3. Achieved (Score 3): if both assessment indicators (Public and Private RTH) have been met

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Aspect	Indicator	Assessment Components	Scoring assessment
Waste	Waste Management	80% Handling of RPJMN Resources 20225-2029	1. Not Achieved (Score 1): <60% 2. Not Optimal (Score 2): <60-80% 3. Achieved (Score 3): >80%
	Waste Reduction	20% Reduction of RPJMN 2025-2029 sources	1. Not Achieved (Score 1): <1%2. Not Optimal (Score 2): 1-15%3. Achieved (Score 3): 20%
	Sanitation	90% of households have access to proper sanitation (RPJMN 2025-2029)	1. Not Achieved (Score 1): <85% 2. Not Optimal (Score 2): 90-85% 3. Achieved (Score 3): 90%
Telecommunications and Energy	Energy	100% electrification ratio RPJMN 2025-2029	1. Not Achieved (Score 1): <90%2. Not Optimal (Score 2): 90-99%3. Achieved (Score 3): 100%
Transportation	Road Connectivity	97% in stable condition (RPJMN 2025-2029)	1. Not Achieved (Score 1): <70% 2. Not Optimal (Score 2): 71-96% 3. Achieved (Score 3): 97%
Clean water	Safe drinking water	100% Housing with access to decent drinking water (RPJMN 2025-2029)	1. Not Achieved (Score 1): <85% 2. Not Optimal (Score 2): 99-85% 3. Achieved (Score 3): 100%
Education	Educational Facilities	Number of Senior High Schools per 4800 Population SNI 03-1733 2004	1. Not Achieved (Score 1): <202. Not Optimal (Score 2): 20-403. Achieved (Score 3): 41

b. Secondary Data

Aspect	Indicator	Assessment Indicators	Assessment Components	Scoring assessment
Natural Environment	City Cleanliness	Public opinion on environmental cleanliness in Tanjungbalai City	The assessment taking into account the results of respondents (>51%) gave the response that the environment was clean and well maintained.	1. Not Achieved (Score 1): if <30% of respondents who provide responses agree with the assessment indicators2. Not Optimal (Score 2): if 30-51% of respondents who provide responses agree with the assessment indicators3. Achieved (Score 3): if >51% of respondents who provide responses agree with the assessment indicators
Health	Service Availability	Availability of health services	The assessment taking into account the results of respondents (>51%) gave good responses regarding the availability of health services.	

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Aspect	Indicator	Assessment Indicators	Assessment Components	Scoring assessment
	Health Quality	Quality of public health	The assessment taking into account the results of respondents (>51%) gave good responses regarding the quality of public health.	
	Ease of Service	Ease of Obtaining Health Services	Assessment taking into account the results of respondents (>51%) providing responses regarding ease of obtaining health services.	
Housing area	Building Eligibility	Feasibility of residential buildings	The assessment, taking into account the results of respondents (>51%) gave the response that the house they live in is suitable	
	Ease of Home Ownership	The Ease of Owning a Home	The assessment taking into account the results of respondents (>51%) gave the response that it is easy to get a house.	
Population and Social Conditions	Freedom to express opinions	Opportunity to speak on important issues	Assessment by considering the results of respondents (>51%) providing free responses to express their opinions regarding important issues.	
	Harmony	Harmony	The assessment took into account the results of respondents (>51%) who gave responses that they interacted well regardless of differences in race, ethnicity and background.	
	Income	Ease of Getting a Job	Assessment taking into account the results of respondents (>51%) gave the response that it is easy to get a job.	

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Aspect	Indicator	Assessment Indicators	Assessment Components	Scoring assessment
Open Space, Culture and Sports	Sports Facilities	Ease of finding sports facilities	Assessment taking into account the results of respondents (>51%) gave the response that it was easy to access sports facilities.	
	Ease of finding play and open spaces	Ease of finding play and open spaces	The assessment taking into account the results of respondents (>51%) gave the response of easy access to playgrounds and open spaces.	
Telecommunications and Energy	Ease of Communication	Ease of communication for people via cellular	Assessment taking into account the results of respondents (>51%) gave the response that it was easy to access the internet.	
	Public Wifi	Ease of public access to wifi	The assessment taking into account the results of respondents (>51%) gave the response that many locations provide free wifi for the public.	
Transportation	Pedestrian	Public satisfaction with the provision of pedestrian sidewalks	The assessment taking into account the results of respondents (>51%) gave the response that the pedestrian path was in good condition.	
	Traffic jam	Traffic jam	The assessment taking into account the results of respondents (>51%) gave the response that the traffic level did not cause congestion.	
	Public Transport Access	Public Transportation Access	The assessment taking into account the results of respondents (>51%) gave the response that access to public	

