

# Analysis of Collective Memory of Waterfront City Transformation in Pangururan, Samosir Regency

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## Abstract

This study aims to analyze the forms and meanings of collective memory among the community regarding changes in the Waterfront City area in Pangururan, Samosir Regency. As a strategic tourist area of Lake Toba, Pangururan has experienced significant transformations in physical, social, and cultural aspects, which in turn affect the local community's identity. The research employs a qualitative approach with SWOT analysis to identify the strengths, weaknesses, opportunities, and threats in preserving local cultural values amid the dynamics of waterfront development. Data were collected through field observations, interviews with community leaders, and visual documentation of urban physical elements such as monuments, pedestrian pathways, and public facilities.

The results indicate that the area's main strengths lie in its rich cultural narratives and active participation of the local community, while its weaknesses include the lack of an integrated interpretation between historical heritage and modern tourism development. Waterfront revitalization has proven to strengthen social relations and create reflective spaces that sustain the community's collective memory of their cultural identity. The study concludes that waterfront city revitalization should consider collective memory as a foundation for sustainable planning. Consequently, collaboration among local government, academics, and the community is key to maintaining a balance between modernization and the preservation of local cultural identity.

**Keywords:** Collective Memory, Spatial Transformation, Waterfront City, Pangururan, SWOT Analysis

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## Introduction

Waterfront city areas are a critical element in urban development as they integrate ecological, social, and economic functions oriented toward waterfront zones [1]. In the context of sustainable development, a waterfront city serves not only as a public space but also as a symbol of the city's identity, reflecting a harmonious relationship between humans and the environment. Pangururan, in Samosir Regency, exemplifies a region with significant potential for waterfront city development due to its strategic location along Lake Toba the largest volcanic lake in the world and a nationally prioritized tourist destination [2]. This area holds not only economic value but also embodies the social and cultural values of the Batak Toba community, which have been shaped over centuries around the lake.

Over the past two decades, the waterfront city area in Pangururan has experienced substantial physical and social transformations. Increased tourism activities, the construction of commercial facilities, and the development of public spaces along the lake have altered the structure and function of the area [3]. Spaces that were once sites of local social interaction have gradually transformed into modern economic and tourist zones. These changes have indirectly influenced how the community interprets space, recalls past experiences, and assesses the transformations occurring around them. This process is closely related to the concept of collective memory, defined as shared social memory formed through experiences, interactions, and traditions passed down across generations [4].

Studies on waterfront cities have often focused on urban planning and architectural perspectives. Hoyle [5] emphasizes that waterfront revitalization requires a balance between economic function, aesthetics, and cultural preservation. Bruttomesso [6] also highlights the importance of engaging local communities in planning and managing waterfront areas to ensure social sustainability. However, most research has concentrated on the physical and economic aspects of these areas, while social dimensions particularly concerning collective memory and spatial identity remain underexplored. Meanwhile, Halbwachs [7], through his concept of collective memory, asserts that social memory is a construction formed through shared experiences and intrinsically tied to space. This view is further supported by Assmann [8], who argues that collective memory plays a vital role in maintaining continuity in cultural identity.

Against this background, the present study aims to address existing gaps by integrating social and spatial analyses of waterfront city transformations in Pangururan. This approach not only examines physical changes in the area but also seeks to understand how local communities remember, interpret, and respond to these spatial changes. The novelty of this research lies in linking the concept of collective memory with the contextual dynamics of waterfront city transformation in the Lake Toba region. Through this analysis, it is expected that new insights will emerge regarding the relationship between social memory, local identity, and sustainable waterfront development [9].

Specifically, this study aims to analyze the physical and social changes occurring in the Pangururan waterfront city area, identify the forms of collective memory held by the community regarding these spatial transformations, and assess the extent to which collective memory contributes to preserving local identity and guiding development in a manner sensitive to social and cultural values. The findings are expected to provide both conceptual and practical contributions to the formulation of policies and planning strategies for waterfront cities that are grounded in the local socio-cultural context.

