



Revitalizing Kesawan, Medan City, North Sumatra, Indonesia: An Econometric Case Study

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The revitalization of historical areas plays a pivotal role in preserving cultural heritage, enhancing tourism appeal, and driving regional development. This study examines the impact of revitalization efforts in the Kesawan area of Medan City on regional development. Utilizing a quantitative approach, data were collected through surveys and interviews with stakeholders, including government officials, entrepreneurs, and local communities. Data analysis was performed using descriptive statistics, validity and reliability tests, and simple linear regression. The findings reveal a positive and significant relationship between revitalization and regional development, with a regression coefficient of 0.152 and a determination coefficient of 91.2%. Key revitalization efforts

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include infrastructure improvements, the renovation of historical buildings, and the enhancement of public facilities, contributing to economic growth, cultural preservation, and improved quality of life. However, challenges such as utility management, parking issues, and balancing modernization with cultural preservation remain critical concerns. The study concludes that revitalization in the Kesawan area significantly impacts regional development, underscoring its strategic importance in sustainable urban planning. Recommendations include fostering coordination among stakeholders, maintaining historical buildings, and addressing infrastructural challenges to ensure the long-term success of revitalization initiatives.

Keywords: Revitalization; regional development; cultural preservation; Kesawan; Medan City.

1. INTRODUCTION

Urban revitalization is a crucial strategy in the context of sustainable regional development, especially in areas with rich historical and cultural value. As cities evolve, the pressures of modernization and urban expansion often threaten the preservation of heritage areas. The Kesawan area in Medan City, Indonesia, is one such location that has undergone significant revitalization to support economic, social, and spatial development. Revitalization initiatives aim to restore historical significance while improving community welfare, urban infrastructure, and tourism appeal. This process aligns with broader goals of sustainable development, cultural preservation, and regional growth. The experience of Kesawan mirrors similar urban renewal efforts seen in other regions, where revitalization becomes a driving force for regional transformation.

Community empowerment plays a vital role in the success of urban revitalization projects. In the context of public health in Pekanbaru City, community-based strategies like "one house one jumantik" highlight how grassroots initiatives can face challenges such as limited funding and inadequate infrastructure (Arga Abdi Rafiud Darajat Lubis et al., 2024). This underscores the broader issue of community participation in revitalization projects, where strong local engagement is required to ensure long-term success. Similar challenges have been observed in the revitalization of Kesawan, where stakeholder engagement, community participation, and adequate infrastructure are necessary to achieve the dual goals of preservation and modernization.

Housing development is another relevant factor that intersects with urban revitalization. The experience in Asahan Regency demonstrates that while housing growth is driven by factors such as location, price, and accessibility, it can

have socio-economic consequences like reduced agricultural land and displaced communities (Eko Suharizki et al.). This insight is crucial for the Kesawan revitalization, as urban renewal efforts must be sensitive to the socio-economic impacts on local residents. Land use changes—a common byproduct of revitalization—must be managed carefully to avoid displacing communities or reducing access to affordable housing. Sustainable land management strategies that balance housing development with socio-economic needs can provide a model for Kesawan's revitalization.

Similarly, housing provision for low-income communities reflects broader issues of inclusion and equity in regional development. For example, the BRS program in Subulussalam City addresses the need for affordable housing, but it faces operational challenges like limited human resources and poor target accuracy (Masrizal et al., 2024). For Kesawan, this insight highlights the importance of maintaining inclusive policies and ensuring that revitalization does not marginalize vulnerable communities. Strengthening communication and coordination among stakeholders can create an inclusive revitalization process where local residents are actively involved in planning and implementation.

The role of infrastructure development is a fundamental aspect of revitalization. In Pematang Sidamanik District, improved infrastructure and farmer institutions have significantly boosted the income of local coffee farmers (Turma et al., 2024). This serves as a model for how infrastructure improvements—such as road construction, public space development, and tourist pathways—can enhance the economic potential of an area. For Kesawan, infrastructure revitalization is a critical component in transforming the area into a tourist destination. Improved pedestrian pathways, access roads, and utility networks play an essential role in attracting tourists, supporting

local businesses, and promoting community welfare.