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Aspect	Indicator	Assessment Indicators	Assessment Components	Scoring assessment
			transportation was easy to obtain.	
	Traffic safety	Feeling safe from the risk of traffic accidents	Assessment taking into account the results of respondents (>51%) providing a safe response to the risk of traffic accidents	
Spatial	Arrangement of street vendors	Arrangement of street vendors in urban areas	The assessment taking into account the results of respondents (>51%) gave the response that the arrangement of street vendors in urban areas was good.	
	City Planning	Public satisfaction with the quality of urban planning	The assessment taking into account the results of respondents (>51%) gave the response that city planning was good overall.	
Clean water	Clean water	Ease of getting clean water	The assessment taking into account the results of respondents (>51%) gave responses regarding the ease of obtaining clean water.	
Education	Ease of Access to Education	Ease of access to education	The assessment taking into account the results of respondents (>51%) gave the response that it was easy to get access to education (elementary, middle and high school).	
	Satisfaction with Educational Facilities	Public Satisfaction with Educational Facilities	The assessment, taking into account the results of respondents (>51%) gave the response that the educational facilities had met expectations.	

3.5 Research Subjects

The research subjects consist of several groups, namely:

- Tanjungbalai City Government: Policy makers responsible for planning and implementing urban livability and sustainability policies.
- Tanjungbalai City Community: Residents who are directly affected by city development policies, especially regarding quality of life and access to basic services.

3.6 Data Analysis Techniques

The data obtained from the survey results will be measured based on the survey results, to evaluate the level of habitability of Tanjungbalai City. The indicators that have been compiled are used as initial parameters to formulate strategies to improve the quality of habitability in Tanjungbalai City.

3.7 Sampling Method

Based on the Slovin formula, to calculate the number of samples from the total population of 186,150 people in Tanjungbalai City in 2024. Based on the Slovin formula as follows:

$$N = \frac{N}{1 + N \cdot e^2}$$

n = Number of samples required

N : Population size

e : Error Tolerance (10%)

Based on the calculation using this formula, a sample of 100 respondents was obtained after rounding off the previous calculation results of 99.94 respondents.

RESULTS AND DISCUSSION

What are the current conditions of habitability in Tanjungbalai City, especially in relation to the provision of basic infrastructure, green open spaces, and transportation systems?

The current livability conditions in Tanjungbalai City show an imbalance between the community's need for adequate basic infrastructure and the reality on the ground. Although Tanjungbalai City has experienced quite rapid growth, both in terms of population and development sector, there are still a number of major challenges in creating a livable and sustainable environment.

Survey ResultsPublic Perception of the Quality of Livability in Tanjungbalai City.

