

Historical Evolution of the Development Patterns of Gorontalo, Indonesia

M. Fauzhan Algiffari, Triyatni Martosenjoyo, Syarif Beddu & Rahmi Amin Ishak

Department of Architecture, Hasanuddin University, Makassar, Indonesia.

Email: 1fauzan.algiffari@gmail.com, 2triyatni@gmail.com, 3syarifbeddu@gmail.com, 4rahmiaminishak.76@gmail.com

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Abstract

Gorontalo is currently known as the City of Serambi Medina due to its distinctive features. Distinctive features in each era of Gorontalo demonstrate the unique progression of the city across time. Its defining feature is the mosque serving as the focal point of activities, encircled by the residences of the *olongia* or the tribe chiefs. Here, one's place in the mosque is determined by one's proximity to the center: the closer one is, the higher one's position is; conversely, the farther one is, the lower one's position. This study examines the progression of its urban development patterns at different points in time. The study was carried out at Gorontalo City, Indonesia.

It employs a qualitative method utilizing phenomenological techniques. Data was collected through participant observations, structured interviews and a literature survey. Data analysis involves examining the attributes of Gorontalo City through qualitative descriptive methods.

The paper reveals that the city has arisen from the original Islamic Kingdom, which was produce two patterns due to the relocation of the kingdom. Specifically, in Tuladenggi, the city's development has been characterized by an axial design, with structures placed along lines and experiencing linear and continuous growth. In Biawao and Limba, the locations differ from the prior places due to their grid-shaped development pattern characterized by a continuous linear growth along the major road. Throughout the colonial era, the development pattern has consistently followed a grid layout in the imperial metropolis, whereas the settlement growth pattern has shifted to a discontinuous radial one. Urban development trends currently reflect colonial grid-shaped layouts with unsustainable radial growth. This ongoing radiation is the precursor to the urban sprawl in the city of Gorontalo. This city development pattern offers valuable lessons on how to achieve harmony with Nature.

Keywords: Gorontalo, Islamic Kingdoms, Characteristics, Development, Patterns.

Introduction

According to Lynch (2023), for a city to have a pleasant environment, it is essential to consider the following three qualities:

- (1) Identity, which pertains to the distinction an object makes from other objects as an independent entity (e.g., a door);
- (2) Structure, which concerns the spatial relationship between an object and observers and other objects (e.g., the position of a door); and
- (3) Meaning, which concerns the practical or emotional significance of an object for the observer (e.g., a door functioning as an aperture for exiting). Good urban planning will therefore be sustainable.

Development patterns of Gorontalo have undergone three distinct periods in history: the Traditional-Islamic Kingdom Period (1736-1894), the Colonial Period (1728-1894), and the Present Time (2001-2023). Each of these three periods possesses distinctive and singular patterns of development. Gorontalo City is one of the coastal locations that has evolved into a city in the island of Sulawesi. At its inception, it has been elongated and organised in accordance with the advantages bestowed by the natural environment; thus, there has been no premeditated endeavour to subjugate Nature preceding the selection of settlement locations. The settlement locations are elongated and densely concentrated in accordance with the river and the coastline currents. Initially, the growth of Gorontalo City has been significantly impacted by the natural factors such as river currents. Nevertheless, it has served as a strategic location for commerce, layovers, and other purposes. As the river has served as the primary sustenance during that era, the development of settlements have transpired and progressed in tandem with the course of the river.

Distinguishing itself from the Pohala (kingdom) region of Gorontalo is the city itself. The name "Gorontalo" originates from the kingdom known as Hulontalo, which is considered one of the most ancient kingdoms to have inhabited the Gorontalo region. It ensures that patterns of urban development are inextricably linked with social, cultural, and governmental factors. The observed shifts in development patterns within the municipality of Gorontalo can be attributed to a confluence of factors, including natural forces, unwavering public confidence, and deliberate systemic design.