The challenge of spatial development is also observed in Kisaran City, where growth is hindered by plantation land dominance, disaster risks, and misaligned development priorities (Abdul et al., 2024). Spatial development in Kesawan must address similar issues. Since Kesawan is a historic urban area, it is vital to ensure that zoning regulations align with the revitalization goals. Community engagement is essential to prevent displacement, while comprehensive planning can ensure that growth remains sustainable, equitable, and inclusive.

In some contexts, ecotourism has been used as a strategy to achieve sustainable development and community empowerment. Sei Nagalawan Village has successfully leveraged ecotourism to support the local economy, but challenges like limited technological capacity and weak government support remain (Anisah, 2024). Kesawan's revitalization can draw lessons from this case. The development of sustainable tourism in Kesawan can be enhanced by digital transformation, training programs, and partnerships with the private sector. Such initiatives ensure that tourism supports the welfare of local communities while preserving cultural heritage.

Sustainable agricultural practices also offer valuable insights for revitalization. In South Tapanuli Regency, sustainable oil palm cultivation demonstrates how improved governance and technical support can positively impact rural development, but labor and environmental issues must be addressed (Arga et al., 2024). Kesawan can apply similar principles by integrating sustainable development goals into its revitalization strategy. Adopting green infrastructure, sustainable construction materials, and eco-friendly urban design can help balance modernization with cultural preservation and environmental conservation.

Another crucial factor in regional development is the role of public expenditure on human development. In Bireuen Regency, it has been shown that healthcare and social spending directly impact the Human Development Index (Rizki et al., 2024). Kesawan's revitalization could benefit from a similar approach by integrating health and social welfare programs into its broader urban development strategy. For

instance, revitalization efforts could incorporate plans for health and safety infrastructure (e.g., emergency services and healthcare access points) in the revitalized zone, further supporting community well-being.

The concept of sustainable food systems also aligns with the objectives of revitalization. In Medan City, promoting local production and efficient distribution networks has supported regional development and improved food security (Muliadi et al., 2024). Lessons from this case can be applied to Kesawan, especially with regard to fostering local economies and supporting small and medium-sized enterprises (SMEs). By encouraging local food markets, culinary tourism, and local supply chains, Kesawan can promote a self-sustaining economy where local businesses thrive. Furthermore, these actions align with the Sustainable Development Goals (SDGs), particularly those related to sustainable cities and communities (SDG 11) and decent work and economic growth (SDG 8).

The role of local agribusiness in supporting regional economic growth is exemplified in Lintong Nihuta, where the production of Arabica coffee powder adds significant value to the agricultural economy (Lubis, S. N., 2023). Kesawan can adopt a similar approach by promoting local creative industries, culinary businesses, and artisanal crafts, which contribute to the area's cultural preservation. Such efforts are aligned with the broader goals of economic diversification and regional competitiveness, allowing Kesawan to become a tourism hub while supporting local livelihoods.

Finally, the role of sustainable tourism is an integral part of revitalization, with global initiatives aligning with the SDG 1 goal of eradicating extreme poverty by 2030 (Satia Negara Lubis & Arga Abdi Rafiud Darajat Lubis, 2024). Revitalization of Kesawan offers a unique opportunity to foster sustainable tourism while preserving its rich cultural heritage. Tourism development should be guided by community-driven approaches to ensure that local communities receive direct benefits from increased tourist activity. To achieve this, partnerships with the private sector and non-governmental organizations (NGOs) can support long-term development while reducing the burden on public finances.

The revitalization of historical areas like Kesawan plays a transformative role in urban

renewal, providing a pathway to sustainable development, cultural preservation, and economic growth. By analyzing Kesawan's revitalization, this study highlights the process of regional transformation, emphasizing its importance for community welfare, urban sustainability, and tourism development. The results provide critical insights for urban planners and policymakers, guiding future revitalization initiatives in other historical urban areas. This timely contribution addresses pressing global challenges related to heritage preservation, inclusive development, and sustainable city planning.