## Literature Review

The concept of a waterfront city represents an urban development approach that emphasizes the connectivity between waterfront areas and the social, economic, and cultural activities of the community [10]. Hoyle [11] explains that waterfront areas exhibit complex dynamics that reflect changes in spatial functions and values as the city develops. Meanwhile,

Bruttomesso [12] emphasizes that an ideal waterfront city should not only serve as a recreational center but also as a space of identity representing local history and character.

In the Indonesian context, the waterfront city concept is often adapted for tourism purposes and the revitalization of coastal areas [13]. However, such development frequently results in significant changes to social structures and the environment, which can potentially shift the local community's values. Therefore, a waterfront city is not merely a physical project but also a reflection of the emotional relationship between people and the spaces they inhabit [14].

## **2.1 Collective Memory and Space**

Collective memory is a concept introduced by Maurice Halbwachs [4], emphasizing that individual memory is shaped by the social context and the spaces in which individuals exist. Collective memory enables communities to understand their past through symbols, places, and narratives passed down across generations. In the context of spatial change, collective memory is crucial for examining how people respond to environmental transformations that relate to shared identity [16].

Lefebvre's [17] study on the production of space explains that space is not a neutral entity but rather the result of complex social, economic, and political relations. Consequently, when a waterfront city undergoes changes, the community also experiences shifts in how they remember and interpret that space. This phenomenon often appears through the loss of visual or symbolic elements that previously served as markers of local identity.

## **2.2 Urban Landscape Transformation in Waterfront City Areas**

Changes in waterfront city areas often occur due to development interventions driven by economic and tourism priorities [4]. This transformation leads to the conversion of public spaces into commercial zones, which in turn affects access and the social meaning of the area. Meyer's [19] study shows that urban landscape changes in waterfront zones create ambiguity between public and private spaces, while also posing challenges in maintaining ecological and social balance.

Pangururan, as part of Samosir Regency with high tourism potential and cultural value, experiences similar dynamics. Changes in the waterfront city area here can create conflicts between development needs and the preservation of local identity. In this context, collective memory serves as an important mechanism for understanding how the local community adapts to change while striving to maintain their emotional connection to the space [20].

## **2.3 Theoretical Framework of the Study**

The theoretical framework of this study integrates waterfront city theory with collective memory theory. This approach allows for a comprehensive analysis of spatial changes, not only from physical aspects but also social and cultural dimensions. By using the waterfront city concept, the study examines how spatial transformations occur and the factors influencing them. Meanwhile, collective memory theory is applied to understand how communities reconstruct the identity and meaning of space following these transformations [21].

The integration of these two theories provides a strong analytical foundation for exploring the relationship between space, memory, and identity in the context of changes in Pangururan's waterfront city area. Through this perspective, the study aims to contribute to urban planning research that is more sensitive to the social and cultural values of local communities.

Based on this theoretical understanding, the study adopts approaches and methods tailored to investigate the phenomena of spatial change and the collective memory of the community in depth.

## Research Methodology

This study employs a descriptive qualitative approach aimed at gaining an in-depth understanding of the transformation of the waterfront city area in Pangururan, Samosir Regency, based on the collective memory of the local community. A qualitative approach was chosen because it enables exploration of social meanings, perceptions, and individual experiences in interpreting changes to urban spaces that hold historical and cultural value [20]. Accordingly, the study focuses on understanding the social and spatial context that shapes the identity of the waterfront city area.

The analytical method used is SWOT (Strengths, Weaknesses, Opportunities, Threats), which serves to identify the internal and external conditions of the area as well as the role of community perceptions in driving these changes. SWOT analysis is employed to assess strengths, such as the potential of local cultural identity and historical value; weaknesses, such as the degradation of visual elements and the declining social function; opportunities, including the development of tourism and creative economy sectors; and threats to environmental sustainability and the potential loss of collective meaning attached to the space [21]. This approach allows the analysis to capture not only the physical conditions but also the collective perception of the community regarding changes in the identity of Pangururan's waterfront city [19].

The study utilizes both primary and secondary data. Primary data were collected through field observations and in-depth interviews. Observations were conducted to directly assess the current conditions of the waterfront city area in Pangururan, including changes in spatial layout, accessibility, public space elements, and surviving cultural identity values. Interviews were carried out with local residents, business actors, and local government officials to understand the forms of collective memory held by the community regarding these transformations [22].