Despite the ongoing progress of the municipality, the attitudes and way of life of the inhabitants of Gorontalo remain unchanged. In recent years, however, infrastructure has been constructed without adequate planning, resulting in an irregular pattern of urban development. This impacts the future development of the municipality of Gorontalo. In this context, this article examines the factors that has influenced the future development patterns and the growth and trajectory of the development of the city of Gorontalo. It focuses on the evolution of development patterns.

Its aim is to ascertain the historical progression of development patterns in the city of Gorontalo. Its objectives are as follows:

1. To identify the development of the province of Gorontalo and the city of Gorontalo.
2. To determine how the city of Gorontalo, Gorontalo province, has evolved.

Theoretical Framework

Schulz (1980) defines space as a human-created concept characterized by a three-dimensional arrangement of components. Space is utilized in several ways, including absolute, relative, and relational (cognitive) forms. Absolute space is the concept of space being perceived as a tangible, physical, or empirical substance. Relative space encompasses location, distance, and horizontal connections. Relational cognitive space refers to the space and place that is an inherent aspect of our existence, characterized and quantified by human values, emotions, beliefs, and perceptions of locations, territories, and regions. In Lefebvre's (1991), theory of the "production of space," space in the artificial environment is categorized into three

groups: 1) Spatial practice (experienced space), 2) Representations of space (thought space) and 3) Representational space (lived space).

According to the Government Regulation Number 21 of 2021 in Indonesia, urban areas are defined as regions primarily dedicated to non-agricultural activities, serving as locations for urban settlements, government services, social services, and economic activities Lynch (2023) has proposed that a city with a positive environmental image should focus on three specific attributes:

- (1) Identity refers to the distinction between an object and other objects as distinct entities, such as a door.
- (2) Structure pertains to the spatial arrangement of an object in relation to the observer and other objects, like the location of a door.
- (3) Meaning encompasses the significance of an object, whether practical or emotional, for the observer, for instance, a door serving as an exit.

Every city should thus possess unique characteristics represented by symbolic urban spaces that are considered integral components of the city structure. These spaces reflect the social identity of a group and distinguish it from others based on various dimensions representative of that area (Sergi, 1997). The notions of urban growth and development are outlined in the elements of the city image: paths, nodes, landmarks, edges, and districts (Lynch, 2023). City design elements include land use, building forms and massing, circulation and parking, open spaces, pedestrian ways, activity supports, signs, and conservation (preservation) as outlined by Shirvani (1985).

According to Newman *et al.* (2021), there are six patterns of urban physical developments: Continuous Radial, Discontinuous Radial

(a) Discontinuous Radial

(b) Continuous Gridiron, Continuous Radial-Concentric, and Continuous Linear

(Branch, Wibisono and Djunaedi, 1995)

Urban Form:

Nuclear: centered on a single point.

Axial: arranged in a line,

Branching: arranged along a primary axis with sub-axes, and

Grid: organized in equal units without a hierarchy.

According to Bahrainy & Bakhtiar (2016), the five fundamental principles of a city are community, liability, mobility, equality, and sustainability. Urban design studies focus on these macro & micro land designation, development intensity, connecting systems, urban open space and green planning, building planning and building mass, and information management and road furniture (Mahira, Soemardiono and Santoso, 2021). Good cities thus come into being with these characteristics embedded in their spaces.

Review of Literature

Multiple studies have been conducted on urban growth trends. Each metropolitan region displays distinct characteristics and shapes based on the specific traits of the cities. Variations might occur in the utilization of spaces by the individuals residing in the region. For example, Afrianto *et al.* (2023) has conducted research in Malang City using Night Time Light (NTL) remote sensing technology. It has been found that Malang City has a circular urban structure that extends towards the North-east and the North of the city. The analysis of annual data reveals that the growth of the city center has reached a point of saturation and shows signs of decline. Cities typically expand outside into peripheral areas or urban fringe regions.

Fitriani *et al.* (2022) says that a sustainable city undergoes continuous growth. The city, originally characterized by agricultural land and serving as an economic and commerce hub, has undergone development due to ongoing building construction, leading to a decrease in the agricultural areas. The city has become overcrowded due to population growth and high activity levels. Consequently, road construction has focused mostly on the South to accommodate additional areas, leading to the emergence of new cities.

