

Revitalization of the Deli River Landscape as a Public Space and Identity Medan City

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ABSTRACT

Urban river revitalization has become an important approach in strengthening public spaces and urban identity. The Deli River, as a major landscape element of Medan City, possesses significant social, historical, and cultural potential; however, its function as a public space has not been optimally developed. This study aims to analyze the revitalization of the Deli River landscape as a public space and its implications for the formation of Medan's urban identity. A mixed-methods approach was employed, combining descriptive quantitative analysis and qualitative analysis using a SWOT framework. Quantitative data were collected through questionnaires distributed to 100 respondents who actively use the riverfront area, while qualitative data were obtained through field observations, brief interviews, and documentation. The results indicate that the Deli River area still functions as an active social space, as reflected by the high intensity of social interactions among users. However, the quality of physical revitalization remains uneven, characterized by limited accessibility, poor environmental cleanliness, and unequal distribution of supporting facilities. In addition, cultural activities along the riverfront are sporadic and lack continuity. The SWOT analysis suggests that successful revitalization of the Deli River requires an integrated approach that combines physical improvement, strengthening of social functions, and community-based cultural development. This study contributes to the discourse on urban river revitalization by highlighting the importance of integrating social, physical, and cultural dimensions in shaping public spaces and urban identity.

Introduction

The city of Medan is one of the centers of economic, social, and cultural activities in Indonesia whose development of urban space is inseparable from the existence of the Deli River as a structural and historical element. In urban contexts, rivers have a strategic role

not only as an ecological system, but also as landscape elements and public spaces that connect the social, cultural, and economic functions of the city (Pratama et al., 2021; Putra & Santoso, 2020). In the past, the Deli River functioned as a mobility corridor, trade space, and social interaction space for the community. However, the acceleration of urban growth has created significant space utilization pressures in the river border areas, thereby changing the character of space from open public spaces to spaces occupied by semi-permanent buildings and informal commercial activities (Marwazi et al., 2023).

These changes in function have a direct impact on the decline in the physical quality of the area, limited public access to the riverbank, and the weakening of the social function of public space. In urban planning theory, public space is understood as an arena that supports social interaction, cultural activities, and the formation of social attachment between citizens. The quality of public spaces is largely determined by the aspects of comfort, accessibility, and order of the space (Tiesdell, Oc, & Heath, 2016). When the physical quality of space decreases due to development pressure or occupation that is not in accordance with its designation, the social function of public space is also eroded (Nuraini, 2011; Nuraini, 2013). This condition is reflected in the border area of the Deli River which has experienced physical degradation and a decrease in the intensity of social activities.

A number of studies show that the structure of space and the quality of open space have a direct influence on the pattern of community activities and social interactions. A well-organized environment tends to encourage more intensive social interaction, while the physical degradation of space will limit social activities and reduce the quality of relationships between citizens (Nuraini, 2019). In terms of regional economy, the pressure of space utilization in strategic areas such as Kesawan to Guru Patimpus often triggers changes in spatial functions that are not in line with spatial planning, thus causing conflicts in space utilization and weakening the function of public spaces (Abdiyanto, 2015). In addition, cultural aspects also play an important role in the dynamics of public space, because cultural activities contribute to the formation of regional identity and the strengthening of social relations of the community (Relph, 1976; Sugiarto, 2019; Sugiarto, 2024).

In the context of revitalizing riverside areas, various studies focus more on physical arrangement aspects, such as the development of *riverwalks*, pedestrian paths, and improving the visual quality of the area (Wardhani, 2022; Khairunisa, Indira, & Syam, 2025). However, research examining the relationship between the quality of physical revitalization, cultural activities, and social functions of public spaces simultaneously is still relatively limited. Research on the Deli River generally focuses on *the heritage* and aesthetic aspects of the area, while the social and cultural dimensions have not been comprehensively studied (Marwazi et al., 2023). In fact, the identity of a place is formed through the interaction between society and space, where sustainable cultural activities play an important role in strengthening the sense of belonging to public space (Relph, 2017).

Based on the research gap, this study proposes an analytical approach that integrates three main variables, namely the quality of physical revitalization as the X1 variable, cultural activities as the X2 variable, and the social function of public spaces as the Y variable. The social function of public space is measured through the level of social

interaction and the continuity of community communal activities. This approach is used to understand the relationship between variables in the context of revitalizing the Deli River border more comprehensively.

The novelty value of this research lies in the effort to relate the physical, social, and cultural aspects of public space in an integrative manner in the context of urban river revitalization, especially the Deli River. In contrast to previous research which tended to be oriented towards physical improvement alone (Nuraini, 2016; Smith & Garcia, 2019), this study places social functions and cultural activities as key elements in assessing the success of revitalization. The Kesawan to Guru Patimpus area was chosen as the research location because it is a segment of the Deli River that experiences the most significant space utilization pressure and has strategic value as a center of history and culture of the city of Medan. The results of the research are expected to make a theoretical contribution to the study of public space and become practical input for local governments in designing a more inclusive and sustainable river revitalization strategy.

Method

Approaches and Types of Research

This study uses a mixed methods approach with descriptive-explanatory. This approach was chosen because the study of the revitalization of riverside areas, especially related to the physical quality of public spaces, cultural activities, and social functions of public spaces, is not intended to test causal relationships, but rather to describe the conditions, relationships, and dynamics between variables in a single spatial unit.

The mixed methods approach is considered appropriate in urban studies because it allows the integration of quantitative data based on community perception with qualitative data that represents the factual, social, and spatial conditions of the region (Abdiyanto, 2020). A quantitative approach is used to describe people's perceptions of the quality of physical revitalization (X1), cultural activities (X2), and social functions of public spaces (Y). Meanwhile, a qualitative approach is used to understand the context, spatial character, and socio-cultural dynamics of the region, which is then strategically analyzed using the SWOT framework (Abdiyanto, 2021).