2. RESEARCH METHODS

Location and duration of research: This study was conducted in the Kesawan area of Medan City, specifically located on Jalan Ahmad Yani, Kecamatan Medan Barat. The location was chosen for its historical significance as a center of heritage buildings and as a tourism icon in Medan. The Kesawan area also serves as a focal point for regional development through revitalization initiatives involving multiple stakeholders. The research was carried out from January to April 2024, covering preparation, data collection, analysis, and report writing.

Type of research: The research employs a quantitative approach with an associative type. It aims to explore the relationship and influence between two variables: revitalization as the independent variable (X) and regional development as the dependent variable (Y). The data collected are statistical in nature, analyzed to draw scientific conclusions.

Types and sources of data:

- **Primary Data:**

Collected through semi-structured interviews and questionnaires completed by respondents, including:

- Medan City's Department of Tourism and Culture.
- Department of Water Resources, Highways, and Construction of Medan City.
- Traders and academicians related to area revitalization.

- **Secondary Data:** Obtained from official documents, reports, archives, and relevant literature on area revitalization and regional development.

Population and sample:

- **Population:** The population includes all government agency staff in Medan City and traders operating in the Kesawan area, totaling 250 individuals.
- **Sample:** Sampling was conducted using probability sampling with the Slovin formula, applying a 10% margin of error:

$$n = \frac{N}{1 + Ne^2}$$

Where:

N=250N

e=0.1 (margin of error).

The calculated sample size is 71 respondents.

Data collection techniques:

1. **Interviews**

Semi-structured interviews were conducted using a pre-designed guide, targeting government representatives, business actors, and local residents.

2. **Questionnaires**

Questionnaires were designed with a Likert scale to measure respondents' perceptions of area revitalization and its influence on regional development. Response options range from:

- 1: Strongly Disagree (STS)
- 2: Disagree (TS)
- 3: Neutral (N)
- 4: Agree (S)
- 5: Strongly Agree (SS)

Validity and reliability tests:

1. **Validity test:** Conducted using Pearson Product Moment to ensure data collection instruments effectively measure indicators.
2. **Reliability test:** Utilized Cronbach's Alpha (α) to ensure data consistency. A value of $\alpha > 0.6$ indicates reliability.

List 1. Operational definitions of research variables

Variable	Operational Definition	Indicators	Scale
Revitalization (X)	Efforts to enhance the value of the area by redevelopment to improve its functionality.	- Physical revitalization - Economic revitalization - Management revitalization	Likert
Regional Development (Y)	Efforts to improve community welfare through various resources.	- Number of socio-economic facilities - Population - Accessibility of the area	Likert

Data analysis technique: Simple linear regression was employed to analyze the relationship and influence between revitalization (X) and regional development (Y).

Regression Equation:

$$Y = a + bX$$

Where:

- Y: Regional development (dependent variable).
- X: Revitalization (independent variable).
- a: Constant.
- b: Regression coefficient

3. RESEARCH RESULTS AND DISCUSSION

3.1 General Overview

Geographical and administrative context: Medan City, as an autonomous region, plays a strategic role as a center for governance, trade, and culture. The Kesawan area is a crucial part

of Medan's historical development, housing iconic buildings with high architectural and cultural value. Over time, Kesawan has transformed from a thriving trading hub into a revitalization target, aiming to restore its appeal as a city icon.

3.2 Research Results

Descriptive analysis of respondents: This study employed descriptive analysis to summarize the data collected from respondents through questionnaires. The demographic characteristics of respondents, including gender, age, education, and occupation, were analyzed to provide a comprehensive understanding of the study sample.

From the 71 respondents, the majority were female (56.34%), predominantly aged 36–45 years (53.52%). Most respondents held a Diploma (32.39%) or Bachelor's degree (30.98%), with primary occupations being entrepreneurs (35.22%) and civil servants (28.16%).