Secondary data were obtained from spatial planning documents, academic literature, policy reports, and relevant scientific publications concerning waterfront cities and community collective memory [2], [4], [7], [9]. These sources were used to strengthen theoretical understanding and provide contextual comparisons with field data, making the analysis more comprehensive and multi-layered [23].

The data analysis followed three main steps as proposed by Miles and Huberman [22]: data reduction, data display, and conclusion drawing. First, data reduction involved selecting information relevant to the main research issues. Second, data were presented in descriptive narratives and SWOT tables to facilitate identification of relationships among factors. Third, an in-depth interpretation was conducted on the relationships between SWOT factors and the social and cultural aspects of the community, particularly concerning collective memory and spatial identity [4], [8], [9].

This approach ensures that the SWOT analysis not only assesses the spatial and physical aspects of development but also reveals how the community interprets changes in space within the context of their collective memory of Pangururan's waterfront city. Through this process, the study is expected to provide a scientific contribution to the field of culturally based waterfront city studies and generate more contextual and sustainable policy recommendations for spatial planning in Samosir Regency.

## Results

This study produced empirical findings on how the community in Pangururan forms and maintains collective memory regarding changes in the Pangururan Waterfront City area, Samosir Regency. The research was conducted through field observations, in-depth interviews, and surveys involving 135 respondents, including local residents, tourism actors, and cultural

figures in Kelurahan Pasar Pangururan and Desa Siogung-Ogung. A qualitative method combined with SWOT analysis was employed to understand the relationship between changes in the physical elements of the area, social activities, and the cultural meanings preserved in the community's collective memory.

Spatially, the Pangururan Waterfront City area extends linearly along the shoreline of Lake Toba for approximately 1.5 kilometers. Based on mapping and aerial imagery displayed at information centers at each activity point (Figure 1), the area contains eight main activity nodes connected linearly, such as cultural parks, public plazas, culinary zones, and tourism docks. This spatial pattern illustrates the integration of social, tourism, and cultural spaces, supporting strong visual and spatial connections between the community and the waterfront landscape. The spatial configuration functions not only as a tourism corridor but also as a reflective space that preserves historical narratives and the community's collective memory of water as a source of life and a symbol of cultural identity [2], [20].

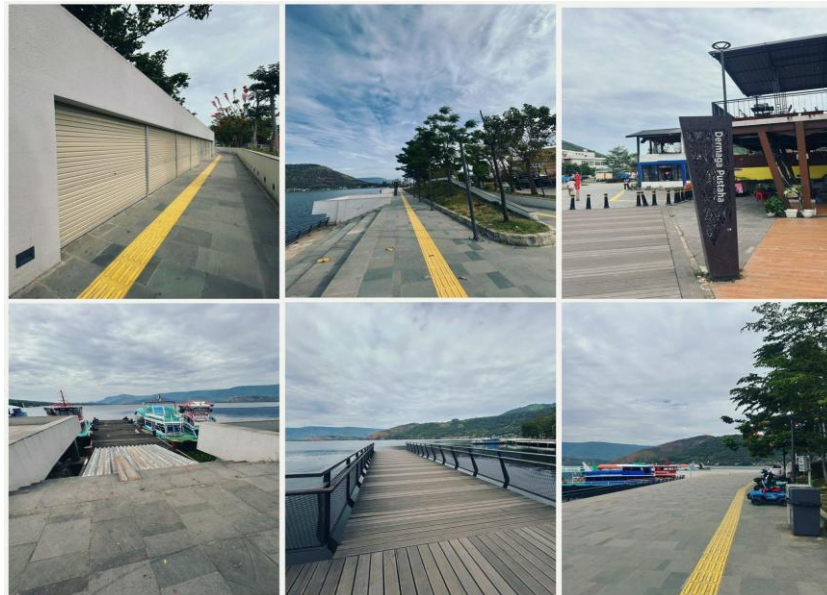


Source: Field Documentation, 2025

**Figure 1.** Map of Pangururan Waterfront City Area

Field observations indicated that the revitalization of the area has successfully enhanced the quality of physical elements and public facilities. Wide pedestrian pathways, tactile paving for accessibility, adequate vehicle parking, and clean public restrooms demonstrate well-managed, visitor-friendly spaces (Figure 2). Additionally, the presence of local culinary kiosks scattered along the main pathway strengthens social and economic interactions among the surrounding community. These conditions show that the physical transformation of the area has not only created a new tourism space but also an adaptive public space that meets the social needs of the local population [17], [19].





