

International Journal of Architecture and Urbanism

Journal homepage: https://talenta.usu.ac.id/ijau



The Spatial Structure of Urban Villages in Medan Maimun District: A Study of Social Function and Spatial Planning

Siti Yuniarti*10

¹Kemendes PDT, Stabat, Langkat Regency, 20811, Indonesia

*Corresponding Author: yuniarti.siti76@gmail.com

ARTICLE INFO

Article history:

Received 14-11-2024 Revised 5-3-2025 Accepted 17-3-2025 Available online 31-03-2025

E-ISSN: 2622-1640 P-ISSN: 2622-0008

How to cite:

Yuniarti S. The Spatial Structure of Urban Villages in Medan Maimun District: A Study of Social Function and Spatial Planning. International Journal of Architecture and Urbanism. 2025. 9(1):78-88.



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International. http://doi.org/10.32734/ijau.v9i1.18874

ABSTRACT

Medan Maimun District is a strategic area in Medan City that has rapid social and economic development. This area still maintains the characteristics of a typical urban village, despite facing challenges such as population density, limited infrastructure, and irregular land management. Urban villages in Medan Maimun represent a dense settlement pattern that reflects a close relationship between spatial planning and social function. This study aims to analyze the spatial structure of urban villages in Medan Maimun, focusing on how local communities utilize and manage their space. This study examines the spatial structure of urban villages in Medan Maimun District, an area known for its high settlement density. The research method used in the study is descriptive, both qualitative and quantitative. The main data were obtained through indirect observation, such as collecting images and satellite imagery, supporting data were taken from official documents, journals, and government reports. This study is expected to provide a deeper understanding of the spatial structure of urban villages in Medan Maimun District, especially how settlement patterns and population density affect social functions in the lives of urban village communities.

Keywords: density, function, spatial, urban, villages

1. Introduction

Medan City was historically formed from villages that over time changed into urban areas. Village values still can be felt in the Kampung Kota in Medan City, especially in Medan Maimun District. Medan Maimun is a strategic district in Medan City, North Sumatra Province. This district has developed rapidly socially, and economically, marked by an increase in population and economic activities. However, this development also faces significant challenges in the provision of infrastructure and land management. Therefore, the study of the spatial structure of urban villages in Medan Maimun is very important to understand the social and spatial functions in this area. The spatial structure will alter in conjunction with the development of the region, such as in socio-economic perspectives and shaping a certain spatial organization that's a representation of the utilization of space. One of the prevailing urban spatial structures is settlements which can be physically recognized [1]. According to Tarigan (2004), spatial structure is a generator of various activities within the area and is very influential in determining the direction of land use in the future [2]. One of the things that is concern in the study of spatial structure in Medan Maimun District is the settlement pattern that is formed in the middle of the city which has a high density. The dense settlement pattern in several areas in Medan Maimun District is part of the urban village spatial structure in Medan Maimun District.

Urban villages are generally identified with conditions of irregularity, non-uniformity, insecurity, and/or unhealthy. This is indicated by irregular house shapes, narrow alleys, and lack of facilities and infrastructure in them (Kristiani & Yuliastuti, 2013). Urban villages are traditional settlements in the city center and can represent the complexity of problems in the city. In an environment that tends to be heterogeneous, a sense of togetherness is needed (Rogers and Sukoratanametee in Kristiani & Yuliastuti, 2013) [3]. Internationally, urban villages are a form of habitat or settlement that is produced socially, often called social production of habitat. Abidin Kusno's simple definition of a village (in the city) is irregular settlements. Abidin is reluctant to use terms such as squatters, illegal to informal, because according to him, de facto, villages are settlements [4]. The spatial structure of urban villages is one of the typical phenomena in urban areas that has a close relationship between spatial planning and social function. The existence of urban villages reflects the community's efforts to maintain local identity amidst rapid and modern urban development. This study examines how the spatial structure of urban villages is influenced by social and spatial aspects by referring to related literature. The spatial structure of urban villages in Medan Maimun is influenced by various factors ranging from geographical characteristics that are predominantly located on the banks of the Deli River, ethnic diversity, and socio-economic activities, but a systematic and extensive study of this spatial structure is still needed. Therefore, this study aims to analyze how local communities use and manage their urban village space.