Table 1. Respondent demographics

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	31	43.66
	Female	40	56.34
Age	17–25 years	16	22.53
	26–35 years	17	23.94
	36–45 years	38	53.52
Education	Junior High School	14	19.71
	Senior High School	12	16.90
	Diploma	23	32.39
	Bachelor's Degree	22	30.98
Occupation	Civil Servant	20	28.16
	Entrepreneur	25	35.22
	Laborer	12	16.90
	Others	14	19.71

Table 2. Simple linear regression analysis

Model	B	Std. Error	t	Sig.
Constant	38.172	0.230	165.709	0.000
Revitalization	0.152	0.006	26.681	0.000

Instrument quality testing:

1. **Validity test:** All questionnaire items for revitalization and regional development variables were valid.
2. **Reliability Test:** Cronbach's Alpha values for revitalization (0.737) and regional development (0.726) indicated reliable instruments ($\alpha > 0.6$).

Hypothesis testing:

1. **Correlation coefficient analysis:** A positive relationship between revitalization and regional development was observed, with $r = 0.580$ and $p = 0.000$. This suggests a moderate correlation level.
2. **Simple linear regression analysis:** Regression analysis indicated a significant positive effect of revitalization on regional development.

Equation:

$$Y = 38.172 + 0.152X + e$$

Where Y is regional development, X is revitalization, and e is the error term. The regression coefficient of 0.152 indicates that every unit increase in revitalization leads to a 0.152 unit increase in regional development.

3.3 Determination Coefficient (R^2)

The R^2 value of 0.910 indicates that 91.2% of the variation in regional development is explained by revitalization efforts, with 8.8% attributed to other factors.

3.4 Discussion

Impact of kesawan revitalization on regional development: The study findings demonstrate that Kesawan's revitalization significantly impacts Medan City's regional development. The positive regression coefficient (0.152) highlights that revitalization extends beyond physical interventions, acting as a holistic strategy

influencing various societal aspects (Soedarsono, 2010).

Key revitalization efforts in Kesawan, such as infrastructure enhancement, spatial reorganization, and historical building preservation, align with findings from Andini et al. (2021), which noted significant increases in tourism and cultural preservation through similar initiatives in Banten Lama. Additionally, the revitalization of Kesawan has boosted local economic activities, particularly through the growth of micro and small enterprises.

Revitalization also fosters social benefits by engaging local communities in planning and execution. This involvement enhances ownership and responsibility, particularly in managing public facilities such as pedestrian pathways and parking spaces (Rahayu & Santoso, 2014).

However, the study identifies key challenges, including disorganized utilities, land acquisition issues, and tensions between modern economic priorities and cultural preservation. Addressing these challenges requires technical, social, and regulatory approaches that are sensitive to the area's unique historical and cultural contexts.

Economically, revitalization has created a multiplier effect, increasing property values, generating employment opportunities in tourism and services, and attracting new business investments. This supports Santoso's (2006) assertion that economic activity is a primary driver of regional development.

While revitalization preserves Kesawan's cultural heritage, pressures from modernization necessitate a balanced approach to ensure both historical conservation and contemporary urban needs.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

This study demonstrates that the revitalization of the Kesawan area has a positive and significant

impact on regional development in Medan City, with a regression coefficient of 0.152 and a significance value of $p=0.000$. This indicates that increased revitalization efforts can effectively promote regional development, encompassing spatial planning, infrastructure enhancement, and economic activities. Furthermore, the determination coefficient of 91.2% highlights the substantial contribution of revitalization to regional development, particularly through the improvement of public facilities, drainage system management, and the preservation of historical buildings.

4.2 Recommendations

To ensure the sustainability of revitalization, several measures are recommended:

1. Enhance public facilities tailored to the needs of the community and business operators, ensuring accessibility and functionality.
2. Maintain and preserve historical buildings to safeguard their architectural and cultural integrity.
3. Foster collaboration between the government, business entities, and the community through regular socialization and coordination efforts to achieve integrated revitalization.
4. Implement effective parking management and enforce building function limitations to support smooth operations and activities in the Kesawan area.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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