Adiguna et al. (2021) has analyzed the morphology and visual representation of the cities in the Kauman area, emphasizing the importance of structures having distinct character. They have focused on identifying the distinctive features of structures with Colonial, Traditional Javanese, and Chinese architectural styles, each representing a unique character. Romdhoni (2020) has found that the growth of slum areas and overpopulation in Palembang has been caused by either excessive or imbalanced urban densities. Therefore, they argue that evenly distributing developments across each sub-district might be crucial for city advancement. Wohos et al. (2020) have also found that urban areas will transition from green open spaces and rice fields to residential areas and general trade or stores over time. This alteration will affect the city shape by dividing it based on the concentration of urban settlements in specific residential regions. Susanti et al. (2020) when examining morphology: an analysis of the shape of urban village artefacts reveals that urban village settlements in a city typically arise without prior planning. City growth is influenced by various elements such as economic, social, and cultural aspects. Similarly, Litolily (2019) focuses on the political and philosophical factors that have influenced the early development of the city of Kotagede, which was the capital of the Mataram kingdom. Secondary influences include topography, laws and norms. The region has an organic pattern featuring significant elements such as a palace, a mosque, a square, and a market. Economic development is the primary influence in contemporary cities. Secondary elements include topographical, social, and political aspects. An organic urban layout featuring key components such as a palace, a mosque, a square, and a market have seen functional modifications.

Fitrianto et al. (2022) have discovered that Balikpapan City has a compact shape pattern with a linear orientation along the water's edge in Balikpapan Bay. The city structure is oriented towards the economic center, which is the Pertamina Oil Refinery. Visual morphology of the Balikpapan City lacks distinctive landmarks except for the mosque, the Islamic centre, the sports center dome, and the Balikpapan stadium. Putra et al. (2022) show that the socio-economic facilities in Kupang City play a crucial role in attracting residents to settle, thus increasing the demand for land. The City of Kupang demonstrates growth through its various potentials. Mandalika et al. (2022) have studied the typology and morphology of historic cities. They have discovered that historic cities are created from urban artefacts derived from the history of the city formation, including streets, plots and buildings. These elements develop over an extended period with distinct historical backgrounds. They are the key distinctions necessary for predicting future urban developments. The primary features of the fundamental components of urban structure in a historical city, using the historic city of Lasem as a case study are streets, plots, and buildings that create the city's framework.

This literature research reveals the common variables that contribute to the growth of a city. Geographical circumstances influence the capacity and function of any city. The site is the second factor that influences city growth, in addition to urban operations. The history and culture of a city shape the character and behavior of its inhabitants, impacting its development potential. General components like road layout, clean water supply and energy networks, together with the creation of the artificial environments such as buildings, urban planning features and people's lifestyles, have contributed to giving the city a distinct identity.

Research Methods

This study employs qualitative research methods. It utilizes the case study method to gather data from interviews, observations and document studies. Interviews were conducted to collect detailed information, opinions, attitudes, and viewpoints from the participants regarding the historical evolution of the development patterns of Gorontalo.

The Case Study: The Research Site

Gorontalo City is situated inside Gorontalo Province, Indonesia. It is the sole city in Gorontalo province, with an area of 79.59 km². It has a flat topographic condition with three rivers flowing into Tomini Bay and Gorontalo Harbour. Two limestone/s and rocky mountains border the southern section. The elevation ranges from 0 to 470 meters above the sea level. The

coastline features sloping sandy beaches and is primarily inhabited by people who rely on farming as their major source of income.

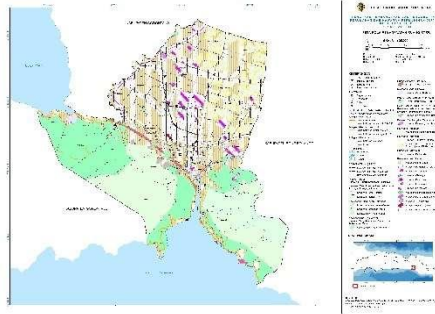


Fig. 1: Gorontalo City Map
Source: Gorontalo City Government, 2023

The study is conducted in Gorontalo city, the capital of Gorontalo province, known for its abundant natural resources. The location near Tomini Bay possesses unique characteristics. Gorontalo city originated from the evolution of the Gorontalo monarchy.