Research Location

The research was carried out in the border area of the Deli River in the corridor of Kesawan to Guru Patimpus, which includes Kesawan Village (West Medan District), as well as Aur Village and Hamdan Village (Medan Maimun District), Medan City. This area was chosen because it represents the Deli River segment with high pressure on space utilization and diverse social and cultural activity dynamics. In addition to having historical value as part of the Old City of Medan, this area also serves as a relevant strategic public space to be studied in the context of the revitalization of the river landscape and city identity.

Research Conceptual Framework

The conceptual framework of the research is prepared as an analytical tool to understand the relationship between research variables and as a guide in data collection and processing. This framework is not intended to explain the causal relationship, but rather to show the conceptual relationship and functional connection between the quality of physical revitalization (X1), cultural activities (X2), and the social function of public space (Y) in the context of the revitalization of the Deli River border area.

Within this framework, the quality of physical revitalization (X1) and cultural activity (X2) is understood as the shaping and supporting dimensions of the functioning of public space, while the social function of public space (Y) represents the social conditions of space that arise from the interaction between physical elements and cultural activities. This conceptual framework is used to help researchers read the patterns of interdependencies between variables descriptively and contextually. A visual representation of the conceptual framework of the research is presented in Figure 1.

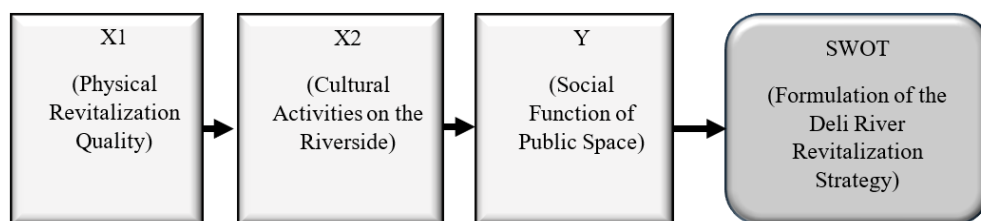


Figure 1. Research Conceptual Framework

Source: Author, 2025

The conceptual framework in Figure 1 shows that the quality of physical revitalization and cultural activities are the two main dimensions related to the social functioning of public spaces in the border area of the Deli River. The quality of physical revitalization (X1) is reflected through the aspects of spatial order, accessibility, cleanliness, comfort, and aesthetics of the area, which simultaneously shape the physical condition of public spaces. Cultural activities (X2) represent the social dynamics that emerge through community activities, art activities, and local traditions that take place in the river area.

The social function of public space (Y) is understood as a condition that reflects the level of space utilization, social interaction, and community's sense of belonging to the area. In the context of this study, social function is not positioned as an outcome variable, but as an **indicator of the functioning of public spaces** which is read simultaneously with physical conditions and cultural activities. The results of the reading of the relationship of the three variables are then used as the basis for a SWOT analysis to formulate a strategy for the revitalization of the Deli River area.

Research Variables and Indicators

The physical revitalization quality variable (X1) is used to describe the condition of public space elements which include accessibility, cleanliness, comfort, spatial order, and quality of public facilities. The preparation of indicators refers to the study of public space and *waterfront* arrangement by Tiesdell, Oc, and Heath (2016), as well as research on *the Deli River riverwalk* by Khairunisa, Indira, and Syam (2025).

The cultural activity variable (X2) is used to describe the intensity and variety of cultural activities that take place in the border area of the Deli River, such as community art activities, social activities, and local traditions. This variable indicator refers to the study of spatial culture by Nuraini (2015) and Sugiarto (2024).

The variable of social function of public space (Y) is used to describe the level of functioning of public space as a space for social interaction and communal community activities. The preparation of these variable indicators is based on the concept *of place* and spatial identity by Relph (2017).

Data Collection and Analysis Techniques

Quantitative data was collected through a five-storey Likert scale questionnaire to space users in the Deli River border area. Purposive *sampling* techniques were used to ensure respondents had direct involvement with regional activities. Quantitative data analysis was carried out descriptively through the calculation of average scores and score distribution to describe public perception of each variable.

Qualitative data were obtained through field observations, visual documentation, and limited interviews with key informants. Qualitative data analysis is carried out using a SWOT approach to identify the internal and external conditions of the region. The integration of quantitative and qualitative data is carried out through data triangulation to obtain a complete understanding of the dynamics of the revitalization of the Deli River border as a public space and part of the identity of the City of Medan.

Results and Discussion

Conditions of Research Locations and Area Overview

The research area is focused on the downstream Deli River corridor that crosses Kesawan Village in West Medan District as well as Aur Village and Hamdan Village in Medan Maimun District, Medan City. The determination of this area aims to provide clear spatial boundaries to the location of observation, distribution of questionnaires, and analysis of research results. The area is part of the Medan Old City area which has a relatively high intensity of urban activities and pressure on space utilization, so it is relevant to be studied in the context of river revitalization as a public space. The spatial boundaries of the research area are shown on the map of the research area in the following figure.

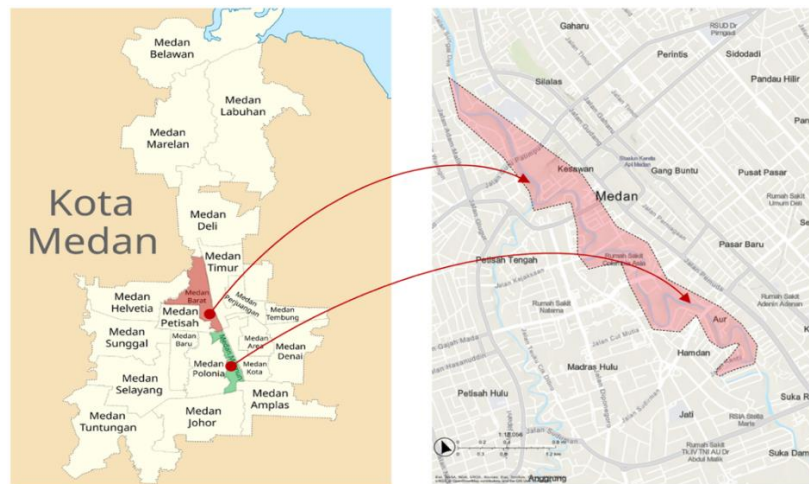


Figure 2. Map of the Research Scope Zone in the Deli River Corridor, Medan City
Source: Medan City administration map (Wikipedia, 2014) and ArcGIS Online base map (2025), processed by the author.