1.1 Spatial Structure

Agreeing with the Republic of Indonesia Law No. 26 of 2007, spatial structure is "the arrangement of settlement centers and infrastructure and facility network systems that function to support social and economic activities of the community that hierarchically have function connections". The internal structure of a city consists of areas with distinctive capacities, and there are particular spatial dissemination groups and patterns among these areas (Beny, 1965) [5]. Spatial structure is the arrangement of settlement centers and infrastructure and facility network systems that function to support social and economic activities of the community that hierarchically have functional relationships [6]. Facilities and infrastructure moreover function as communal spaces, specifically a space that accommodates different social activities that can be utilized by the community (Wijayanti, 2000) [7]. Facilities are facilities in a residential environment that function to bolster the implementation and development of social, cultural, and economic life. The sorts of facilities in economic facilities a containers for economic activities in a place such as factories, markets, shops, stalls, and others. Facilities in social facilities are facilities provided for public interest such as housing, places of worship, schools, and parks. Cultural facilities are facilities used to facilitate a function of human creativity, feelings, and intentions to entertain.

The definition of Infrastructure is the basic physical completeness of a city or region (spatial space) so that the space functions as it should. Infrastructure components include roads, clean water, waste, sanitation, electricity, and telecommunications. Basic considerations for the provision of facilities and infrastructure, namely: population, availability of similar facilities/infrastructure at the location, population characteristics, and Social and economic level of the population [8].

The structure of the settlement space is divided into 3 can be seen in **Figure 1**. The explanation namely below:

Linear, is a simple pattern that places settlement units sustainably along the banks of rivers and roads; Cluster, this pattern appears along with the growth of settlements and the spread of settlement units. Its characteristic is the grouping of settlement units around areas that are considered important or centers of joint activities; The combination, combination of the two patterns above shows the growth and expansion of other interests in regional development. This pattern reflects variations in land use intensity and the hierarchy of microspaces in general [9].

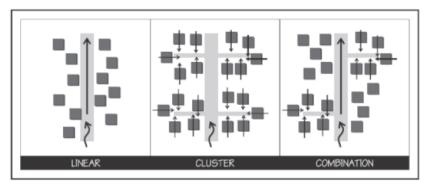


Figure 1 Settlement Spatial Structure [9]

1.2 Urban Villages

Urban villages are thickly populated settlements found within the center of the city. Ordinarily, urban villages appear certain characteristics in society and can be seen from different perspectives of life. Urban villages are one shape of settlement found in urban zones that have Indonesian characters or characteristics. By and large, urban village inhabitants still have the characteristics and behavior of rustic life and have near family ties, and as a rule, the condition of buildings and the environment in urban villages tend to be less great and irregular (Heryati, 2011). Looking at the history and beginnings of the villages as an imperative portion of its image, the village is understood as a joint settlement that just appears, not part of a road arrangement and building placement plan (Kushyairi & Rabani, 2011) [10]. It can be said that there will be almost no remaining spaces in the urban village, all spaces must be optimized for use, to have a better impact on life and sustainability. Small circulation spaces form specific behavior for the community of residents [4]. In the spatial planning dictionary, a city village is a part of a city, consisting of housing groups, a high population, lacking facilities and infrastructure, no specific area, can be larger than one sub-district, and means housing that is built informally. This housing is called a "city village" or housing that is like a village in the countryside but is located in an urban area [11].

1.3 Social Function

Social function is a vital concept in understanding the interaction between people and society. Agreeing with Giddens (2021), the social function can be seen as how a person's activities contribute to stability and change social structures. This appears that each individual's behavior not as it were impacts him/herself but moreover has an effect on the more extensive community. Émile Durkheim, a French sociologist, emphasized the significance of social function and solidarity in keeping up social arrangement. Social function alludes to the part or positive commitment of an aspect of society in keeping up social stability and the sustainability of the system. Each institution or hone in society is considered to have a certain function that bolsters overall social integrity [12]. According to Hutama (2018), even though open space in urban villages is restricted, open spaces for interaction are copious, such as alleys or small roads, stalls or kiosks, public toilets, social facilities (community halls, security posts, halls, mosques) [3].

1.4 Spatial Planning

According to Rapoport (1969), the definition of spatial planning is a physical environment where there is an organizational relationship between different objects and humans that are separated in certain spaces. Conceptually, spatial planning emphasizes interdependent processes, including:

The process that specializes activities in an area according to the functional relationship; The process of providing physical availability that answers the need for space for activities such as the form of work, residence, transportation, and communication; and The process of providing and combining this spatial arrangement between various parts of the earth's surface above, where various activities are placed with the upper part of space, and the interior that contains various resources so that it needs to be seen in an integrative perspective.

