

Sambaliung Area Development with a Waterfront City Concept

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ABSTRACT: This research focuses on community assessment, support, and expectations of physical, social, economic, and environmental changes resulting from the implementation of the waterfront city concept. This research uses a descriptive quantitative approach with a Likert-scale questionnaire distributed to the community, supported by interviews and field observations. The results show that the majority of the community supports the development of a waterfront city because it is considered to improve environmental quality, improve infrastructure, and open new economic opportunities based on tourism and micro, small, and medium enterprises. However, there are concerns about environmental pollution, unequal access, and the sustainability of area management. These findings emphasize the importance of community participation in area planning, so that development directions can be more contextual and inclusive

KEYWORDS: Sambaliung, Development, Public Perception, Waterfront City

I. INTRODUCTION

Waterfront City is a term for an area that is part of a city on the water's edge, whether it be the coast, river, or lake area (Senasaputro, B. B., & Widiangkoso, G. E., 2024). Waterfront city development must essentially be carried out in accordance with the character and uniqueness of the area, both physical and non-physical aspects. The waterfront area is the meeting point between land and water, which often experiences erosion/abrasion and siltation due to excessive sediment. Hydrologically, the waterfront area is a tidal area that is prone to flooding. Therefore, it is necessary to create a waterfront protection structure, especially if reclamation is carried out. In terms of land use, the area has a close relationship between water and elements in the city. Economically and socio-culturally, the waterfront has advantages over other areas, namely being able to become a center of economic growth, a place for tourism, and environmental conservation (Zain, I. A. A., 2022). The waterfront city concept is an effort to organize and develop coastal areas that have diverse activities with high urban area intensity including housing, port, industrial and trade functions to tourist areas (Mahardika, A. R., Purnamasari, W. D., & Surjon, 2022).

The Sambaliung area in Berau Regency has unique characteristics due to its strategic position on the banks of the Kelay River and the presence of the Sambaliung Palace as a cultural heritage that represents the history and identity of the local community. The Kelay River has long served as a transportation route, a center of economic activity, and a space for social interaction that shapes the surrounding settlement patterns, allowing this area to develop with integrated historical, cultural, and ecological values.

However, amidst the dynamics of regional growth and changes in land use, this strategic potential has not been fully managed optimally and sustainably, both in terms of preserving cultural heritage, riverbank spatial planning, and developing cultural and environmental-based tourism. This condition has given rise to problems related to environmental degradation, a lack of integration between heritage areas and public spaces, and the suboptimal utilization of local economic potential. Therefore, regional planning is needed that can maintain the historical value of the Sambaliung Palace while optimizing the strategic function of the Kelay Riverbank as a public space and a leading destination in Berau Regency.

The waterfront city concept is an alternative development that is expected to harmonize ecological, social, cultural, and economic functions (Berhиту, P. T., Boreel, A., Botandri, A., 2025). The success of this concept's development is largely determined by the perception and support of the local community. Public perception is important because they are the primary users of the area and those directly impacted by change.

Morphologically, the Sambaliung Urban Area is surrounded by water. Located close to the coast and the Kelay River, the Sambaliung Urban Area offers significant potential for urban development overlooking the water. The waterfront city concept is suitable for urban development in the Sambaliung Urban Area. The Regional Government can develop recommendations for developing the resource potential of the Sambaliung Urban Area.

II. METHOD

The type of research used is mixed methods research with a descriptive quantitative approach supported by qualitative data (Setiawan, B, Rudiarto, I., 2016). The quantitative approach was carried out through the distribution of questionnaires, while the qualitative approach was carried out through in-depth interviews and field observations. Data collection techniques consist of primary data obtained from direct observation, distribution of Likert-scale questionnaires, and interviews with the community and related stakeholders, and secondary data derived from scientific literature documents, and previous studies on waterfront cities.