The map in Figure 2 shows the boundaries of the research area which includes the downstream segment of the Deli River in Medan City, including Kesawan Village in West Medan District and Aur Village and Hamdan Village in Medan Maimun District. This segment of the river is located in an area with a high intensity of urban activities and acts as a center for community movement, trade, and informal social spaces. In this context, the existence of the Deli River has great potential as an element of the city's landscape and public space. However, the existing conditions show that this function is not fully optimal, especially due to the limited physical quality of the space, land use pressure, and lack of management of public spaces at the river border. Therefore, the boundaries of this research area are used as the basis for analysis to assess the extent to which the revitalization of the Deli River can contribute to strengthening the function of public space and the identity of the City of Medan.

To illustrate the existing physical conditions of the research area, the field documentation is presented in Figure 3.



Figure 3. Existing Physical Conditions of the Deli River Boundary in the Research Area

Source : Results of researcher analysis, 2025

Based on Figure 3, it can be seen that the physical condition of the Deli River border has not been fully organized as a public space. The riverbank is still dominated by physical structures that are not designed for public activities, with a lack of supporting elements such as continuous pedestrian paths and open spaces that can be accessed directly by the public. This condition shows that the function of the river border as a public space has not been formed optimally.

In addition to the limitations of physical quality, the results of field observations also show that there are problems with space utilization in the form of land occupation along the river border. The existence of buildings that are too close to the river bank and even enter the river body causes narrowing of public space and has the potential to pose safety risks and degradation of the river environment. The condition of land occupation on the river border is shown in Figure 4.

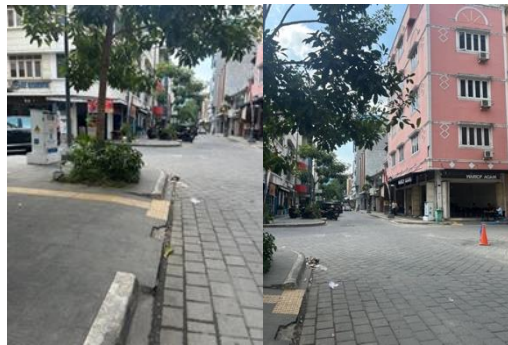


Figure 4. Land Occupation at the Deli River Border

Source : Results of researcher analysis, 2025

Figure 4 shows that the use of space at the river border tends to be informal and not in accordance with the function of protecting the river border. Buildings and activities located very close to the riverbank reduce space for public activities and hinder efforts to revitalize the river landscape in a sustainable manner. From the aspect of accessibility, observations show that access to the banks of the Deli River is still very limited. In most segments, people can only access the river through narrow lanes around residents' homes or certain points that are not designed for public access. This condition causes a disconnect between urban space and the river as the main landscape element. The conditions of accessibility to the riverbank are presented in Figure 5.



Figure 5. Limited Accessibility to the Deli Riverbank

Source : Results of researcher analysis, 2025

Based on Figure 5, it can be seen that access to the riverbank has not been designed in an inclusive and user-friendly manner. This limited access has a direct impact on the low intensity of the use of riverside space as a formal public space, even though the surrounding area has high urban activity. Community activities in the research area lasted almost all day with varied patterns. In the morning, this area is dominated by community movement activities towards work and school. During the day, trade and service activities increase and often lead to traffic congestion. Meanwhile, in the afternoon until night, the Kesawan area and its surroundings became a gathering space for people, especially the younger generation, who took advantage of informal public spaces to interact socially. The social activities of the community in the research area are shown in Figure 6.



Figure 6. Community Social Activities in the Deli River Area

Source : Results of researcher analysis, 2025

Figure 6 shows that even though the physical quality of public spaces is not optimal, the Deli River area is still used as a space for social interaction by the community. This confirms that socially this area has strong potential, but it needs support for better physical arrangement and spatial management so that these social functions can develop sustainably. From the aspect of supporting facilities, conditions in the research area show significant differences between segments. In the Kesawan and Jalan Guru Patimpus areas, facilities such as street lighting and seating areas are relatively better than other segments. This is related to the role of the area as a center of commercial activities and a gathering

space for the community. The condition of the supporting facilities of public spaces is presented in Figure 7.



Figure 7. Public Space Supporting Facilities in the Kesawan Area and Surrounding Areas

Source : Results of researcher analysis, 2025

Based on Figure 7, it can be seen that the existence of supporting facilities contributes to the intensity of public space utilization, especially at night. However, these facilities have not been evenly distributed throughout the Deli River segment, so the quality of public space is still uneven between locations.

Overall, the existing conditions of the research area show a discrepancy between the potential of the Deli River as a public space and the actual conditions in the field. Limited access, the existence of land occupation, low quality of cleanliness, and inequality of facilities are the main factors that affect public perception of the social function of public spaces and the quality of physical revitalization of river areas. These findings are an important basis for interpreting the results of the questionnaire and qualitative analysis that will be discussed in the next subsection.

Respondent Characteristics and Overview of Questionnaire Results

This section presents an overview of the research respondents as well as the initial trends of the questionnaire results. The presentation of respondent characteristics aims to provide a social context to the results of the perception obtained, so that the interpretation of quantitative data can be understood more comprehensively according to field conditions.

