

## Morphology of the Manangamesi area, East Sumba

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i>  Received March 14, 2024  Received in revised form April 22, 2024  Accepted September 24, 2024  Available online December 01, 2024</p> <p><i>Keywords:</i>  Area morphology  Degradation  Manangamesi area  Manangamesi harbor  Waingapu city</p> <p><b>Corresponding author:</b> Generosus Umbu Banju  Department of Architecture, Master of Architecture Study Program, Faculty of Engineering, Atma Jaya University Yogyakarta, Indonesia  Email: <a href="mailto:banjuumbu@gmail.com">banjuumbu@gmail.com</a></p>	<p><i>The architecture and spatial form of the Old City of Waingapu are the result of the development of Manangamesi Harbor, which occurs between the city space and the environmental elements behind it so that an overview of its problems can be obtained to date. This research aims to provide suggestions for factors that can be integrated from the Manangamesi area using qualitative descriptive methodology. The analysis used is Urban network analysis by approaching the location or object being studied. The research results indicate that the Manangamesi area originated from the estuary's geographical location as a fishing anchorage and the barter trade between inland tribes and coastal residents in the pre-Swampaja era. During the Swapraja era, this trade became the foundation for the Manangamesi area's development. During the colonial era, the Manangamesi area began to flourish. Current population, economic, and ecological growth are causing a decline in regional quality in the Manangamesi area. Examining regional ecology, architecture, and design, this study addresses the shortcomings of earlier research on the Manangamesi region and is superior to other interdisciplinary sciences that concentrate on science, environmental studies, and more economic research. Recommendations for additional multidisciplinary research in the fields of architecture, urban planning, ecology, economics, tourism, and politics are necessary for the development of the Manangamesi area.</i></p>

## Introduction

The development of Manangamesi Harbor, which examined the interaction between urban space and the environmental components behind it to acquire an overview of the difficulties inside it to date, resulted in the architecture and spatial form of the Old City of Waingapu. The objective of this study is to offer recommendations for factors that can be included in the Manangamesi region. The research seeks to complement studies by obtaining a more comprehensive observation of how urban space has developed over time. This is a method to comprehend the city. Christian Norberg-Schulz's statement, in his book *Genius Loci* (1980:17-18), indeed shows an ideal

situation. But in reality, not all 'places' in this hemisphere, residents can organize the environment according to their understanding of the surrounding environment (Norberg-Schulz 1991). Because in most cities in Southeast Asia in general and Indonesia in particular - which experienced a period of colonization by Europeans (16th century to the mid-20th century), realizing their environment during the colonial period in accordance with their understanding is something impossible. Manangamesi Port is the port that has been the development of Waingapu City to date. Entering the end of the 19th century, the area around the Savu Sea was in a period of rapid transition in 1880, the economy of this region experienced changes in its structure. If

previously sandalwood was a superior commodity, now there are more popular ones in the market, such as coconut (copra) and coffee. Political economics seeks to enhance the archipelago's performance to strengthen international trade. The Savu Sea region, including Manangamesi Harbor, was one of the minuscule ports outside Java that the Dutch East Indies colonial government started gaining attention to in 1875. Currently, it is evident that the once-glorious Manangamesi area is no longer in use and has transformed into a building that is neglected; the Manangamesi Port area's physical state has deteriorated to the point where it is now a slum; traders' waste is the source of an offensive stench because of poor location planning; and the number of mangroves along the coast has decreased causing the Manangamesi market to experience abrasion so it was relocated.

At the moment, the economic hub concentrates on Matawai City, which is located two kilometers away from the Manangamesi region. One of the reasons for the Manangamesi area's downfall is the abundance of undeveloped fisheries resources, tourism potential, and architectural history that the region holds. Efficient management of this potential may generate revenue and economic activity through the influx of tourists (Oktaviani and Yuliani 2023; Harefa 2019; Bawole 2020).

This research aims to provide suggestions for factors that can be integrated from the Manangamesi area using qualitative descriptive methodology. The analysis used is: Urban network analysis: The result of this analysis is discovering what elements shape environmental changes in the Manangamesi area.