The population of this study was all residents of the Sambaliung area. The sample was determined using a purposive sampling technique, including residents aged at least 20 years and residing in neighborhoods 2 to 12. The sample size was determined based on a representative questionnaire distribution. The variables in this study are the characteristics or values of objects, such as communities or activities, which are subject to various criteria and will be studied by the researcher to draw conclusions. The research variables include:

- Physical aspects, including land use, building form and massing, circulation and accessibility, pedestrian paths, signage, activity support facilities, open spaces, and preservation.
- Non-physical aspects, including social, economic, and cultural conditions.
- Comfort aspects, including security and safety, cleanliness, and aesthetics.
- Level of support.
- Level of expectation.

Data analysis techniques include frequency tabulation, validity testing, and Likert scale scoring (Sanaky, M, M., Saleh, L, M., & Titaley, H, D., 2021), to measure public perception, support, and expectations. Qualitative analysis is carried out through data reduction, data presentation, and drawing conclusions to support quantitative results.

III.RESULT

The Sambaliung area is part of the Tanjung Redeb urban area in Berau Regency, East Kalimantan Province. It is located at coordinates 2°09' N - 2°14' N and 117°27' E - 117°32' E. Administratively, the Sambaliung area covers an area of approximately 81.93 km² and is located in the northern part of Berau Regency. Its administrative boundaries are as follows: Suaran Village to the north, Maluang Village to the east, Gunung Panjang Village to the south, and Labanan Makmur Village to the west.

According to data from the Berau Statistics Center, the Sambaliung area has a population of 17,318 people, consisting of 5,853 families. In this study, the Sambaliung area included in the research administrative boundaries is RT 01, RT 02, RT 03, RT 04, RT 05, RT 06, RT 07, RT 08, RT 09, RT 10, RT 11, and RT 12.



Figure 1. Worship facilities in the Sambaliung area



Figure 2. Office facilities in the Sambaliung area



Figure 3. Sambaliung Palace

The area around the banks of the Sambaliung River has great potential for development into an integrated and sustainable waterfront city. Based on development type, this area can be categorized into several main development types: recreational, commercial, residential, and environmental conservation.

Recreational development can be realized through the arrangement of public open spaces such as parks, pedestrian paths, and water sports facilities that attract tourists and local communities to enjoy the river as an active public space. Commercial development in riverside areas, including shopping centers, cafes, and business spaces, utilizes river views as a primary attraction, thereby supporting economic activity and increasing investment value in the area. Residential development, including residences overlooking the river, is designed with environmentally friendly and aesthetic concepts, offering a better quality of life and reducing pressure on dense urban areas. Environmental conservation development is a crucial aspect of maintaining river ecosystems, through implementing strict waste management and reforesting riverbanks.

The combination of these development types creates a waterfront area that not only enhances economic and social value but also maintains the ecological balance around the Sambaliung River, making the area an ideal model for urban development based on natural resources and local wisdom.

The overall results of the interpretation of questionnaire categories from the perception of physical and non-physical assessments of community comfort (security, cleanliness, safety).

Table 1 Overall scoring of Likert scale questions

No.	Average score	Category	Information
P1	2,52	Don't agree	Dissatisfied with the road conditions in the Sambaliung area.
P2	2,44	Agree	Dissatisfied with the road conditions in the Sambaliung area.
P3	2,44	Agree	Quite satisfied with the availability of zebra crossings.
P4	3,08	Don't agree	Dissatisfied with the pedestrian path over the drainage.
P5	2,79	Don't agree	Dissatisfaction with the safety of pedestrian paths for children/people with disabilities.
P6	3,27	Strongly disagree	Very dissatisfied with the lighting of the river path.
P7	2,67	Don't agree	Dissatisfied with the condition of the river pier.
P8	3,33	Strongly disagree	Very dissatisfied with community waste management.
P9	2,98	Don't agree	Dissatisfied with the cleanliness of the Kelay River.
P10	2,89	Don't agree	Dissatisfied with the condition of the surrounding buildings.
P11	2,65	Don't agree	Dissatisfied with the arrangement of micro, small and medium enterprises and surrounding parks.
P12	2,77	Don't agree	Dissatisfied with the provision of public facilities.
P13	2,10	Agree	Quite satisfied with the provision of public facilities.
P14	2,77	Don't agree	Dissatisfied with the provision of parking space.