Source: Field Documentation, 2025

**Figure 2.** Existing Condition of Pedestrian Pathways and Public Facilities

Cultural elements and local symbols play a crucial role in maintaining the continuity of the community's collective memory. In several points within the area, Batak boat statues, stone plaques with local historical inscriptions, and wooden totems with Batak gorga motifs were observed (Figure 3). These elements serve not merely as visual decorations but also as mnemonic devices cultural reminders that help the community connect the modern space with its historical roots. The presence of these symbols reinforces the identity of the area as a Batak Toba cultural space that is open yet deeply rooted in local tradition [4], [8], [19].



Source: Field Documentation, 2025

**Figure 3.** Cultural Elements and Local Identity in Pangururan Waterfront City

The social dynamics of the community in this area demonstrate how public space functions as a medium for collective expression. Observations show that social activities predominantly occur in plaza areas and around the main dock (Figure 4). Every weekend, the area becomes a hub of activity with events such as traditional music performances, cultural festivals, and family recreational activities. These activities foster social interaction among residents and strengthen local community solidarity. Routine events, such as evening fountain

shows, serve both as visual attractions and as symbols of the sustainability of Pangururan's social identity. This phenomenon illustrates that waterfront public spaces play a key role in sustaining collective memory through repeated social experiences [9], [22].



Source: Field Documentation, 2025

**Figure 4.** Community Social Activities at Pangururan Waterfront City

To reinforce understanding of field findings, a survey was conducted to assess community perceptions regarding changes in the area. The survey employed a descriptive qualitative approach focusing on five main indicators: historical memory, narrative consistency, social participation, perception of physical changes, and local cultural values. The results are presented in Table 1.

**Table 1.** Hasil Wawancara dan Survei Masyarakat terhadap Ingatan Kolektif Kawasan Waterfront City Pangururan

Assessment Aspect	Agree (%)	Neutral (%)	Disagree (%)	Key Notes
Memory of the area's history (traditions, past activities)	72%	18%	10%	Majority of residents still remember the historical narrative of the waterfront and old docks
Alignment of physical changes with local identity	68%	21%	11%	Physical changes are perceived to maintain Batak cultural elements
Role of the area as a social and cultural space	84%	10%	6%	Area is used for cultural, artistic, and community tourism activities
Community involvement in area activities	61%	23%	16%	Active participation in social activities, but not evenly distributed across all groups
Impact of revitalization on residents' sense of ownership	77%	14%	9%	Revitalization enhances pride and attachment to the area

Source: Field interviews, 2025

Percentages were calculated by comparing the number of respondents giving similar answers to the total of 135 respondents. For example, 97 out of 135 respondents ( $\approx 72\%$ ) stated that they still remembered the old narratives regarding the function of the docks, trade, and social life along the waterfront. Although this study is qualitative in nature, converting responses into percentages helps clarify trends in community perceptions and strengthens the description of observed social phenomena [20], [23].

To gain a deeper understanding of the social and spatial dynamics, a SWOT analysis was conducted on the area's condition based on field findings and community perceptions.

**Table 2.** SWOT Analysis of Pangururan Waterfront City

Aspect	Analysis Description	Strengthening Strategy
<b>Strengths</b>	Strong historical and cultural values; complete public facilities; scenic views of Lake Toba; high community participation in social activities.	S–O: Strengthen educational tourism activities based on local culture and historical narratives.
<b>Weaknesses</b>	Lack of promotion of cultural narratives; uneven maintenance; community involvement not yet comprehensive.	W–O: Encourage community training and promote local identity through digital media and cultural events.
<b>Opportunities</b>	Government policy support for Lake Toba revitalization; potential for cultural tourism; economic opportunities for local SMEs.	S–T: Establish zoning regulations and visiting schedules to maintain spatial balance.
<b>Threats</b>	Over-commercialization; environmental degradation; conflicts between investment interests and preservation.	W–T: Foster government–community collaboration to safeguard cultural sustainability and environmental cleanliness.