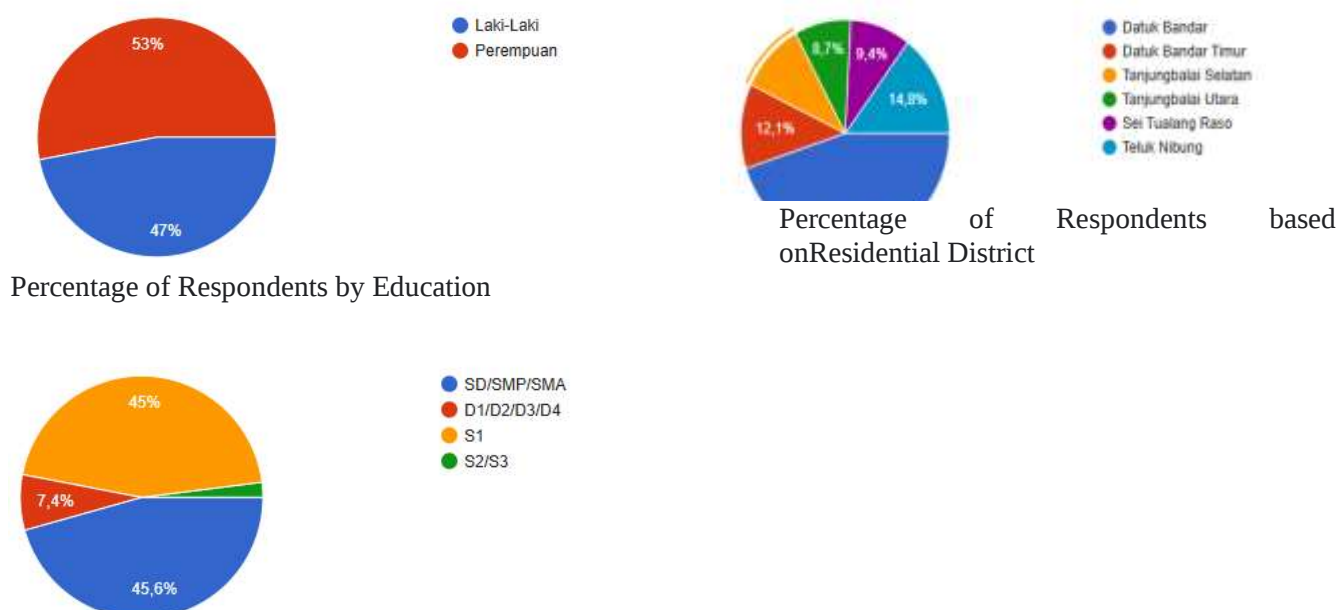


Table of Results of Primary and Secondary Data Collection related to the quality of habitability in Tanjungbalai City

No	Aspect	Indicator	Primary Data	Secondary Data	Scoring assessment
1	Natural Environment	Environment and Climate Change	Average air humidity is 77%-98% with an average temperature of 25 C		Not yet optimal : 2
		City Cleanliness		Respondent results Agree = 47.2% Neutral = 39.4% Disagree = 13.4%	Not yet optimal : 2
		Air	The IKU of Tanjungbalai City is 90.98		Not yet optimal : 2
2	Health	Health Center	There are 8 Community Health Centers in Tanjungbalai City		Achieved : 3
		Service Availability		Respondent results Agree = 32.2% Neutral = 40.6% Disagree = 27.3%	Not yet optimal : 2
		Health Quality		Respondent results Agree = 29.4% Neutral = 41.3% Disagree = 29.4%	Not Achieved : 1
		Ease of Service		Respondent results Agree = 35% Neutral = 46.9% Disagree = 18.2%	Not yet optimal : 2
		Life Expectancy	Life expectancy in Tanjungbalai City is 74.01 (BPS Tanjungbalai)		Achieved : 3
3	Housing area	Building Eligibility		Respondent results Agree = 79.7% Neutral = 18.9% Disagree = 1.4%	Achieved : 3
		A habitable house	90.96% of households in Tanjungbalai City are habitable (Source: Department of Housing and Settlements)		Achieved : 3

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No	Aspect	Indicator	Primary Data	Secondary Data	Scoring assessment
		Ease of Home Ownership		Respondent results Agree = 40.6% Neutral = 40.6% Disagree = 18.9%	Not yet optimal : 2
4	Population and Social Conditions	Poverty Rate	Poverty Rate in Tanjungbalai City 12.21% (BPS-Tanjungbalai in Figures 2024		Not Achieved : 1
		Social Equality	The Gini Ratio level of Tanjungbalai City is 0.238 (BPS North Sumatra)		Achieved : 3
		Freedom to express opinions		Respondent results Agree = 37.1% Neutral = 50.3% Disagree = 12.6%	Not yet optimal : 2
		Harmony		Respondent results Agree = 76.9% Neutral = 20.3% Disagree = 2.8%	Achieved : 3
		Manpower	The Open Unemployment Rate in Tanjungbalai City is 4.47 (BPS Tanjungbalai)		Achieved : 3
		Income (Ease of Getting a Job)		Respondent results Agree = 30.1% Neutral = 37.8% Disagree = 32.2%	Not yet optimal : 2
5	Open Space, Culture and Sports	Sports Facilities		Respondent results Agree = 37.8% Neutral = 37.8% Disagree = 24.5%	Not yet optimal : 2
		Ease of finding play and open spaces		Respondent results Agree = 48.3% Neutral = 34.3% Disagree = 17.5%	Not yet optimal : 2
		Open space area	Public Green Open Space: 1230.4 Ha (20.3% of the area of Tanjungbalai City) Private Green Open Space: 1114.5 Ha (18% of the area of Tanjungbalai City)		Achieved : 3