#### Theoretical study of the Manangamesi area

In general, the arrangement of streets, plots, and buildings is perceived as a single, multi-level transformation that serves well as an urban network (Salsabila Tuhfah et al. 2024). The primary component or unit of urban growth and transition is the urban network (Nusaputra and Dwisusanto 2022). These components are constructed up of lower-scale components that define local places and identities, and they come together to form the settlement's large-scale structure (Husin and Komala 2024). Urban networks are the physical manifestation of cultural practices that generate and serve as guidelines for organizing various elements of urban form (Bachtiar and Pasaribu 2023).

Urban networks and planning concepts related to units and areas with urban character are the main focus of analysis (Bela et al. 2024). One of the main tasks of urban morphological analysis is to identify the differences in urban networks that form settlements, demonstrating that the settlement itself is a composite form but at a higher level of complexity than its constituent networks (Juwita and Dwisusanto 2022). In essence, urban morphology seeks to take into account and understand complexity using the conceptual tools of type, hierarchy, generative and transformative processes (Kroft 2018).

Urban network analysis is needed in this research as a reference for the form of regional development (Tallo, Alraouf, and Wibowo 2024), reading the actors and factors forming regional change in each important period (Prasetyo and Ekomadyo 2021) of the Manangamesi Region.

## Methods

Using qualitative descriptive methodology, the analysis used is (Creswell and Creswell 2018):

- Urban network analysis This research employs a qualitative descriptive method, and historical analysis with the following steps.

The concern of the problem is emphasized in the Manangamesi area.

#### Qualitative descriptive methodology

There are two survey techniques for collecting data, namely as follows: (a) Primary Survey A method of searching for data and information carried out directly through respondents in the field; 1) Observation, and 2) Interview; (b) Secondary Survey Data collection method from relevant government and non-government agencies, including data collection through related journals. Data in the form of descriptions, numerical data, or old to recent maps regarding the study object.

**Table 1.** Data collection research

Research question	Data type	Data source
Determining pathological and propelling elements in the Manangamesi	Interpretation	Interview
	Maps, areas, transport routes, city circulation	Observation

Research question	Data type	Data source
area, East Sumba, East Nusa Tenggara	Regional data, population data	Government documents

#### Urban network analysis

Morphological frame, understanding how the shape of the study area changes and connecting important periods that shaped regional development by stretching the regional map of the Manangamesi region (Banju 2024).

## Results and discussion

The following is a discussion of building development in the Manangamesi area from each important period that shaped regional environmental changes.



**Figure 1.** Manangamesi initial harbor

1700 period, the main building elements this period followed elements such as the port as the center, the government center (Duke/Regent's Office), the mosque, and the economic center (market). Actors: Kampera Kingdom Swapraja Government and Manangamesi Harbor. Factors: Politics and Economics (Kampera Kingdom).



**Figure 2.** Government center and main port

In the 1880 period, the center of the Dutch Colonial government was in the Manangamesi Harbor Area. After Indonesia became independent, the Manangamesi Area was built with government facilities (Regent's Office), military, education (schools), transportation, and public facilities. Actors: Colonial Government and East Sumba Regency. Factors: Political factors and technological developments.



**Figure 3.** City infrastructure development

Development in the 1970s concentrated on already-existing structures in promising industries, including contemporary markets, education, and transportation (terminals). One of the primary concerns at the moment was the relocation of the government's headquarters from Waingapu to Radamata. Actor: East Sumba Regency Government. Factors: Political factors (revitalization policies in the New Order era), economic factors, infrastructure development, and residential growth.



**Figure 4.** Degradation of Manangamesi

Developments in the tourism sector took place between 2001 and 2022, encompassing the growth of beachside cafés and public tourism (squares and culinary tourism). The east and south of the city center are home to more residential

complexes. Actor: East Sumba Regency. Factors: Population growth, development of road infrastructure, and tourism.

#### Analysis results

The central area of Waingapu City was established under the Swapraja administration of the Kambera Kingdom, according to the results of the urban network analysis. The Dutch Colonial period experienced the majority of the Manangamesi area's growth, including the construction of the city's major structures, blocks, and roadways, as well as the creation of Manangamesi Harbor. The decline in the quality of the regional environment occurs due to increasingly dense population growth, currently, the population of Hambala Village in 2020 is 8,755 people, and the density has reached 3,684 people/km<sup>2</sup>, while the population of Kamalaputi Village in 2020 is 8,836 people, and the density is 7,363 people/km<sup>2</sup>.



