

# TRANSFORMATION OF RURAL SETTLEMENTS INTO SMALL CITIES

## Lessons From Saumlaki And Merauke For Sustainable Development Of Maliana, Timor-Leste

(Transformasi Permukiman Perdesaan menjadi Kota Kecil, Pelajaran dari Saumlaki dan Merauke untuk Pembangunan Berkelanjutan Maliana, Timor-Leste)

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### ABSTRAK

The transformation of rural settlements into small cities has become an increasingly important phenomenon in regional development, particularly in developing countries where secondary urban centers play a critical role in connecting rural communities with broader economic and administrative systems. Small cities contribute to balanced territorial development by providing essential services, infrastructure, and economic opportunities to surrounding hinterlands. This study aims to examine the transformation processes of Saumlaki and Merauke in Eastern Indonesia and identify lessons that can support the sustainable development of Maliana, Timor-Leste. A Narrative Literature Review (NLR) approach was employed by synthesizing information from academic journals, government reports, planning documents, and publications from international development organizations. The analysis focused on five dimensions of urban transformation, namely infrastructure development, regional connectivity, economic diversification, public service expansion, and governance functions. The findings indicate that despite differences in geographical settings and economic structures, both Saumlaki and Merauke experienced urban growth through the combined effects of transportation infrastructure improvement, strengthening of administrative functions, expansion of public services, and increasing regional integration. Saumlaki demonstrates the importance of maritime connectivity and government services in supporting urban development within an archipelagic context, whereas Merauke highlights the role of agricultural development and large-scale infrastructure investment in accelerating regional growth. These experiences suggest that Maliana possesses significant potential to strengthen its role as a regional service center through integrated infrastructure planning, economic diversification, enhanced public services, and improved cross-border connectivity. The study concludes that sustainable urban transformation requires coordinated investments in physical infrastructure, institutional capacity, and regional economic development to ensure long-term urban resilience and balanced territorial growth.

**Keywords:** rural transformation; small cities; urban development; regional connectivity; Maliana; Eastern Indonesia.

### ABSTRACT

*Transformasi permukiman perdesaan menjadi kota kecil merupakan fenomena penting dalam pembangunan wilayah, khususnya di negara berkembang, di mana pusat perkotaan sekunder berperan dalam menghubungkan wilayah perdesaan dengan sistem ekonomi, pelayanan, dan administrasi yang lebih luas. Penelitian ini bertujuan menganalisis proses transformasi Saumlaki dan Merauke di Indonesia Timur serta mengidentifikasi pembelajaran yang relevan bagi pembangunan berkelanjutan Maliana, Timor-Leste. Penelitian menggunakan pendekatan Narrative Literature Review (NLR) dengan menyintesis jurnal ilmiah, laporan pemerintah, dokumen perencanaan, dan publikasi organisasi pembangunan internasional. Analisis mencakup lima dimensi utama, yaitu pembangunan infrastruktur, konektivitas regional, diversifikasi ekonomi, perluasan pelayanan publik, dan fungsi pemerintahan. Hasil kajian menunjukkan bahwa pertumbuhan Saumlaki dan Merauke didorong oleh peningkatan infrastruktur transportasi, penguatan fungsi administratif, perluasan pelayanan publik, dan integrasi regional. Saumlaki menunjukkan pentingnya konektivitas maritim dan fungsi pemerintahan dalam mendukung perkembangan kota di wilayah kepulauan, sedangkan Merauke memperlihatkan kontribusi pembangunan pertanian dan investasi infrastruktur berskala besar terhadap pertumbuhan wilayah. Berdasarkan pembelajaran tersebut, Maliana berpotensi memperkuat perannya sebagai pusat pelayanan regional melalui perencanaan infrastruktur terpadu, diversifikasi ekonomi, peningkatan pelayanan publik, dan penguatan konektivitas lintas batas. Studi ini menegaskan bahwa transformasi perkotaan yang berkelanjutan memerlukan sinergi antara investasi infrastruktur, penguatan kapasitas kelembagaan, dan pengembangan ekonomi regional untuk mewujudkan ketahanan perkotaan serta pembangunan wilayah yang seimbang.*

**Keywords:** trip generation, hospital, regression, urban transportation

## INTRODUCTION

Urbanization has become one of the most influential drivers of socio-economic transformation and spatial development throughout the world. Over the last century, the concentration of population, economic activities, infrastructure, and public services in urban areas has fundamentally altered the way regions develop and interact. According to the United Nations (2019), approximately 55% of the world's population currently resides in urban areas, and this figure is expected to increase to nearly 68% by 2050 [1]. This trend reflects not only demographic shifts but also broader transformations in economic structures, governance systems, and patterns of human settlement. Urban areas have become centers of innovation, investment, employment generation, and service provision, making urbanization a critical component of national and regional development strategies.