As a concept, spatial planning patterns contain three elements, including; Space with its constituent elements (buildings and encompassing spaces); The order has the meaning of composition and pattern/model of a composition; The dimensions of space, orientation, and relationships between spaces are models of settlement spatial planning [13].

2. Methods

This study uses qualitative and quantitative descriptive methods in areas with high residential density at the research location. According to Mukhtar (2013:10), the descriptive qualitative research method is a method used by researchers to find knowledge or theories about research at a certain time. This study uses a descriptive qualitative research type because this study describes a deeper understanding of how the pattern of urban village spatial structure with existing conditions forms the social activities of the community.

The data sources used in this study are primary and secondary data. Primary data is obtained through indirect observation techniques by considering the relevance to the study in the research. Observations are made through images or satellite images related to the research subject. Secondary data according to Sanusi (2012) is data that is already available and collected by other parties outside the agency being studied. Secondary data is obtained from documents such as scientific papers, journals, government performance reports, regional regulations, and the Central Statistics Agency.

After collecting data in the study, it will be selected according to the research method and will be summarized narratively in the form of tables, narrative presentations, and images. The narrative will be described through the results of observations and literature studies related to the spatial structure of urban villages in Medan Maimun District, such as how urban village settlements affect social interactions in society and the dominant spatial patterns of urban villages in Medan Maimun District. Quantitative research identifies through the population density formula, namely in sub-districts with the number of residents and seen from the area of the sub-district location in Medan Maimun District. In this study, the focus of the discussion is limited only to settlement patterns and how population density affects community interactions as a social function in urban villages.

3. Results and Discussion

3.1 Location Description

The research location is in Medan Maimun District. There are 6 sub-districts in Medan Maimun District, namely Aur Village, Hamdan Village, Jati Village, Suka Raja Village, Sei Mati Village, and Kampung Baru Village. The total area of Medan Maimun District is 3.04 km² see **Figure 2**. On the spatial plan map, it can be seen that the residential zone dominates Medan Maimun District, as seen in **Figure 3**.



Figure 2 Medan Maimun map

Source: BPS Kecamatan Medan Maimun Dalam Angka 2024 [14]

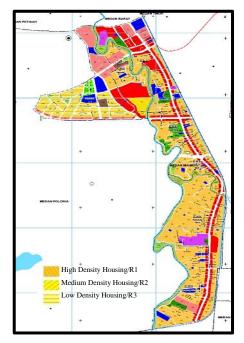


Figure 3 Map of The Maimun Terrain Spatial Plan Source: RDTR and Zoning Regulations of Medan Maimun 2015-2035 [15]

3.2 Population Density in Medan Maimun District

Based on the number of sub-districts in Medan Maimun District, as seen in the table below, the largest population is in Kampung Baru Sub-district, second in Sei Mati Sub-district, third in Aur Sub-district, fourth in Suka Raja Sub-district, fifth in Hamdan Sub-district and the smallest population is in Jati Sub-district.

Sub-District	Total population	Population Percentage
Kampung Baru	21,466	41.80%
Sei Mati	11,071	23.61%
Suka Raja	4,670	10.11%
Jati	1,049	2.74%
Hamdan	6,219	6.79%
Aur	8,156	14.96%

 Table 1
 Population of Medan Maimun

To determine the sub-district with the highest population density, the calculation steps use the population density formula. The following is the calculation of population density in each sub-district based on the number of residents in **Table 1** and the area in Medan Maimun District in **Figure 2**.

 Table 2 Population Density of Medan Maimun District

Sub-District	Total population	Total area by Sub-District (km²)	Population density per sq.km
Kampung Baru	21,466	1,11	15,210
Sei Mati	11,071	0,40	47,443
Suka Raja	4,670	0,16	27,488
Jati	1,049	0,44	2,302
Hamdan	6,219	0,39	6,030
Aur	8,156	0,54	11,520

Based on the results of population density sourced from BPS data for Medan Maimun District in 2024, seen in **Table 2**, namely Sei Mati Village is the village with the highest population density. The results of the calculation of the area per person in Sei Mati Village are as follows;

The population of Sei Mati = 11,071 people. Population density of Sei Mati = 47,443 people/km².