Based on the results of a questionnaire conducted with 85 respondents, public assessments of the condition of the Sambaliung area tend to be positive, but with several critical points. Regarding the comfort of public facilities, 75.3% of respondents expressed dissatisfaction with the availability of benches, trash cans, and public toilets, while only 24.7% considered these facilities adequate. This indicates that basic

facilities supporting community activities are still very limited.

Regarding supporting facilities, 63.5% of respondents considered worship, health, and education facilities to be adequate, although 36.5% still believed their quality did not meet community needs. Meanwhile, accessibility infrastructure, such as the quality of roads, pedestrians, and lighting, received varying ratings. Most respondents considered these infrastructure conditions to be unsafe and uncomfortable, necessitating comprehensive quality improvements.

Thus, it can be concluded that the public's generally positive assessment of the area's development direction indicates a good level of social acceptance of the planned development and revitalization. This indicates that the development vision is considered to align with the needs and expectations of residents, both from an economic and social perspective, as well as with preserving the area's identity. However, the public's emphasis on the urgency of improving physical infrastructure and environmental comfort reveals a gap between the planning concept and existing conditions on the ground. Issues such as the quality of basic infrastructure, public space planning, accessibility, cleanliness, and environmental safety and aesthetics indicate that successful development is determined not only by strategic policy direction but also by concrete technical implementation responsive to the community's daily needs.

Public expectations for the implementation of the waterfront city concept show a very positive trend. 55.3% of respondents strongly agreed, and 44.7% agreed, that the area's development should embrace a local nuance that reflects the history and culture of Sambaliung. More specific support was seen for the designation of the Sambaliung Palace as a regional symbol, with 94.1% of respondents supporting the idea. Beyond cultural aspects, there are also strong hopes for the economic aspect. Over 90% of respondents stated that the waterfront city development is expected to boost the local economy and create new job opportunities. Expectations for public facilities were also prominent, including the provision of bicycle lanes (88.2%), ferry taxi boats (83.5%), and area information boards (88.2%). Furthermore, in terms of the environmental aspect, 85% of respondents hope that the development of the area can minimize the risk of flooding and maintain the quality of the Kelay River ecosystem.

Table 2 Overall scoring of the Likert scale of community expectations

No	Average score	Category	Information
H1	1,45	Strongly agree	Really looking forward to local nuanced development
H2	1,50	Strongly agree	Really hope that Keraton Sambaliung will be a cultural symbol
H3	1,45	Strongly agree	Really looking forward to development for the people's economy
H4	1,55	Strongly agree	Strongly supports the development of water tourism
H5	1,72	Strongly agree	Really looking forward to the attention to the traditional festival
H6	1,68	Strongly agree	Really looking forward to the provision of bicycle lanes
H7	1,64	Strongly agree	Really hope to provide a ferry taxi boat
H8	1,49	Strongly agree	Really looking forward to the provision of signage/information boards
H9	1,61	Strongly agree	Really hoping for a flood mitigation program
H10	1,45	Strongly agree	Really looking forward to the development of water tourism

Overall, community expectations reflect a desire for waterfront city development that focuses not only on physical aspects, but also on strengthening cultural identity, improving the local economy, and environmental sustainability. Thus, community aspirations demonstrate a clear orientation toward inclusive, contextual, and sustainable regional development.

Community support for the waterfront city development plan in Sambaliung is very strong and demonstrates a near-total level of social legitimacy. All respondents (100%) expressed approval of the plan, with 68.2% strongly agreeing and 31.8% agreeing. The absence of respondents rejecting or expressing doubt indicates that the concept is not only generally accepted but also enjoys a high level of public trust and optimism.

The predominance of strongly agreeing indicates that the support expressed is active, not merely passive, approval. This can be interpreted as positive community expectations for the development's impacts, both from an economic perspective (increased business and employment opportunities), social (improved public space quality), and

spatial and environmental (more organized and representative area planning).