**Figure 5.** Condition of the Manangamesi area

#### Problem – solving approach

##### On-site upgrading

Improvement of slum settlements by improving the physical environment and public facilities in the community while maintaining the location, character, and social structure of the local community. The form of arrangement of this area can be in the form of residential construction, arrangement of pedestrian paths, arrangement of environmental roads, and improvement of public open spaces through arrangement of layout or plot size. These physical improvements generally aim to improve the quality of life of the local community and as a stepping stone for future development activities such as the business sector.

#### On-site reblocking

Rearranging the arrangement of homes and roads is a methodical approach to enhancing the standard of housing and infrastructure in a region through regional layout design. Plot size planning, design, drainage routes, water channels, roadways, sidewalks, and residential lot layouts are all included in this reorganization. Following the arrangement of the space, the neighborhood can build homes in phases based on available space while continuing to adhere to the jointly developed site plans and regulations.

#### On-site reconstruction

This reconstruction activity means rebuilding an area on the same land. The fact that the current structures defy zoning laws and maximize land utilization is just one of the factors driving this restoration. Aside from that, this reconstruction approach is selected when residents of slum regions refuse to relocate to remain near their place of employment. With this reconstruction, they can continue to live in the same place and remain close to their place of work, and are provided with a better environmental conditions system. The challenge of this reconstruction is regarding the certainty of ownership of new land on previously occupied land related to the rental system and people's purchasing power for the land that has been reconstructed.

#### Land sharing

Land sharing is a strategy for structuring slum areas that aims to encourage land owners and the community to share their land for mutual benefit. After an agreement is reached, the community's land must be separated into two sections: one section must be used for home reconstruction, and the other portion must be sold or rented. The land-sharing procedure must be carried out through discussions between the community and the land owner because there are no predetermined regulations defining the land distribution method, including the amount of land acquired by the community and how much is returned to the original owner. This land sharing causes areas that were originally only used as residential areas (usually with slum environments) to be redesigned into mixed-use areas, for example, residential and commercial locations, while the people who live have to pay rent for the houses they live in.

#### Relocation

An alternative is relocation or resettlement, providing people who reside in impoverished areas, possess unlawful land, or are in disaster-prone locations the chance to organize and carry on with their lives in a new location. Relocation sites, in contrast to reconstruction sites, may be near or far from established communities, places of employment, social networks, and educational institutions. In this situation, community members who desire to keep working at their current employment or attending the same school will have to acclimate to the new surroundings and incur more commute time and expenses. Because they now own distinct rights to their land in the new location, this move enables people to live in a safer environment. However, the challenge that must be faced is that the community must be willing to provide sufficient funds to cover the costs of rebuilding their house in a new location and also the additional costs of purchasing land.

### Conclusion

The results of the research can conclude that the Manangamesi area is a multifunctional area because it was formed from the geographical location of the estuary as an anchorage for fishermen and the exchange of goods (barter) between inland tribes and coastal residents in the period before the Swapraja Government. The government center and supplementary infrastructure, including offices, ports, highways, and marketplaces, were constructed in the Manangamesi area during the Dutch Colonial era when the area began expanding. As Indonesia obtained independence, the Manangamesi region achieved its pinnacle, with the first capital city on Sumba Island serving as the region's political and economic center. Blocks began to develop in all directions as a result of population growth, new highways began appearing wider than those constructed previously, and ports became larger and more frequently utilized as the primary port for products and business.

Technological advancements and the inflow of waste and sediment from the Payeti River into the port region, which causes Manangamesi Port to decline in priority for the main dock, are urban elements that impact environmental changes in the Manangamesi area. Due to the Manangamesi

Market's proximity to the shore, tidal water can penetrate the market area, reducing the amount of mangroves and turning the land into a fishing boat parking area. The establishment of supermarkets in the Manangamesi neighborhood contributed to a downturn in the Chinatown and Kampung Bugis areas. The distance between the communities was evident in the empty and deserted shops in the Chinatown block.

Manangamesi area attachment

The following attachment is an attachment for slum areas on the coast of the Manangamesi area.

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