Area formula per person:

Area per person =
$$\frac{1 \text{ km}^2}{\text{Population density}}$$

Area per person =
$$\frac{1,000,000 \text{ m}^2}{47,443} = 21,07 \text{ m}^2$$

From the calculation results, each person in Sei Mati Village has a space of 21.07 m². If visualized, it becomes a square space measuring approximately 4.56 m x 4.56 m. This area covers the entire area of the village, including houses, roads, public facilities, parks, and other buildings.

3.3 Spatial Structure of Urban Village Settlement

Based on previous research on urban villages in Indonesia, spatial planning patterns have similar characteristics, namely high-density settlements, and lower-middle-class residents and most of them have jobs in the informal sector. As seen in **Table 3**, the settlement structure patterns in urban villages in Medan Maimun District can be classified, namely:

 Table 3
 Urban Village Spatial Structure Patterns

Sub-District	Location maps & Street/ Alley Pattern	Captions
Suka Raja	GS Am Lands GS Am	 Settlements are divided into: a. Houses b. Shophouses Passed by two Arterial Roads marked in red (A.), namely Ir. H. Juanda Street and (A1.) Brigjend Katamso Street Local Roads are marked in green (B.) Alley Roads is marked in purple (C.) Settlement Form is a Combination of Linear and Cluster The sub-district is passed by the Deli River marked in blue (D.)
Sei Mati	Juanda (a) Og Washin (b) Og Nadon (c) Og	 Settlements are divided into: a. Houses b. Shophouses Passed by one Arterial road marked in red (A), namely Brigjend Katamso Street Local Roads are marked in green (B.) Alley Roads is marked in purple (C.) Settlement Form is a Combination of Linear and Cluster The sub-district is passed by the Deli River marked in blue (D.)

The sub-district is slightly crossed by

the Deli River

Sub-District Location maps & Street/ Alley Pattern Captions Settlements are divided into: Kampung Baru Houses Shophouses **Housing Complexes** Passed by one Arterial Road marked in red (A.), namely Brigjend Katamso Street Local Roads are marked in green (B.) Alley Roads is marked in purple (C.) Settlement Form is a Combination of Linear and Cluster The sub-district is passed by the Deli River marked in blue (D.) Settlements are divided into: Aur Houses Shophouses Passed by two Arterial Roads marked in red (A1), namely Brigiend Katamso Street and Pemuda Street (A2.) Passed by one Secondary Collector Road marked in white (E.), namely Letjen. Suprapto Street Local Roads are marked in green (B.) Alley Roads is marked in purple (C.) Settlement Form is a Combination of Linear and Cluster The sub-district is passed by the Deli River marked in blue (D.) Settlements are divided into: Hamdan Houses a. b. Shophouses assed by two Secondary Collector Roads marked in white (E.), namely Letjen Suprapto Street and Imam Bonjol Street (E1) Local Roads are marked in green (B.) Alley Roads is marked in purple (C.) Settlement Form is a Linear dominant and a few Cluster The sub-district is passed by the Deli River marked in blue (D.) Settlements are divided into: Jati a. Houses Passed by one Arterial Road marked in red (A.), namely Ir. H. Juanda Street Passed by two Secondary Collector Roads marked in white (E2.), namely Jenderal Sudirman Street and Imam Bonjol Street (E1.) Local Roads are marked in green (B.) There are no alleys The linear settlement follows the local

Urban villages as described in the literature are the main elements of settlements. This means that every settlement with a pattern and characteristics such as a village-style environment and diverse forms of settlements because they grow organically is part of the urban village itself. This can be seen and felt in several densely populated settlement locations in Medan Maimun District.

Land in urban villages is narrower and denser so houses are built close together without large yards. Based on observations, it can be seen in Table 3 that the road network in Medan Maimun District influences the form of settlement patterns. In the Sub-District with high population density, namely Sei Mati Sub-District, Suka Raja Sub-District, and Kampung Baru Sub-District, there are more alley roads than local roads. The width of small alley roads have an average width of between 3 and 5 meters, there are also settlements on local roads and most of them are in the form of shophouses that function as houses, this further clarifies the density of settlements with irregular building forms and flanked by houses - houses of the community that are too close to each other.

Researchers took several points in two sub-districts in Medan Maimun District, namely Suka Raja Sub-District and Sei Mati Sub-District, showing that the yellow area is the urban village area.