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No	Aspect	Indicator	Primary Data	Secondary Data	Scoring assessment
6	Waste	Waste Management	33.97% Amount of waste that can be handled (Environmental Service)		Not Achieved : 1
		Waste Reduction	24.7% Total volume of waste that can be handled/processed (Environmental Service)		Achieved : 3
		Sanitation	91% of Tanjungbalai City residents have access to sanitation		Achieved : 3
7	Telecommunication s and Energy	Energy	35,481 Number of Households		Achieved : 3
		Ease of Communication		Respondent results Agree = 64.3% Neutral = 29.4% Disagree = 6.3%	Achieved : 3
		Public Wifi		Respondent results Agree = 41.3% Neutral = 26.6% Disagree = 32.2%	Not yet optimal : 2
8	Transportation	Pedestrian		Respondent results Agree = 25.7% Neutral = 38.9% Disagree = 35.4%	Not Achieved : 1
		Road Connectivity	The stability figure for Tanjungbalai City roads is 75.43% (PUTR Service)		Not yet optimal : 2
		Traffic jam		Respondent results Agree = 43.8% Neutral = 37.5% Disagree = 18.8%	Not yet optimal : 2
		Public Transport Access		Respondent results Agree = 52.1% Neutral = 34.7% Disagree = 13.2%	Achieved : 3
		Traffic safety		Respondent results Agree = 35.4% Neutral = 45.1% Disagree = 19.4%	Not yet optimal : 2
9	Spatial	Arrangement of street vendors		Respondent results Agree = 37.5% Neutral = 31.3% Disagree = 31.3%	Not yet optimal : 2

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No	Aspect	Indicator	Primary Data	Secondary Data	Scoring assessment
		City Planning		Respondent results Agree = 35.4% Neutral = 41.7% Disagree = 22.9%	Not yet optimal : 2
10	Clean water	Safe drinking water	60.52% of the population has access to drinking water		Not Achieved : 1
		Clean water		Respondent results Agree = 36.8% Neutral = 29.9% Disagree = 33.3%	Not yet optimal : 2
11	Education	Educational Facilities	The number of SMA/SMK/MA is 28		Not yet optimal : 2
		Ease of Access to Education		Respondent results Agree = 54.5% Neutral = 40% Disagree = 5.5%	Achieved : 3
		Satisfaction with Educational Facilities		Respondent results Agree = 42.1% Neutral = 46.2% Disagree = 11.7%	Not yet optimal : 2

Strategy for Improving the Quality of Livability in Tanjungbalai City:

1. Natural Environmental Aspects

In the natural environment aspect with a score of 6/9 with an achievement level of 66.67%, this shows the need for commitment and efforts from the Tanjungbalai City Government in maintaining and improving air quality and cleanliness of Tanjungbalai City.

Natural Environmental Aspect Improvement Strategy:

- Increase efforts to monitor air pollution or environmental damage
- Increasing community participation in efforts to manage environmental cleanliness and preservation

2. Health Aspects

In the health aspect with a score of 11/15 with an achievement level of 73.33%. Of the 5 indicators, 2 indicators were achieved, namely the availability of health centers and life expectancy in Tanjungbalai City, 2 indicators were not optimal, namely the availability of services and ease of health facility services, 1 indicator was not achieved, namely the quality of health in Tanjungbalai City. This evaluation of public opinion can be the basis for the development and improvement of the provision of health facilities in Tanjungbalai City.

Health Aspect Improvement Strategy in Tanjungbalai City:

- Improving the quality of health facility services in Tanjungbalai City, through improving facilities and infrastructure as well as improving the quality of human resources and the quality of services provided to the community.
- Increasing accessibility of health services for the community
- Improving the ease of information services to the public, through information that is clear and easy for the public to understand.

3. Housing Aspects

In the aspect of Housing with a score of 8/9 with an achievement level of 88.80%. Of the 2 indicators, 2 indicators were achieved, namely the feasibility of residential buildings and the percentage of habitable houses in Tanjungbalai City, 1 indicator is not optimal, namely the ease of owning a house. This shows that some people still face challenges or uncertainty in accessing housing.