The respondents in this study amounted to 100 people, who were people and users of public space in the Deli River area in the Kesawan corridor to Jalan Guru Patimpus. Respondents' characteristics included age, gender, domicile, and type of space users, which illustrated the diversity of social backgrounds as well as the level of involvement of respondents in the research area.

The characteristics of respondents based on gender, domicile, and type of space users are presented in Table 1.

Table 1. Characteristics of Research Respondents

Categories	Remarks	Number (people)
Gender	Male	54
	Women	46
Domicile	Central Petisah	17
	Silalas	16
	Aur	14
	Medan Petisah	14
	West Medan	9
	Teacher Patimpus	8
	Convulsions	8
	Teak	6
	Kampung Kesawan	4
	Maimun Field	4
Types of Space Users	Residents	46
	Employees	20
	Merchant	12
	Business Actors	12
	Visitors	10

Source : Results of researcher analysis, 2025

Based on Table 1, the study respondents consisted of men and women with a relatively balanced proportion, which shows that the perception of the Deli River area is not dominated by one particular gender group. In terms of domicile, most of the respondents are domiciled around the research area, especially in Kesawan, Guru Patimpus, and surrounding areas, while some others are visitors from outside the area who use the public space for various activities.

The type of space user shows that respondents come from various backgrounds, including local residents, visitors, and business actors. This diversity enriches the perspectives obtained from the questionnaire because it reflects different experiences of using public spaces, both as a space for daily activities and as a social and economic space.

After understanding the characteristics of the respondents, this section presents an overview of the results of the questionnaire that describes the community's perception of three research variables, namely the social function of public space (Y), the quality of physical revitalization (X1), and cultural activities on the riverbank (X2). The analysis used is descriptive by referring to the mean value of each indicator.

The recapitulation of the average value of respondents' perception of each research variable is presented in Table 2.

Table 2. Average Value of Respondents' Perception of Research Variables

Variable / Indicator	Average Score
Y1 Intensity of Social Interaction	4,10
Y2 Level of Comfort and Security	3,70
Y3 Perception of Community Involvement	3,42
X1_1 Accessibility of Public Spaces	3,30
X1_2 Environmental Hygiene and Aesthetics	2,27
X1_3 Thermal and Visual Comfort	3,31
X1_4 Availability of Supporting Facilities	2,94
X2_1 Frequency of Cultural Activities	1,91
X2_2 Local Community Engagement	2,14
X2_3 Expression of Art and Tradition	1,48
X2_4 Event Sustainability	1,67

Source : Results of researcher analysis, 2025

Based on Table 2, in general, respondents' perceptions show variations between variables. The social function variable of public space (Y) has a relatively higher average value than other variables, which indicates that the Deli River area still functions as a social interaction space for the community, even though the physical quality and facilities are not optimal.

On the other hand, the physical revitalization quality variable (X1) showed an average value that was in the medium to low category, especially in the environmental cleanliness and aesthetics indicators and the availability of supporting facilities. This indicates that efforts to physically organize the river area have not fully answered the needs of the community as a comfortable and safe public space.

The variable of cultural activity on the river bank (X2) had the lowest average value compared to other variables. This low value reflects the lack of frequency of cultural activities, limited involvement of local communities, and the lack of sustainability of cultural activities in the Deli River area. This condition shows that the cultural dimension has not yet become the main driving element in the use of public space in the research area.

An overview of the results of this questionnaire provides a starting basis for a more in-depth analysis in the next subsection. In the next section, the results of the study will be discussed in more detail based on each research variable, by relating quantitative and qualitative findings as well as the existing conditions of the Deli River area.

Results of Analysis of Social Functions of Public Space (Variable Y)

The variable of the social function of public space (Y) is used to assess the extent to which the Deli River border area is able to act as a space for social interaction, provide a sense of comfort and security, and encourage community involvement. The analysis was conducted based on three main indicators, namely the intensity of social interaction (Y1),

the level of comfort and sense of security (Y2), and the perception of community involvement (Y3). The presentation of the results in this section refers to questionnaire data which is reinforced with observational findings and brief interviews in the field.

The recapitulation of the average value of respondents' perception of the indicators of social function in public spaces is presented in Table 3.

Table 3. Average Value of Respondents' Perception of the Social Function of Public Space (Variable Y)

Indicator	Average Score
Y1 Intensity of Social Interaction	4,10
Y2 Level of Comfort and Security	3,70
Y3 Perception of Community Involvement	3,42

Source: Results of the researcher's analysis, 2025

Based on Table 3, the social interaction intensity indicator (Y1) has the highest average value compared to other indicators. This value shows that the Deli River area still functions as a space for social interaction for the community. The results of this questionnaire are in line with field findings that show that people often use the area around the river, especially in the afternoon to evening, to gather, sit together, and interact informally. These activities occur almost every day and reflect the social needs of the community for public spaces, even though the space has not been optimally arranged.

Meanwhile, the comfort and sense of security (Y2) indicator shows a lower average value than Y1. This value indicates that although the Deli River area is often used as a space for social interaction, the level of comfort and sense of security felt by the community is not fully adequate. The results of the short interview showed that some respondents felt uncomfortable being on the riverbank because of the very close distance between the activity space and the river flow, the unprotected physical condition of the riverbank, and the presence of unpleasant odors at several points due to the accumulation of garbage. These factors are barriers to the more optimal use of public space.

The indicator of perception of community involvement (Y3) has the lowest average value among the three indicators of social function of public space. This value shows that the community's involvement in maintaining, managing, and utilizing the Deli River area is still partial. Based on the results of the interviews, there are some people who show concern for the condition of the river and the surrounding environment, but at the same time there are still community groups who do not pay attention to the cleanliness and sustainability of the area. This condition can be seen from the still found garbage in the river body and the lack of sustainable collective initiatives in the management of public spaces along the Deli River.