According to **Figure 4** in Suka Raja Sub-District, location information A is at the intersection between Sederhana Alley and Bahagia Street, location B is on Warna Street, location C is in Bakti Alley and location D is in Baru Alley. It can be seen from the settlement pattern in the form of a combination, namely in the form of a settlement that was initially elongated then in certain parts of the Alleys there are branch roads so that they form a cluster pattern.

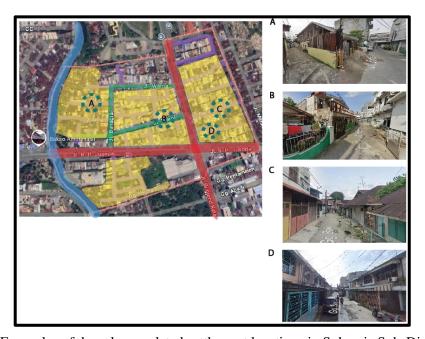


Figure 4 Examples of densely populated settlement locations in Sukaraja Sub-District

Based on **Figure 5** in Sei Mati Sub-District, the information of location A is in Ksatria Alley, Location B in Nasional Alley, location C in Pemuda Alley and location D is in Al Fajar Alley. In this Sub-District, the settlement pattern is similar to the Suka Raja Sub-District, which is a combination of settlements that were initially elongated, and then in certain parts of the Alley, there are branch roads so that they form a cluster pattern.

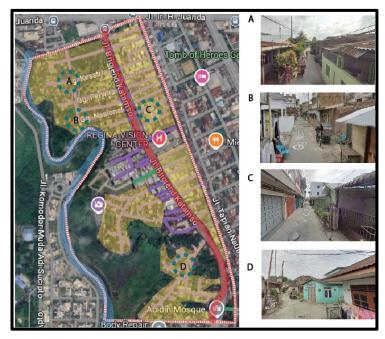


Figure 5 Examples of densely populated settlement locations in Sei Mati Sub-District

3.4 Social Function and Relation to Population Density

Based on the discussion related to the urban village pattern seen from the form of its settlement, namely, there are many alleys flanked by dense settlements causing social interaction to be unavoidable. In addition to alleys or local streets, other public spaces such as stalls, open yards, and fields are used as places for interaction between residents. With the diversity of people living in urban villages, social functions are maintained because of a sense of togetherness in the residential environment even though the overly dense conditions in the settlements make it uncomfortable to live in, because of the sense of togetherness and high social ties, social interactions are still built and become part of life in urban villages.

4. Conclusions

The study on the spatial structure of urban villages in Medan Maimun District shows that this area has unique characteristics that reflect the close relationship between spatial planning and social functions. Despite experiencing rapid social and economic growth, Medan Maimun faces significant challenges such as high population density, limited infrastructure, and irregular land management. These findings answer the research questions on how local communities utilize and manage their space, and how dense settlement patterns affect social interactions. The results indicate that despite the irregularity in the spatial structure, the existence of public spaces such as alleys, stalls, and social facilities function as important places for interaction in the community.

This study presents a structural and dynamic analysis of urban villages in Medan Maimun District, which is a real example of dense settlements in the middle of the city. The research findings show that the spatial structure of urban villages is influenced by a combination of factors such as population density, geographic characteristics, and socio-economic activities. Nevertheless, urban villages remain traditional settlements that maintain local identity and community togetherness. The analysis highlights and recommends the importance of infrastructure integration, development of facilities and infrastructure, effective land management, better regional planning by prioritizing global issues, as well as community education and participation in improving the quality of life and sustainability of urban villages.

5. Acknowledgements

The author would like to thank all those who have assisted in the research about the spatial structure of urban villages in Medan Maimun a study of social functions and spatial planning.

6. Conflict of Interest

The author declares that this manuscript has no conflict of interest and is not funded by any party.