Findings and Discussion

Overview of the History of Gorontalo's City

Gorontalo region encompasses the center area of the northern peninsula of the Sulawesi island. Gorontalo, formerly referred to as the "Gorontalo peninsula," is located between $0^{\circ} 19' 00'' - 1^{\circ} 15' 00''$ North Latitude and $121^{\circ} 23' 00'' - 125^{\circ} 14' 00''$ East Longitude. Hulontalo is the precursor of the term Gorontalo, a kingdom that was one of the ancient kingdoms in the Gorontalo region. The ancient kingdoms in this region have exhibited diverse relationships, mutual impact, and interdependence among various areas of people's lives during that era. The kingdom has been originally established with the Wadda kingdom at the base of Mount Tilongkabila, governed by the King Buniagugoto. The Kingdom of Hulontalo (Gorontalo) has been established by a coalition of 17 linula governed by the monarch of Wadipalapa or Ilahudu. Hulontalo kingdom's position has shifted from the Hulawa village along the Bolango river to Duingingi, the Tuladenggi hamlet (where the Bolango River meets the water channel from Lake Limboto), around the 1600s. King Eyato has moved the centre site of the kingdom closer to the coast to improve diplomatic relations with the neighboring kingdoms. The capital has been relocated from Duingingi to a site close to the Bolango River, which is today part of the Biawao and Limba B settlements, on 6 Sha'ban 1140 H or 18 March 1728 M (Marzuki, 2018a, 2018b).

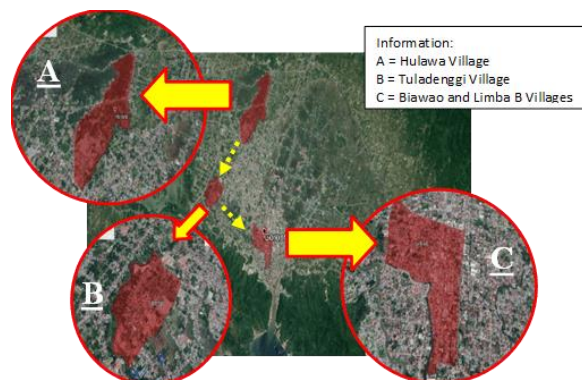


Fig. 2: Location of Gorontalo Kingdom Center
Source: Marzuki, 2018

Initially, the home location has been chosen based on the natural facilities available, without the need to alter or conquer Nature. The settlement plan is tightly packed and extended, aligning with the rivers and the shoreline. This pattern is also found in the residential areas at the confluence of the Bone coast, the Bone River and Bolango, which initially had built

settlements (fondachi) and had developed into Bugis villages related to their livelihoods as fishermen; for Chinese villages, it has been developed into a trading area (Soukotta and Bagulu, 2018)

Historical Evolution of the Development Patterns of Gorontalo

The city of Gorontalo has undergone several changes in its development over time. Noticeable alterations are seen in the development and expansion of the city. Various factors contribute to the variances, such as regional political leaders, geographical locations, socio-economic conditions and other variables. It has the potential to alter the trajectory of development and expansion in Gorontalo city.

Traditional– Islam Kingdom Period (-1736)

During the initial stages of its growth, natural conditions have played a significant role, particularly with strategic river flow serving as crucial points for stopovers and commerce activities. Settlements have been formed and thrived along the course of the river due to its significance as the primary source of life throughout that period. Urban development and settlement patterns currently adhere to many criteria. This discrepancy is caused by the relocation of the kingdom from place A to places B and C, resulting in two distinct patterns.