Source: SWOT Analysis by the author, 2025

The SWOT analysis indicates that the strengths of the area lie in the integration of physical and social aspects that shape the collective spatial identity. The community possesses strong historical awareness and a sense of ownership over the area, while the main threat stems from the potential homogenization of culture due to pressures from commercial tourism. Therefore, the development of the waterfront city should focus on a participatory model based on local cultural values, where the community serves as the primary agent in maintaining and interpreting their own space [9], [17], [22].

Overall, the findings of this study show that changes in the Pangururan Waterfront City affect not only the physical spatial layout but also the social and cultural dynamics of the community. The revitalization of the area has strengthened the relationship between the community and its public space through collective memory, manifested in symbols, social activities, and historical narratives that are continuously updated.

The results also indicate that integrating local cultural elements with social activities aligns with previous research findings. Hoyle [1] emphasized that waterfront revitalization that balances economic, social, and cultural functions can strengthen local identity and expand community interactions. This view is reinforced by Kostopoulou [22], who stated that waterfront areas can function as a creative milieu a space that combines creative economic activities with cultural preservation as reflected in this study through community cultural activities in plazas and public spaces. Moreover, Üzümcüoğlu et al. [23] highlighted that successful waterfront development must consider historical, social, and cultural sustainability,



a dimension clearly evident in this study through local symbols such as Batak boat statues, stone inscriptions, and gorga motifs that reinforce the community's collective memory.

The findings are also consistent with Bryman [19] and Bruttomesso [6], who argued that integrating tourism functions with social spaces can create a new balance between public and private spaces. Mullenbach [26] and planning documents from the Samosir Regency Government [15] further show that community participation and policy support are critical factors in the success of waterfront revitalization in Indonesia. This is consistent with the findings in Pangururan, which demonstrate increased community participation and a strengthened sense of ownership following revitalization.

However, some results diverge from or are less aligned with previous studies. Lagarensen [25], in a study in Manado, found that waterfront revitalization often creates environmental pressures and social conflicts due to an excessive economic orientation. Mullenbach et al. [26] identified that public space revitalization programs can trigger gentrification, reducing participation among lower-middle-class residents. Additionally, Wijaya [27], in research on cultural tourism in Bali, highlighted the risk of cultural commodification and homogenization of local identity due to the commercialization of public space. In this context, the Pangururan findings reveal similar phenomena, as reflected in the "threats" aspect of the SWOT analysis, particularly concerning the potential over-commercialization and unequal community participation.

Thus, this study not only reinforces the conclusions of previous research emphasizing the importance of balancing social, economic, and cultural functions in waterfront development [1], [6], [16], [22]–[24] but also adds a new perspective: the integration of historical values and collective memory can serve as a foundation for more contextually grounded spatial planning that respects local cultural identity. This socially memory-based approach differentiates the Pangururan revitalization from other more commercially oriented cases [25]–[27], while also highlighting the importance of participatory strategies and zoning regulations to maintain the socio-cultural sustainability of the local community.

## Conclusion

This study concludes that the changes in the Pangururan Waterfront City have had a positive impact on strengthening the social and cultural identity of the local community. The revitalization of the area has successfully enhanced the quality of public spaces, expanded social activities, and reinforced the emotional connection of residents with the waterfront environment, which forms part of their collective history. The dimension of collective memory has proven to play a crucial role in shaping how the community interprets space and in maintaining the continuity of cultural values amid modernization.

Furthermore, the SWOT analysis indicates that the primary strengths of the area lie in its rich cultural narratives and active community participation, while the main weaknesses are the lack of promotion and integrated interpretation of historical values. Significant opportunities exist through government policy support and the potential for cultural tourism, whereas threats arise from the risks of over-commercialization and environmental degradation.

The implications of this study underscore the importance of collaboration among local governments, academics, and the community in managing waterfront areas, ensuring that revitalization efforts are not solely economically driven but also oriented toward preserving socio-cultural values. These findings are expected to provide a foundation for developing policies and planning other waterfront areas in Indonesia based on local identity and socio-cultural sustainability.

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