References

- [1] M. H. Hasan, "Pola dan Struktur Ruang Kelurahan Bulukunyi Sebagai Ibukota Kecamatan Polongbangkeng Selatan Kabupaten Takalar," geoedusains J. Pendidik. Geogr., vol. 2, no. 1, pp. 25–35, 2021, doi: 10.30872/geoedusains.v2i1.536.
- [2] E. Theresiana and S. P. Dewi, "ANALISIS PERKEMBANGAN STRUKTUR RUANG KAWASAN BERSEJARAH KAMPUNG KAUMAN KOTA SEMARANG," Tek. PWK (Perencanaan Wil. Kota); Vol 2, No 3 Agustus 2013DO 10.14710/tpwk.2013.2951, vol. 2, no. 3, 2013, [Online]. Available: https://ejournal3.undip.ac.id/index.php/pwk/article/view/2951
- [3] R. U. Noviantri, H. W. Wiranegara, and Y. Supriatna, "Jenis Ruang Publik Di Kampung Kota Dan Sense of Community Warganya (Kasus: Kampung Kali Apuran, Jakarta Barat)," J. Pengemb. Kota, vol. 7, no. 2, pp. 191–198, 2019, doi: 10.14710/jpk.7.2.191-198.
- [4] Elisa, "Kampung Kota: Bukan Nostalgia Belaka," RUJAK Center for Urban Studies. [Online]. Available: https://rujak.org/kampung-kota-bukan-nostalgia-belaka/
- [5] A. T. Hutasoit, W. P. Wijayanti, and F. Usman, "Pengaruh Industri Terhadap Struktur Ruang Kota Batam," Tata Kota dan Drh., vol. 15, no. 2, pp. 183–190, Dec. 2023, doi: 10.21776/ub.takoda.2023.015.02.9.
- [6] M. Defrita, "Analisis Yuridis Terhadap Pelaksanaan Perda Nomor 7 Tahun 2012 Tentang RTRW Kabupaten Karimun yang Terbit sebelum Diterbitkan/Disahkan Perda Nomor 1 Tahun 2017 Tentang RTRW Provinsi Kepulauan Riau," J. Law Policy Transform., vol. 4, no. 2, pp. 168–188, 2019, doi: 10.37253/jlpt.v4i2.584.
- [7] N. Yenny, R. Rohani, K. Pinem, and N. Anggraini, "Slum Settlement Phenomenon in Medan City (Case Study: Kampung Aur, Medan Maimun District)," J. Community Res. Serv., vol. 3, no. 2, p. 63, 2019, doi: 10.24114/jcrs.v3i2.15807.
- [8] Istijabatul Aliyah, "Pengenalan Aspek Sarana Prasarana sebagai Pendukung Pelaksanaan Aktivitas Wilayah dan Kota," Sistem Pembelajaran Daring Universitas Sebelas Maret. Accessed: Dec. 05, 2024. [Online]. Available: https://spada.uns.ac.id/pluginfile.php/647762/mod_resource/content/1/20211108 Pengenalan Sarana Prasarana dlm PWK Bu Istijabatul.pdf
- [9] Y. S. R. Yusril Zulkani Batubara, "Pola Permukiman Kumuh Pinggiran Sungai Deli Di Kampung Aur Medan Maimun," JAUR (Journal Archit. Urban. Res., vol. 8, no. 1, 2024, [Online]. Available: https://ojs.uma.ac.id/index.php/jaur/article/download/13000/5862/56326
- [10] T. R. Istikharah, "Struktur Guna Lahan Kecamatan Medan Maimun," Talent. Conf. Ser., vol. 5, no. 1, 2022, doi: https://doi.org/10.32734/ee.v5i1.1511.
- [11] I. Y. Sari, "Hakekat Arsitektur Kampung Kota Dalam Konteks Filosofis," Lakar J. Arsit., vol. 3, no. 2, p. 118, 2020, doi: 10.30998/lja.v3i2.7541.
- [12] J. E. Ansar, A., Harefa, A. T., Sinaga, I. N., & Lopulalan, Teori Sosiologi: Konsep-konsep kunci dalam pemahaman masyarakat. Medan, 2024. [Online]. Available: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://repository.mediapenerbitindonesia.com/213/1/K 207 Teori Sosiologi Konsep-konsep Kunci dalam Pemahaman Masyarakat.pdf
- [13] M. C. Tandafatu, "Kajian Pola Tata Ruang Kampung Adat Bena Di Desa Tiworiwu Kabupaten Ngada," UNIVERSITAS ATMA JAYA YOGYAKARTA, 2015. [Online]. Available: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://e-journal.uajy.ac.id/8889/3/2MTA01864.pdf
- [14] Badan Pusat Statistik (BPS), "Kecamatan Medan Maimun Dalam Angka 2024," Medan, 2024. [Online]. Available:

- https://medankota.bps.go.id/id/publication/2024/09/26/00cf37ee1c2cb129a88edcca/kecamatan-medan-maimun-dalam-angka-2024.html
- [15] Pemerintah Kota Medan, "Peta Rencana Pola Ruang dan Zonasi Kecamatan Medan Maimun Tahun 2015 2035," p. 400, 2015.