Housing Aspect Improvement Strategy in Tanjungbalai City:

- a. Collaborating with the private sector to provide affordable and quality housing solutions
 - b. Apartment ownership facilities with a zero percent down payment scheme through down payment advances or other efforts that do not conflict with applicable regulations.
 - c. Local governments are increasing efforts to improve residents' homes by allocating APBD budgets or proposing through central funds.
4. Population Aspects and Social Conditions

In terms of population and social conditions with a score of 14/18 with an achievement level of 77.77%. Of the 6 assessment indicators, 3 indicators have been achieved, namely social equality, harmony and open unemployment rate. There are 2 indicators that are not optimal, namely freedom of expression and ease of getting a job. There is 1 indicator that has not been achieved, namely the poverty rate indicator. The population aspect indicators that have not been achieved and are not optimal need further attention to overcome social and population problems in Tanjungbalai City in order to achieve the development targets that have been set in the Tanjungbalai City Regional Medium-Term Development Plan.

Population and Social Condition Improvement Strategy in Tanjungbalai City:

- a. Increasing the rate of economic growth to reduce poverty by providing job vacancies, capital assistance to MSMEs, and facilitating the community to obtain social assistance and providing training to the community to improve the quality of human resources.
- b. Supporting the government to increase economic growth and equality through people's economy
- c. Realizing consistent and sustainable legal protection to guarantee freedom of expression.
- d. Integrating education about racism, stereotypes into school education programs.

5. Open Space, Culture and Sports Aspects

In the aspect of open space, culture and sports with a score of 7/9 with an achievement level of 77.77%. Of the 3 indicators, there is 1 indicator that has been achieved, namely the area of green open space in Tanjungbalai City. There are 2 indicators that are not yet optimal, namely the provision of sports facilities and the ease of finding open play spaces in Tanjungbalai City. This finding shows that the accessibility of the availability of sports facilities and open play spaces still needs attention and handling from the local government.

Improvement Strategy for Open Space, Culture and Sports Aspects in Tanjungbalai City:

- a. Optimizing maintenance of open spaces for sports and cultural activities so that they can be optimally utilized by the community.
- b. Improving the quality of green open spaces

6. Waste Aspect

In the waste aspect with a score of 7/9 with an achievement level of 77.77%. Of the 3 indicators, there are 2 indicators that have been achieved, namely the provision of sanitation to the community and the volume of waste that can be handled/processed. There is 1 indicator that has not been achieved, namely waste management. The lack of waste management as seen in the percentage of only 33.97% in 2024, shows that there are challenges that must be addressed in waste management in Tanjungbalai City.

Waste Aspect Improvement Strategy in Tanjungbalai City:

- a. Improving waste transportation services from Temporary Disposal Sites to Final Processing Sites (TPA)
- b. Provision of a waste transportation fleet to accommodate waste from TPS with a larger volume.
- c. Maintenance and provision of Temporary Disposal Sites (TPS) so that garbage is not scattered around the TPS that has been provided.

7. Telecommunication and Energy Aspects

In the Telecommunication and energy aspect with a score of 8/9 with an achievement level of 88.88%. Of the 3 indicators, 2 indicators have been achieved, namely, the indicator of households that have access to electric lighting and the ease of people communicating via cellular. There is 1 indicator that is not yet optimal, namely the indicator of facilities for getting public wifi. Providing access to public wifi is considered necessary because it will help people access information more easily.

Strategy for Improving Telecommunication Aspects in Tanjungbalai City:

- a. Improving the quality of electricity services and repairing electricity network infrastructure
- b. Provision of public wifi facilities at several community activity centers for easy access to information.

8. Transportation Aspects

In the transportation aspect with a score of 10/15 with an achievement level of 66.67%. Of the 5 indicators, 1 indicator has been achieved, namely public transportation access. There are 3 indicators that are not optimal, namely road connectivity, road safety, and road congestion. There is 1 indicator that has not been achieved,

namely the availability of sidewalks in good condition for pedestrians. This condition shows that there is public doubt and concern about the condition and maintenance of pedestrian infrastructure in Tanjungbalai City.