These findings show that the social function of the Deli River area in general is still running, especially as a space for informal social interaction. However, the low level of comfort, sense of security, and community involvement is an indication that these social functions have not been supported by adequate quality of public space. In other words, the social potential of the river area has been formed, but it has not been accompanied by physical arrangement and spatial management that is able to strengthen and maintain the sustainability of these social functions.

The results of this analysis of the social function of public space are an important basis for understanding the relationship between the physical conditions of the area, cultural activities, and the social dynamics of the community in the Deli River area. In the next subsection, the analysis will focus on the quality of physical revitalization of the area (Variable X1) to see the extent to which the physical aspects of space contribute to the formation of the social function of public spaces.

Results of Physical Revitalization Quality Analysis (Variable X1)

The physical revitalization quality variable (X1) was used to assess the extent to which the physical arrangement of the Deli River border area supports the function of public space. The analysis was conducted based on four indicators, namely accessibility of public spaces (X1_1), environmental cleanliness and aesthetics (X1_2), thermal and visual comfort (X1_3), and availability of supporting facilities (X1_4). The results of the analysis in this section are presented based on questionnaire data which is reinforced by field observation findings and brief interviews.

The recapitulation of the average value of respondents' perception of physical revitalization quality indicators is presented in Table 4.

Table 4. Average Value of Respondents' Perception of the Quality of Physical Revitalization (Variable X1)

Indicator	Average Score
X1_1 Accessibility of Public Spaces	3,30
X1_2 Environmental Hygiene and Aesthetics	2,27
X1_3 Thermal and Visual Comfort	3,31
X1_4 Availability of Supporting Facilities	2,94

Source: Results of the researcher's analysis, 2025

Based on Table 4, the public space accessibility indicator (X1_1) shows the average value in the medium category. These findings indicate that access to the banks of the Deli River has not been designed equally and inclusively. Field observations show that in most segments, access to the riverbank is only available at certain points and often through residents' residential areas. This condition causes limitations for the general public to use the riverbank as an open and easily accessible public space.

The environmental cleanliness and aesthetics (X1_2) indicator has the lowest average value among all physical revitalization quality indicators. This value shows that the cleanliness condition and visual appearance of the Deli River area are still the main problems. Field findings and interviews confirm that household waste is still widely found in the river body and along its banks. Although there are several points that are relatively clean and maintained, these conditions are not even and have not been able to form the image of the river area as a decent and attractive public space.

On the thermal and visual comfort (X1_3) indicator, the average value was in the medium category. These results show that the level of comfort felt by the community is situational and is greatly influenced by the surrounding environmental conditions. Based on observations, the lack of shade vegetation and the presence of garbage at several points caused a feeling of heat, bad odor, and visual discomfort. However, in segments that have

better spatial arrangement and high social activities, visual comfort is relatively more noticeable by space users.

Meanwhile, the indicator of the availability of supporting facilities (X1_4) shows an average value in the low to medium category. This condition reflects the inequality in the availability of facilities between segments of the Deli River area. In the Kesawan and Jalan Guru Patimpus areas, facilities such as street lighting and seating areas are relatively more adequate and contribute to the intensity of the use of public spaces, especially at night. In contrast, in other segments, supporting facilities are still limited and have not been thoroughly designed to support public activities on the riverbank.

These findings show that the quality of physical revitalization of the Deli River area has not been carried out comprehensively. Physical arrangements tend to focus on certain segments that have high commercial value and activity, while other segments still experience limited access, low cleanliness, and lack of supporting facilities. This condition has a direct impact on the limitations of the function of public space and strengthens the findings on the variables of social function of public spaces that have been discussed previously.

As an empirical reinforcement, the findings on the X1 variable are in line with field documentation that shows limited access, the existence of land occupation, and inequality in the quality of facilities along the Deli River border. This indicates that partial physical revitalization has not been able to form an even and sustainable quality of public space in all research areas.

Results of Analysis of Cultural Activities on the River Banks (Variable X2)

The variable of cultural activities on the river bank (X2) was used to assess the extent to which the cultural dimension plays a role in the use of the Deli River area as a public space and an element that forms the city's identity. The analysis was carried out based on four indicators, namely the number and frequency of cultural activities (X2_1), local community involvement (X2_2), artistic and traditional expression (X2_3), and sustainability of cultural events (X2_4). The presentation of the results in this section is based on questionnaire data which is strengthened by the results of observations and brief interviews in the field.

The recapitulation of the average value of respondents' perception of cultural activity indicators on the river banks is presented in Table 5.

Table 5. Average Value of Respondents' Perception of Cultural Activities on the River Banks (Variable X2)

Indicator	Average Score
X2_1 Number and Frequency of Cultural Activities	1,91
X2_2 Local Community Engagement	2,14
X2_3 Expression of Art and Tradition	1,48
X2_4 Event Sustainability	1,67

Source: Results of the researcher's analysis, 2025

Based on Table 5, all indicators of cultural activity show low average values. The indicator of the number and frequency of cultural activities (X2_1) is in the low category,

which indicates that cultural activities in the Deli River area are rarely held and are not part of the region's routine activities. These findings are in line with the results of interviews that stated that cultural activities generally only appear at certain moments, such as religious holidays or certain cultural events, and do not take place regularly.

The local community engagement (X2_2) indicator shows a slightly higher average value than other indicators, but is still in the low category. This shows that the role of local communities in organizing and managing cultural activities is not optimal. Based on the results of the interviews, most of the cultural activities are still incidental and are coordinated in a limited way, without institutions or communities that play a key role as the main driver on an ongoing basis.

The lowest average score was found in the indicator of artistic and traditional expression (X2_3). This low value indicates that the expression of local art and traditions is rarely seen in the use of public spaces on the banks of the Deli River. Art and cultural activities tend to be concentrated in specific locations, such as the Kesawan area at certain times, and have not been fully integrated with riverside spaces as part of the city's cultural landscape.