- a) The Kingdom of Gorontalo, which was located in Hulawa Village (A) moved to Tuladenggi Village (B), having the same pattern

- 1) Urban Development Pattern

The pattern of urban development is seen from the geographical location; it follows the natural pattern:

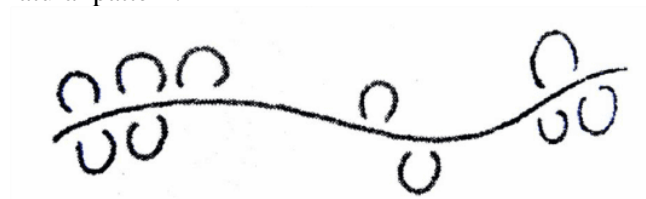


Fig. 3: Axial
Source: Kostof, 1991

The riverbank's natural formation and following the river flow without opening new roads. Axial type: organized along a line.

- 2) Urban Growth Pattern

The pattern of urban growth where the population clears the mainland on the banks of the river, and the river is the main economy, then the city's growth has a continuous linear pattern.

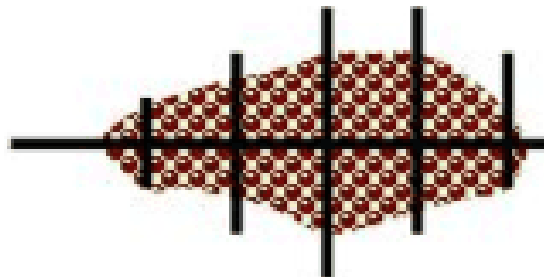


Fig. 4: River Flow
Source: Branch, 1995

The growth continues by following the river flow, and the traditional population uses the river as a source of life.



Fig. 5: Central Location in Hulawa (A) - in Tuladenggi (B).

Source: Observation Result, 2023

b) The Kingdom of Gorontalo

The Kingdom of Gorontalo, situated in the Biawao and Limba B (C) sub-districts, exhibits a distinct pattern compared to its previous state. Islam's influence have started to infiltrate and shape a structured system. The design map created by Sultan Botutihe provides clear guidelines and is leading to the establishment of organized towns.

1) Urban Development Pattern

The pattern of urban development is seen from the geographical location; then it follows the grid pattern.

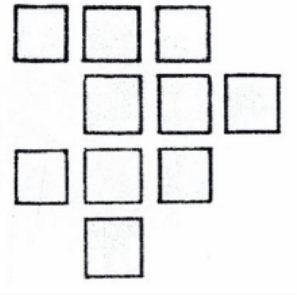


Fig. 6: Grid

Source: Kostof, 1991

The grid pattern is the most common of all the ways for planned cities in history—grid: organized as equal units and hence no sense of hierarchy. Thus, in Islam, there is a relationship (Hablumminannas).

2) Urban Growth Pattern

Urban expansion follows a linear structure with settlement formations already established along the road axis. The city center has shifted from being aligned with the river to aligning with the road axis because of floods near the river fringes, leading to the urban settlements expanding in a linear manner. Proceed down the primary road.

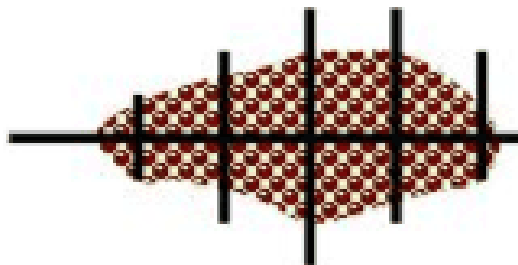


Fig. 7: River Flow

Source: Branch, 1995

The increasing vulnerability of living near the river bank is prompting the adoption of growth strategies that align with the major road.

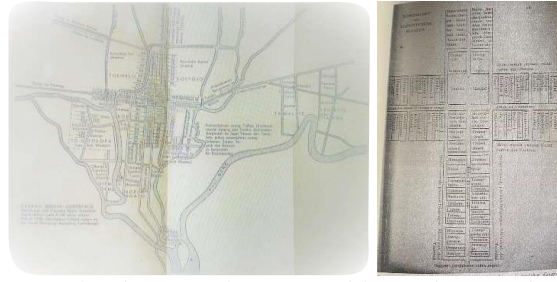


Fig. 8: Gorontalo City Growth Pattern with Continuous Linear Pattern
Source: Marzuki, 2018

Gorontalo's city expansion is reflected in its city image, which may be observed through the aspects that constitute the following.