Transportation Aspect Improvement Strategy in Tanjungbalai City:

- a. Creating a comfortable pedestrian network with the support of green corridors and road medians to improve connectivity for pedestrians.
 - b. Providing safe, accessible and sustainable transport access
 - c. Construction and maintenance of pedestrian paths for the comfort of people walking on the sidewalk.
 - d. Optimization of road construction/rehabilitation and reconstruction programs in the Tanjungbalai City area so that the percentage of roads in good condition increases.
9. Spatial Aspects

In the spatial planning aspect with a score of 4/6 with an achievement level of 66.67%. Of the 2 indicators in the spatial planning aspect, both received a less than optimal assessment, namely the street vendor arrangement indicator and public satisfaction with the arrangement of Tanjungbalai City. This shows that there needs to be improvement in the arrangement of Tanjungbalai City and the arrangement of street vendors in urban areas to be in accordance with the expectations of the people of Tanjungbalai City.

Spatial Planning Aspect Improvement Strategy in Tanjungbalai City:

- a. Creating a master plan for arranging street vendors to create a comfortable and tidy city environment
- b. Optimization of building and environmental planning programs

10. Clean Water Aspects

In the clean water aspect with a score of 3/6 with an achievement level of 50%. Of the 2 indicators in the clean water aspect, there is 1 indicator that is not optimal, namely the ease of obtaining clean water in Tanjungbalai City. There is 1 indicator that has not been achieved, namely the indicator of the proportion of households that have clean drinking water. This shows that the people of Tanjungbalai City still have difficulty in terms of access to clean drinking water, and there are still many people who have not had access to clean drinking water. This requires strategic steps and more intensive planning in the development of drinking water infrastructure.

Clean Water Improvement Strategy in Tanjungbalai City:

- a. Maturation and strengthening of the Drinking Water Supply System (SPAM) program with a focus on increasing the availability and quality of drinking water for the community.
- b. Regular maintenance of drinking water distribution pipes to avoid pipe leaks and maintain the quality of the distributed water.

11. Educational Aspects

In the education aspect with a score of 7/9 with an achievement level of 77.77%. Of the 3 indicators, 1 indicator has been achieved, namely the indicator of ease of access to education. There are 2 indicators that are not yet optimal, namely the number of educational facilities and satisfaction with educational facilities. This requires strategic steps and more intensive planning in the development of educational facility infrastructure in Tanjungbalai City.

Strategy for Improving Educational Aspects in Tanjungbalai City:

- a. Providing educational facilities distributed throughout the city with the aim of ensuring smooth educational activities.
- b. Supporting programs to ensure openness and accessibility for all levels of society without discrimination in obtaining quality basic education services.
- c. Supporting programs to improve facilities and infrastructure through the rehabilitation of buildings, laboratories, libraries and other supporting infrastructure.

Another strategy that can be implemented to improve the quality of livability in Tanjungbalai City is by considering the principles of sustainability and integration between economic, social and environmental aspects.

Improving the quality of livability in Tanjungbalai City by considering the principles of sustainability requires a comprehensive and integrated approach, involving a balance between economic, social, and environmental aspects. A sustainable city must be able to provide a good quality of life for its citizens without damaging natural resources or exacerbating social inequality. Here are some strategies that can be applied to achieve this goal.

1. Sustainability-Oriented Urban Planning

The first strategy that can be implemented is sustainability-oriented urban planning, by integrating economic, social, and environmental aspects in every stage of development. Good planning must involve active

community participation in every planning process, from urban spatial planning to policy implementation. Urban spatial plans that prioritize the principle of sustainability can include clear zoning between residential, commercial, industrial, and green open spaces (RTH). Sustainability-based planning will prevent the conversion of green open spaces into uncontrolled development areas. In addition, residential areas must be designed by considering access to public facilities, including education, health, and green open spaces, to improve the quality of life of its residents.

2. Inclusive and Environmentally Friendly Basic Infrastructure Improvement

Improving basic infrastructure that is environmentally friendly and inclusive is essential to improving the quality of livability in Tanjungbalai City. Basic infrastructure such as transportation systems, clean water, sanitation, and waste management must be given serious attention. In this regard, developing an efficient and sustainable transportation system—including an environmentally friendly public transportation network and improving road quality—can reduce congestion, reduce air pollution, and increase citizen mobility. Improving clean water management and good sanitation is essential, especially in peri-urban areas with limited access. Developing an effective drainage system should also be prioritized to reduce the risk of flooding and the impacts of climate change. In addition, better waste management by utilizing recycling technology and reducing plastic waste can help create a clean and healthy environment.