The cultural event sustainability indicator (X2_4) also shows a low average value, which indicates that existing cultural activities do not yet have a clear sustainability pattern. Cultural activities tend to be sporadic and not scheduled on a regular basis, so their impact on the formation of regional identity and the strengthening of the function of public space is relatively limited.

Overall, the results of the analysis of cultural activity variables show that the cultural dimension has not played a significant role in the use of the Deli River area as a public space. The low frequency of cultural activities, limited community involvement, and the lack of artistic and traditional expressions have caused the river area to not be able to function as a vibrant and sustainable cultural space. This condition strengthens the findings on the variables of social function of public space and the quality of physical revitalization, that the social potential of the region has not been balanced by an integrated cultural development strategy.

The findings on the X2 variable are an important indication that the revitalization of the Deli River area cannot only rely on physical arrangements, but also needs to integrate cultural dimensions as part of the strategy to strengthen city identity and the sustainability of public space. These results will be the basis for the SWOT analysis in the next discussion to formulate a more comprehensive direction for the revitalization of the Deli River area.

SWOT Analysis Results of Deli River Area Revitalization

This section presents quantitative and qualitative research results through SWOT analysis. The SWOT analysis is used to identify internal and external factors that affect the success of the revitalization of the Deli River area as a public space and an element that forms the identity of the City of Medan. The results of the SWOT analysis were compiled based on the findings of questionnaires, field observations, brief interviews, and documentation of the existing conditions of the research area.

This approach allows for a comprehensive mapping of the actual conditions of the Deli River area, so that the revitalization strategy formulated is not only conceptual, but

also realistic and can be applied according to the social, physical, and cultural context of the region.

The results of the identification of strengths, weaknesses, opportunities, and threats in the Deli River area are presented in Table 6.

Table 6. SWOT Analysis of the Revitalization of the Deli River Area

Aspects	Factors
Strengths	<ol style="list-style-type: none"> 1. The intensity of social interaction of the community is relatively high, especially in the afternoon until night. 2. The area has historical and symbolic value as part of the Old City of Medan. 3. Strategic location in the center of trade and service activities of the City of Medan. 4. Several segments (Kesawan and Guru Patimpus) already have adequate basic facilities.
Weaknesses	<ol style="list-style-type: none"> 1. Accessibility to the riverbank is limited and has not been designed as an inclusive public space. 2. The cleanliness and aesthetics of the river environment are still low due to waste and lack of management. 3. Land occupation on the river border reduces the function of public space and has the potential to be dangerous. 4. Cultural activities have not developed and are not sustainable.
Opportunities	<ol style="list-style-type: none"> 1. The potential of the Deli River as a corridor of public space and an iconic cityscape. 2. Support for policies for the revitalization of old urban areas and urban river arrangements. 3. The high interest of the public, especially the younger generation, in public spaces and gathering spaces. 4. Opportunities for the development of cultural and creative economy activities based on local communities.
Threats	<ol style="list-style-type: none"> 1. The growth of informal activities has the potential to exacerbate land occupation. 2. Deterioration of the quality of the river environment if hygiene management is not improved. 3. Conflict of interest between residential, business, and public space functions on the river border. 4. Revitalization that is partial and unsustainable.

Source: Results of the researcher's analysis, 2025

Based on Table 6, the main strength of the Deli River area lies in the high intensity of social activities and the historical value of the area as part of the Old City of Medan. This condition shows that socially and culturally, the Deli River area has a strong basic capital to be developed as a public space. However, the main weaknesses faced by this area are related to the physical quality of the space, limited access, low cleanliness, and the existence of land occupation that hinders the function of the river border.

On the other hand, the opportunity for revitalization of the Deli River area is quite large, especially through policy support for urban area planning and the increasing need of the community for quality public space. However, these opportunities are also faced with various threats, such as the uncontrolled growth of informal activities and the potential for conflicts in the use of space in river borders. Therefore, an integrated and sustainable revitalization strategy is needed to maximize strengths and opportunities, while minimizing existing weaknesses and threats.

Based on the results of the SWOT analysis, the strategy for revitalizing the Deli River area is formulated in the form of SO, WO, ST, and WT strategies presented in Table 7.

Table 7. Revitalization Strategy of the Deli River Area Based on SWOT Analysis

Strategy	Strategy Formulation
SO (Strength–Opportunity)	<ol style="list-style-type: none"> 1. Developing the Deli River Corridor as a thematic public space that integrates the historical values of Medan's Old City. 2. Taking advantage of the high level of social activity of the community to liven up public spaces through landscape arrangement and comfortable interaction spaces. 3. Encourage community-based local creative economy and cultural activities in the river area.
WO (Weakness–Opportunity)	<ol style="list-style-type: none"> 1. Improve riverside accessibility and connectivity through the provision of pedestrian paths and inclusive public open spaces. 2. Improving the cleanliness and aesthetics of the river environment through community-based waste management programs. 3. Initiating routine cultural activities as a means of activating public spaces and strengthening regional identity.
ST (Strength–Threat)	<ol style="list-style-type: none"> 1. Utilize the historical and social value of the area to control the growth of informal activities that are not in accordance with the function of the river boundary. 2. Strengthening the role of the government and local communities in the management of public spaces to prevent environmental degradation. 3. Making the river area a safe and orderly public space through activity zoning arrangements.
WT (Weakness–Threat)	<ol style="list-style-type: none"> 1. Land occupation control at the river border is gradual and fair. 2. Preparation of regulations and technical guidelines for sustainable river revitalization. 3. Strengthening collaboration between the government, the community, and business actors in the management of river areas.

Source: Results of the researcher's analysis, 2025

Based on Table 7, the SO Strategy emphasizes the use of the social and historical potential of the Deli River area to encourage the revitalization of public spaces oriented to urban identity. This strategy is relevant to the high intensity of community social interaction that has been identified in the research results.