- Paths are commonly used routes for general mobility, such as highways like the one in Gorontalo.
- Node is a meeting point or activity area that allows for changing direction or activity. The Islamic kingdom city has a spatial layout where the ruler's building (palace) serves as the central point, surrounded by mosques, tombs, markets, and squares. The square serves as the central meeting point in the kingdom of Gorontalo.
- Landmarks are external features that serve as a prominent visual representation of the city. Landmarks aid in spatial orientation and facilitate area recognition. The prominent feature of the kingdom during that era was the royal mosque, which remains situated in the city centre and is identified as the Baiturrahim Mosque. This pertains to the kingdom period's strong adherence to the principles of Islam.
- Linear components that are not perceived as pathways. An edge is a linear border separating two specific locations, such as beaches, fences, railway boundaries, and terrain. Gorontalo owns the Bone River and the Bolango River.
- Districts are urban areas in a two-dimensional space. A district is defined by its consistent traits such as shape and pattern, with clear and identifiable boundaries that mark the beginning and conclusion for individuals. There are ethnic-based settlements of newcomers. Migrants from Bugis, Luwu, Mandar, Donggala, and Makassar established settlements in low-lying regions close to the shoreline and the meeting point of the Bone and Bolango rivers.

Colonial Period (1728-1894)

Urban growth and settlement during this period has followed different criteria compared to the previous Gorontalo kingdom, which have adhered to an Islamic pattern. The fundamental difference lies in the Law of Indies premise, where the church is designated as the central building and the main centre, apart from the clusters of colonial and indigenous structures. This differs significantly from the former Gorontalo kingdom.

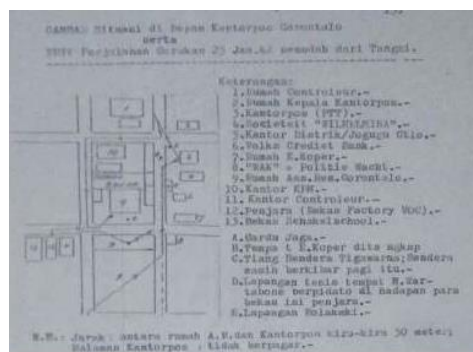


Fig. 9: Image map and situation in front of the Gorontalo post office (1972)
Source: Gorontalo city government, 2023



Fig. 10: Map of the distribution of the city of Gorontalo (1942)
Source: Gorontalo city government, 2023

Colonialism has a pattern that is not much different in the growth and development of the city.

1) Urban Development Pattern

The pattern of urban development is seen the colonial still follows a grid pattern:

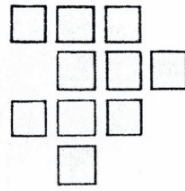


Fig. 11: Grid
Source: Kostof, 1991

The prevalent design scheme for planned cities throughout history. The new urban design, known as "niew indisch," consolidates the indigenous and colonial city centers into a single square, creating a unified city center. The square form evolved as a prototype representing the identity of a colonial city, featuring a market and shopping center located near the government center. The settlement structure of colonial cities typically consists of three ethnic groupings aligned towards the city center.

2) Urban Growth Pattern

The current pattern of urban expansion that has successfully cleared the mainland renders the path for settlements radically interrupted. This is because colonials required land for construction and for indigenous officials to reside in the city in order to monitor indigenous movements more easily.

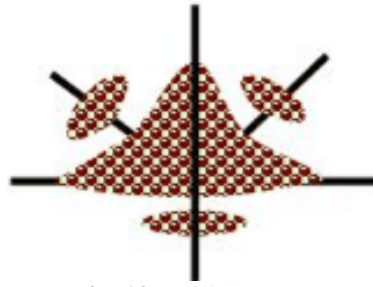


Fig. 12: Radial Pattern
Source: Branch, 1995

The growth, which has once been linear, now transitions to radial expansion. The colonial city's progress is reflected in its city image, which is defined by the elements that constitute it.