Thus, these findings not only reflect community acceptance but also serve as an indicator of social readiness for regional transformation. This high level of social legitimacy can serve as a strong foundation for local governments to proceed with more progressive planning and implementation, while maintaining participatory and transparent principles to maintain this high level of support.

Table 3 Overall scoring of the Likert scale of community support

No.	Average score	Category	Information
H11	1,36	Strongly agree	Strongly supports the development of the waterfront city concept in the Sambaliung area
H12	1,32	Strongly agree	Strongly supportive and ready to participate in the development of the Sambaliung Area
H13	1,35	Strongly agree	Strongly support any changes that will occur in developing the Sambaliung Area

This support is also reflected in their readiness to participate. A total of 68.2% of respondents stated they were very ready to be actively involved in the planning and development process, while 31.8% of respondents agreed to participate. Furthermore, regarding their readiness to accept change, 64.7% of respondents strongly agreed and 35.3% of respondents agreed. This data indicates that the community is not merely offering passive approval but is demonstrating a real commitment to participating in the development of the waterfront city.

The research results show that the Sambaliung community's perception of the implementation of the waterfront city concept is dominated by positive assessments, full support, and high expectations for the direction of the area's development. These findings indicate significant social readiness to accept more targeted spatial changes. However, several critical points also emerged, particularly regarding the limited public facilities and potential environmental impacts. Community assessments, which still highlight the limited availability of basic facilities, such as trash cans, pedestrian walkways, and street lighting, emphasize the importance of improving infrastructure quality to support the waterfront city concept. The success of waterfront development depends heavily on the provision of safe, comfortable, and easily accessible public facilities for all levels of society. Thus, even though public assessment tends to be positive, technical and infrastructure aspects are still a priority that needs to be

addressed immediately (Yudhaa, W, M, T., & Aulia, D, N., 2019).

The full support shown by all respondents demonstrates strong social legitimacy for the implementation of waterfront cities. This support is not merely symbolic, but also demonstrated through a willingness to actively participate in the planning and implementation process of development. This situation confirms the view that community participation is a key factor in managing water resource-based areas (Arkam, 2022). Community involvement from the early stages not only increases policy legitimacy but also increases the chances of success of development programs.

Community expectations oriented towards strengthening cultural identity, improving the local economy, and protecting the environment emphasize the need for a sustainable and inclusive development approach. The aspiration to make the Sambaliung Palace a regional symbol demonstrates the community's desire to integrate historical aspects with modernization. The emphasis on the importance of local nuances in waterfront city development in various regions across Indonesia (Safitri, R., 2022).

From an economic perspective, public expectations for increased business and employment opportunities through cultural tourism, culinary delights, and micro, small, and medium enterprises emphasize the role of waterfront cities as drivers of local economic growth. These economic opportunities must be balanced with equitable spatial planning policies to prevent social inequality or the privatization of public space (Zain, I, A, A., 2022).

From an environmental perspective, community aspirations to reduce flood risk and maintain the quality of the Kelay River ecosystem emphasize the importance of the principle of sustainability. Management of river-based areas must be based on a balance between ecological function and development interests (Arkam, 2022).

CONCLUSIONS

Public assessment of the waterfront city implementation shows a positive trend, noting that despite limited public facilities and infrastructure, the development of the area can improve physical, social, and environmental conditions. However, improvements to basic infrastructure are still needed. Public support for the waterfront city development is very high, not merely passive but also accompanied by a readiness to actively participate in the planning and implementation process. Community expectations are oriented towards strengthening cultural identity, particularly through the Sambaliung Palace, improving the local economy based on MSMEs and tourism, and protecting the environment to reduce flood risk and preserve the Kelay River ecosystem.

The local government needs to prioritize improving public facilities and basic infrastructure as a first step in waterfront city development. Public participation must be systematically

accommodated at every stage of planning and implementation. The area's development should emphasize the principle of environmental sustainability, particularly in maintaining the quality of the Kelay River and reducing flood risk. Local cultural identity, particularly the Sambaliung Palace, needs to be promoted as the region's primary symbol to ensure that the waterfront city development remains contextual and attractive to cultural tourism.

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