The WO strategy is focused on efforts to overcome the main weaknesses of the region, especially the limited accessibility, cleanliness, and lack of cultural activities, by taking advantage of policy opportunities and community needs for quality public spaces. This strategy is applicable and can be implemented gradually through physical structuring and community empowerment programs.

The ST and WT strategies are directed to minimize the risk of regional degradation due to external threats, such as the growth of informal activities and space utilization conflicts. Through strengthening regional management and multi-stakeholder collaboration, the revitalization of the Deli River is expected to run in a sustainable and non-partial manner.

Overall, the results of the SWOT analysis show that the revitalization of the Deli River area has a great opportunity to be developed as a public space and city identity, but its success is highly dependent on the integration of physical arrangements, strengthening social functions, and sustainable development of cultural activities.

Integrated Discussion and Comparison with Previous Research

The results of this study show that the Deli River border area still has a relatively active social function, especially as a space for informal social interaction, even though the physical quality and management are not optimal. These findings reinforce the view that urban public spaces are not solely determined by physical quality, but also by social needs and community proximity to the space (Relph, 2017). The high intensity of social interaction identified in this study is in line with the findings of Cut Nuraini (2015) who stated that urban spaces with historical value and strong social connections tend to be used by the community even though they are in limited physical conditions. The findings regarding the high intensity of social interaction in the Deli River area are also in line with the view that a lively public space is not always determined by physical quality alone, but by the sustainability of the social practices of the community using it (Nuraini, 2013; Sugiarto, 2020).

The suitability of the results of this study is also seen in a number of national studies that highlight the role of urban rivers as informal public spaces. These studies show that river areas in the center of urban activities remain a space for social interaction as long as they are connected to economic activities and daily mobility of the community, even though they have not been optimally arranged (Putra & Santoso, 2020; Pratama et al., 2021). These findings are consistent with the condition of the Deli River, especially in the Kesawan and Guru Patimpus areas, which show high intensity of social activities even though access and facilities are still limited. The limited accessibility and cleanliness of the area suggests that unintegrated physical arrangements can reduce the comfort and sense of security of public space users, as also found in other urban river revitalization studies (Tiesdell et al., 2016; Smith & Garcia, 2019).

On an international scale, the results of this study are in line with the study of waterfront development which states that the social function of waterfront spaces often develops before the physical arrangement. A study conducted by Tiesdell, Oc, and Heath (2016) shows that waterfront spaces that are connected to the city network tend to be socially utilized even though the design quality is not ideal. This strengthens the findings of this study that the social potential of the Deli River is an important capital in the process of revitalizing the area.

However, this study also shows a difference with some previous studies that stated that good physical arrangement directly increases the comfort and security of public space users. Several national and international studies show that the physical revitalization of rivers through the construction of pedestrian paths, riverwalks, and supporting facilities is able to significantly increase people's perception of comfort and safety (Smith & Garcia, 2019; Lestari & Wibowo, 2022). In the context of the Deli River, the results of this study show that partial physical arrangement has not been able to optimally increase comfort and a sense of security. This difference is influenced by the existence of land occupation at the river border, the distance between activity spaces that are very close to the river flow, and hygiene problems that have not been addressed thoroughly.

From the aspect of cultural activities, the results of this study show that the cultural dimension has not developed significantly and has not become the main driver of the use of public space in the Deli River area. The low intensity and sustainability of cultural activities in the research area shows that strengthening urban identity through public spaces requires institutional support and consistent involvement of local communities (Sugiarto, 2022). This finding is in line with the study of Abdi Sugiarto (2024) which emphasizes that cultural activities in public spaces require institutional support and sustainable community participation in order to function as a reinforcement of spatial identity. The low frequency of cultural activities, the lack of artistic expressions and traditions, and limited community involvement indicate that the Deli River area has not been integrated as a vibrant cultural space.

On the contrary, several national and international studies show that the regular integration of cultural activities in river areas is able to increase the attractiveness of public spaces while strengthening the identity of the city (Yuen & Hien, 2018; Rahman et al., 2021). These differences in results show that the success of culture-based revitalization is strongly influenced by local contexts, community readiness, and policy support and regional management. In the context of the Deli River, cultural activities that are still incidental show that the revitalization of the area is still in its early stages and has not been managed sustainably.

The results of the SWOT analysis in this study strengthen the relationship between quantitative and qualitative findings. The high social activity and historical value of the area are the main forces that support revitalization, while the limitations of access, cleanliness, and land occupation are weaknesses that hinder the optimization of public space. This finding is in line with the view of Abdiyanto (2020) who emphasized that the success of urban area revitalization is highly dependent on the integration between spatial planning policies, environmental management, and community participation.

In contrast to research that emphasizes physical revitalization as the main solution, this study shows that such an approach is not enough in the context of the Deli River. Revitalization that is not accompanied by control of space use and strengthening socio-cultural activities has the potential to produce unequal and unsustainable public spaces. These findings enrich the academic discourse by showing that urban river revitalization in developing cities requires a more contextual and integrated approach.

Overall, this study contributes to the study of river landscape revitalization by affirming that the Deli River has strong social potential but has not been supported by adequate physical quality and cultural activities. The integration between physical arrangement, strengthening social functions, and developing community-based cultural

activities is the key to realizing the Deli River as a public space and the identity of the City of Medan. Thus, this study not only confirms some of the findings of previous research, but also shows important differences that enrich understanding of the dynamics of urban river revitalization in Indonesia.

Implications of Revitalization on the Identity of the City of Medan

The results of this study show that the Deli River has a potential role as a public space that contributes to the formation of the identity of the City of Medan. The implications of this research strengthen the concept of *place identity* which emphasizes that city identity is formed through spatial experience, social attachment, and symbolic meaning that people attach to public space (Relph, 2017; Nuraini, 2019). The high intensity of social interaction that takes place in the river area, even though it is in a physical condition that is not optimal, indicates the social attachment of the community to the space. These findings are in line with the concept of *place identity* which emphasizes that place identity is formed through the relationship between physical space, social experience, and symbolic meaning attached by its users (Relph, 1976; Relph, 2017). In this context, the Deli River has served as a meaningful space for the community, although it has not been fully designed as a representative public space.