- Paths are commonly used routes for general travel, such as roads in Gorontalo.
- The square model evolved as a prototype representing the identity of a colonial city, with a market and shopping area located near the government core. The city center is structured as a field, known as the Taruna field, surrounded by residential assistance houses, hotels, prisons, offices, and Dutch communities.
- Landmarks are external features that serve as a prominent visual representation of the city. Landmarks assist individuals in orienting themselves throughout the town and in identifying specific areas. During the colonial period, the Main was a significant landmark.
- Gorontalo's banks include the Bone River and the Bolango River. Colonial cities typically have a settlement pattern divided into three ethnic groups: European areas in central and strategic locations, Chinese areas (Chinatown), and Foreign East areas near the city center.
- Local trade or markets in indigenous communities situated away from the city hub, typically comprising villages that were neglected by the colonial administration.

Present Time (2001-2023)

The geographical planning of Gorontalo city is based on the Dutch colonial legacy and follows the Law of Indies regulations, classifying it as a new colonial city (*nieuw indisch stad*). Initially, the governor's office in Gorontalo province was located in the city centre but was later relocated to Puncak Botu under Governor Fadhel Muhammad's administration. The cities in Gorontalo Province have been organised hierarchically according to the National RTRW for systematic regional development. Gorontalo City is the National City Centre (PKN) of the Gorontalo Province, with Limboto and Suwawa serving as the Local City Centres (PKL).

In 2007 there has been a regulation on regional spatial planning regulated through RTRWN → RTRWP → RTRWK → RDTRK → RTBL/PRK.

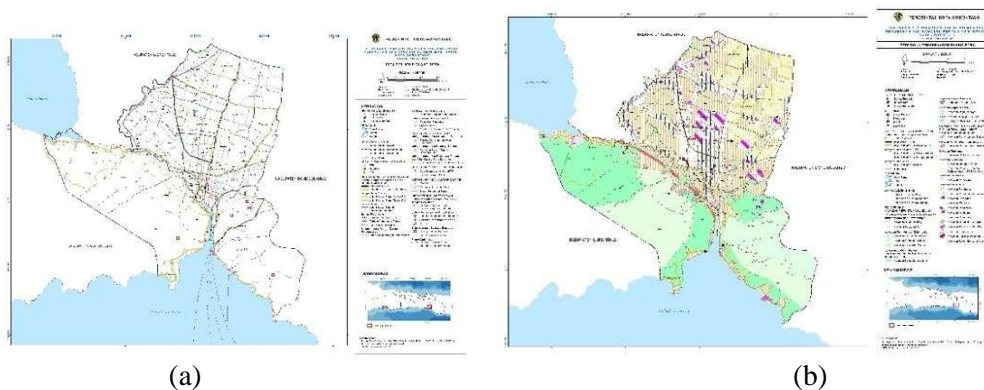


Fig. 13: (a). Gorontalo City Spatial Structure. (b). Gorontalo City Spatial Pattern
Source: Gorontalo City Government, 2023

According to (*Peraturan Daerah Kota Gorontalo No 9 Tahun 2019*, no date), the local regulation, Gorontalo City spatial planning aims to realize a centre of activity in Tomini Bay, a National Activity Center based on service and trade activities that can support the development of the potential of the surrounding area while maintaining community culture and environmental sustainability for sustainable development.

With this regulation, the growth pattern has been widely regulated regarding the structure and spatial patterns to discuss environmental planning/urban design. The city of Gorontalo is not much different from the colonial period.

1) Urban Development Pattern

The pattern of urban development is seen that it still follows the grid pattern:

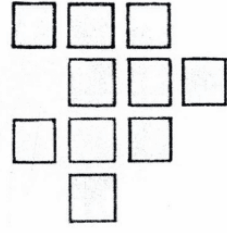


Fig. 14: Grid
Source: Kostof, 1991

This pattern is common to all the ways for planned cities in history. Thus facilitating the development of the city through this pattern, because indirectly this pattern has been formed in the past.