3. Development of Green Open Space (RTH) and Green Infrastructure

One important strategy to improve the quality of livability is the development of more green open spaces (RTH) that are accessible to the community. Green open spaces have many benefits, such as improving air quality, providing space for recreation, and improving the balance of the city's ecosystem. Tanjungbalai City can design city parks, green lanes, and city forests as part of efforts to create a friendlier and healthier environment. In addition, the implementation of green infrastructure, such as rooftop gardens and city gardens, can also be implemented in densely populated areas. This green infrastructure will help in managing rainwater, reducing air pollution, and creating a better microclimate for the city.

4. Social Empowerment and Improving the Quality of Community Life

Improving the quality of livability must also pay attention to social aspects by strengthening community empowerment. This social empowerment includes increasing access to education, skills training, and increasing quality employment. Empowered communities will be better able to contribute to city development and have a better quality of life. Community involvement in urban space planning and management can increase a sense of ownership and responsibility for the surrounding environment. The city government must also encourage the involvement of the private sector and community organizations in sustainable development, so that harmonious collaboration between various parties is created. In addition, policies to reduce social inequality through more equitable allocation of resources are essential to creating social justice in the city. Equitable development that pays attention to more vulnerable or poor community groups will help create social balance in Tanjungbalai City.

5. Application of Technology to Improve Resource Efficiency

The application of technology in city and infrastructure management can also contribute to improving the quality of livability in a sustainable manner. Smart technology or "smart cities" can be applied to monitor and manage the use of energy, water, and transportation more efficiently. The use of technology for waste management, water management, and air pollution monitoring can help reduce negative impacts on the environment. Technology can also be used to optimize public transportation systems, such as using applications to manage public transportation schedules and capacity, and reduce congestion. Innovations in renewable energy technologies, such as solar panels and wind energy, can also be integrated into infrastructure development to reduce dependence on fossil fuels that are not environmentally friendly.

6. Adaptation to Climate Change and Urban Resilience

Another important strategy is strengthening the city's resilience to climate change. Tanjungbalai City must prepare itself for potential climate change impacts, such as floods, droughts, and heat waves. Development plans must include climate change mitigation and adaptation measures, including the development of disaster-resistant infrastructure, increasing drainage capacity, and preserving green areas that serve as buffers for natural disasters. The application of environmentally friendly technologies that can reduce greenhouse gas emissions and improve natural resource management will increase the resilience of cities to climate change. Cities must also design policies that support sustainable natural resource management, including protection of coastal ecosystems and protection of

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biodiversity. To improve the quality of livability in Tanjungbalai City in a sustainable manner, it is necessary to implement strategies that include integrative and sustainability-based urban planning, improving environmentally friendly basic infrastructure, developing green open spaces, social empowerment, implementing advanced technology, and adapting to climate change. By integrating economic, social, and environmental aspects in every development policy and program, Tanjungbalai City can create a livable, healthy, and sustainable environment for all levels of society.

CLOSING

Conclusion

In an effort to realize a sustainable Tanjungbalai City, it is important to integrate city planning with sustainability principles that cover social, economic, and environmental aspects. The local government has an important role in formulating policies and regulations that support sustainable city management, such as providing environmentally friendly basic infrastructure, managing green open spaces, and improving the quality of community life. Meanwhile, the community also has an equally important role in supporting the sustainability of the city through active participation in decision-making, implementing sustainability principles in daily life, and monitoring the policies implemented. Synergy between the government and the community is the key to creating a more livable, healthy, and environmentally friendly Tanjungbalai City.

Suggestion

1. Increasing Public Participation: There is a need to increase public participation in city planning and management, such as through public consultation forums, to ensure that policies implemented are in line with citizens' needs and expectations.
2. Strengthening Sustainable Infrastructure: Local governments need to focus on developing environmentally friendly infrastructure, such as efficient public transportation systems, waste management, and sustainable water and energy management.
3. Increasing Green Open Space (RTH): Developing and maintaining more green open space (RTH) that is accessible to the public to improve air quality and provide healthy public spaces.
4. Implementation of Environmentally Friendly Technologies: The government and society must encourage the implementation of environmentally friendly technologies to reduce the impact of pollution, improve natural resource management, and increase energy efficiency.
5. Education and Extension: Community education and extension programs are needed to increase awareness of the importance of sustainability and their role in preserving the environment.

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