An important implication of these findings is that the revitalization of the Deli River cannot be understood solely as a physical restructuring project, but rather as a process of shaping a social and cultural urban identity. Revitalization approaches that emphasize only physical aspects, such as the provision of facilities or visual design elements, have the potential to result in public spaces that are functional but poor in meaning. This is in line with the view that the quality of public spaces is not only determined by design, but also by the sustainability of social activities and community involvement in interpreting the space (Tiesdell, Oc, & Heath, 2016).

In the perspective of urban public spaces, the findings of this study reinforce the idea that a living public space is a space that is able to facilitate social interaction and people's daily practices in an inclusive manner. Cut Nuraini (2015) emphasized that public spaces in Indonesian cities often develop through informal and community-based social practices. The condition of the Deli River, which is still used by the community as a gathering space despite having physical limitations, shows that this social practice is an important element in the formation of the identity of the city space.

In terms of culture and urban identity, the low level of sustainable cultural activity in the Deli River area shows that the symbolic and expressive dimensions of space have not been developed optimally. In fact, city identity is not only built through the social function of space, but also through cultural representation and collective expression of society (Sugiarto, 2020; Zukin, 1995). Thus, the development of community-based cultural activities on the banks of the Deli River has strategic implications in strengthening the image of the area as part of the identity of the City of Medan, as well as as a public space that has symbolic value.

The policy implications of this study emphasize the importance of an integrated revitalization approach between physical structuring, social management, and cultural strengthening. Abdiyanto (2019) emphasized that sustainable revitalization of urban areas requires synergy between spatial planning policies, community participation, and environmental management. In the context of the Deli River, the approach is crucial to

ensure that revitalization not only improves the visual quality of the area, but also strengthens the social function and identity of the city in a sustainable manner.

Conceptually, the implications of this study confirm that the Deli River has the potential to become an element of Medan City's identity if revitalization is carried out thoroughly and contextually. The integration between the historical values of the Old Town area, community social activities, and the development of local culture can make the Deli River a public space that represents the city's character and collective memory. Thus, the revitalization of the Deli River not only contributes to improving the quality of urban space, but also to strengthening the identity of the city of Medan as a city that has a strong attachment between space, community, and culture.

Conclusion

This study aims to assess the revitalization of the Deli River landscape as a public space and its implications on the formation of the identity of the City of Medan through *a mix methods approach* that combines quantitative, qualitative, and SWOT analysis. The results of the study show that the Deli River border area still has a relatively active social function, especially as a space for informal social interaction, although the physical quality and management are not optimal. The high intensity of social interaction reflects the need and attachment of the community to river space as part of daily urban life. However, the quality of physical revitalization of the Deli River area has not been carried out thoroughly and evenly. Limited accessibility, low cleanliness and aesthetics of the environment, and inequality in the availability of supporting facilities are the main factors that limit the comfort and sense of security of space users. In addition, the existence of land occupation at the river border not only reduces the function of public spaces, but also has the potential to pose environmental and safety risks. From the cultural aspect, the results of the study show that cultural activities on the banks of the Deli River are still incidental and not sustainable. The low frequency of cultural activities, the lack of artistic and traditional expression, and the limited involvement of local communities indicate that the cultural dimension has not played a significant role in the use of river areas as public spaces. This condition causes the potential of the Deli River as a space for representation of city identity has not been optimally utilized.

The SWOT analysis shows that the revitalization of the Deli River has a strong basic capital in the form of the historical value of the area and the intensity of community social activities. However, the success of revitalization is highly dependent on the ability to overcome internal weaknesses, especially physical limitations and space management, as well as anticipating threats in the form of land use conflicts and environmental degradation. Overall, this study concludes that the revitalization of the Deli River requires an integrated approach between physical arrangement, strengthening social functions, and developing cultural activities in order to be able to function as a sustainable public space and an element that forms the identity of the City of Medan.

Based on the results of the research and analysis that has been carried out, the following recommendations are prepared applicatively and can be applied in the context of managing the Deli River area, namely: (1) Increasing riverside accessibility gradually and contextually. The city government needs to provide pedestrian access roads to the banks of the Deli River at strategic points that do not interfere with residents' residences. Increasing access can be done gradually through the arrangement of existing routes, without the need

for large land acquisitions, so that it is more realistic to implement. (2) Strengthening community-based hygiene management. The problem of river cleanliness can be addressed through waste management programs involving local residents, business actors, and local communities. This approach is more effective than structural handling alone because it encourages a sense of community ownership and responsibility for the river area. (3) Arrangement of supporting facilities that are equitable and simple. The provision of basic facilities such as lighting, seating, and shade elements needs to be carried out evenly along priority river segments. The arrangement of facilities does not have to be monumental, but it is enough to meet the needs of the comfort and safety of public space users. (4) Control and arrangement of land occupation at the river border. City governments need to rearrange land occupation gradually and fairly, by prioritizing persuasive approaches and realistic relocation solutions. The regulation of river boundaries is important to restore the ecological and social function of rivers as public spaces. (5) Development of local community-based cultural activities. Cultural activities in the Deli River area should be developed through simple and routine activities, such as community art performances, mutual cooperation activities, or small-scale cultural events involving the local community. This approach is more sustainable than large, momentary events. (6) Integration of Deli River revitalization in urban planning policy. The revitalization of the Deli River needs to be integrated into the spatial planning and development policy of the Medan Old City area, so that river management does not run partially. Collaboration between the government, the community, and business actors is the key to realizing the Deli River as a functional and representative public space for the city's identity.

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