2) Urban Growth Pattern

In the pattern of urban growth, it is possible to open the mainland at this time because settlements are radially discontinuous.

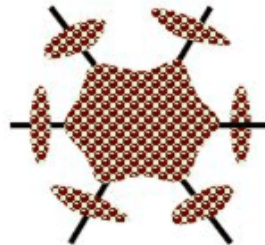


Fig. 15: Radial Pattern
Source: Branch, 1995

The growth development of the city of Gorontalo through the image of the city can hardly be seen (Lynch, 1960). Still, the arrangement used prioritizes the theory possessed by Shirvani (1985) (8 elements of urban design), which is contained in the RTBL/PRK of spatial planning in the city of Gorontalo.



Fig. 16: (a). Gorontalo City Development in 2002. (b). Gorontalo City Development Map in 2023
Source: Observation Result, 2023

With regard to the uncontrolled expansion of the city of Gorontalo, the irregular radial development pattern may develop into a problem if not appropriately managed. Urban sprawl refers to the unregulated growth and expansion of an urban region in the municipality of Gorontalo. This encompasses the construction of roads and the development of commercial housing across a significant expanse of land, all without the implementation of an effective urban planning system. This is evident from the figure 15, which depicts the uncontrolled development pattern of the city of Gorontalo. Hence, control is not solely necessary in the planning phase; it is also imperative in the design of the city to ensure that its growth and development follow the anticipated trajectory.

Conclusions

The attributes of the municipality of Gorontalo exhibit varying patterns at different occasions. The pattern of growth and development exhibited by the city is conspicuous. The traditional kingdom of Islam is divided into two patterns; the location influenced the occurrence of the events that transpired behind these two patterns.

- 1). Strategic Position in Hulawa (A) – During that period, the city of Tuladenggi exhibited an axial development pattern characterized by a linear growth trajectory and organization along a line.
- 2). In contrast to their predecessors, the Biawao and Limba B sites have implemented a grid-shaped development pattern characterized by a consistent linear growth trajectory that mirrors the main road.

The development pattern has remained consistent throughout the colonial period, with the exception of the non-continuous radial pattern of settlement growth that has accompanied the grid-like development of the regal city. Currently, this pattern of urban development is an inherited legacy of colonialism, characterized by a non-continuous radial growth pattern. The uninterrupted radial pattern serves as the precursor to the Urban Sprawl in Gorontalo. It refers to the unregulated growth and expansion of an urban region in the municipality. This encompasses the construction of roads and the development of commercial housing across a substantial expanse of land, without the implementation of an effective urban planning system.

This study concludes that the attributes of Gorontalo City can be delineated as follows:

1. Initially, the residential sector of Gorontalo city had not yet been established. The patterns adhere to Nature without attempting to dominate it. Settlements have been originally constructed independently, rather than being clustered and arranged in a linear fashion based on natural conditions. This has been feasible due to the fact that the primary source of sustenance for people in ancient times has been hunting. During the Gorontalo kingdom era, it has gradually started to form. The current pattern consists of a grid layout with grouped communities. The city center features a mosque surrounded by the royal residence and high-ranking officials of the Gorontalo kingdom. Community settlements have been distinct from the royal settlements. It is divided into two locations: some in the highlands and some on the river bank. Rivers have served as a mode of commercial transportation throughout that era.
2. During the colonial period, towns have been arranged in clusters along grid-patterns. Highways, and infrastructural development had commenced. The town is segregated into offices and delineated by alun-alun (city park) as the urban nucleus of Gorontalo city in the colonial period. In this era, the city of Gorontalo has been segmented into two main categories: residential colonial buildings constructed permanently, and traditional Gorontalo communal houses erected on land, including stable houses on stilts and stilt houses in tidal areas serving as living quarters.
3. The city of Gorontalo is experiencing growth in size due to well-organized spatial patterns and structures, influenced by government policies. The emergence of highly active spatial arrangements is leading to a rise in land demand. However, due to limited spaces, there is a shift in land utilization from agriculture to local settlements.

Acknowledgements

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