Urbanization is increasingly recognized not only as a demographic phenomenon but also as a transformative process that affects economic productivity, social inclusion, environmental sustainability, and institutional development. Contemporary urban policies therefore emphasize the need to manage urban growth in a manner that promotes resilience, inclusiveness, and long-term sustainability [2].

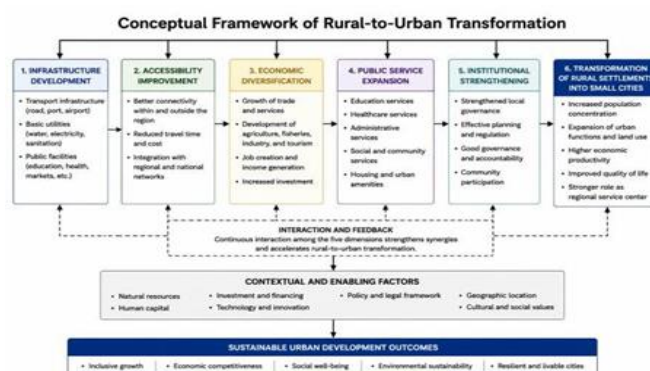
Historically, urban studies have focused primarily on large metropolitan regions and megacities due to their dominant contribution to national economies and their concentration of population. However, recent research suggests that small and intermediate cities play an equally important role in promoting balanced territorial development, particularly in developing countries where large portions of the population continue to reside in rural areas [3]. Small cities function as intermediaries between rural communities and larger urban centers by providing access to markets, education, healthcare, transportation, government services, and employment opportunities. The growing importance of such cities reflects broader global trends in which secondary urban centers increasingly contribute to national productivity, service provision, and territorial cohesion [4]. Consequently, the development of small cities contributes significantly to reducing spatial inequality and strengthening regional integration. Recent studies further suggest that intermediate cities occupy a strategic position within national urban systems because they facilitate interactions between rural economies and larger metropolitan regions while maintaining closer relationships with local communities and production systems [5].

The transformation of rural settlements into small cities is a complex and multidimensional process that extends beyond simple population growth. Such transformation typically involves changes in land use patterns, economic diversification, infrastructure expansion, institutional development, and the strengthening of urban functions. Rural settlements that were once dominated by agricultural activities gradually evolve into service-oriented centers that support broader regional economies. As these settlements acquire new economic, administrative, and social functions, their influence expands beyond local communities and

increasingly shapes the development of surrounding hinterlands [6].

Several theoretical frameworks have been developed to explain the emergence and growth of urban centers. One of the most influential perspectives is Central Place Theory, which proposes that settlements develop according to their ability to provide goods and services to surrounding populations [7]. Larger and more complex settlements offer higher-order services and therefore attract greater economic activity and population concentration. Another important framework is Growth Pole Theory, which argues that development tends to concentrate around strategic locations where investments and economic activities generate multiplier effects that stimulate broader regional growth [8]. Together, these theories highlight the importance of infrastructure, accessibility, governance, and economic activities in shaping urban transformation processes.

In contemporary regional planning, the role of small cities has gained increasing attention because they are often considered engines of inclusive development. Unlike large metropolitan areas that frequently experience congestion, environmental degradation, and socio-spatial inequalities, small cities have the potential to promote more balanced growth while maintaining stronger connections with rural economies [9]. As a result, many national development strategies now emphasize the strengthening of secondary cities and regional service centers as a means of fostering sustainable development and reducing excessive concentration in major urban agglomerations. Development agencies increasingly recognize secondary cities as critical components of balanced territorial development because they improve service accessibility, support regional economic diversification, and strengthen connections between rural and urban areas [10]. Similarly, territorial development frameworks highlight the role of secondary cities as regional anchors capable of improving spatial cohesion and reducing disparities between core and peripheral regions [11].



**Figure 1.** Conceptual Framework of Rural-to-Urban Transformation

The significance of small-city development is particularly evident in peripheral and geographically isolated regions. In many developing countries, urbanization occurs not through the rapid expansion of metropolitan regions but through the gradual transformation of small settlements into local and regional

service centers. This process is often driven by public investment in infrastructure, decentralization policies, improvements in accessibility, and the emergence of new economic opportunities. Such transformations are especially important in regions where geographical constraints limit direct connections to national economic centers.

Eastern Indonesia provides an interesting context for examining rural-to-urban transformation. Compared to western Indonesia, many regions in eastern Indonesia are characterized by lower population densities, fragmented settlement systems, challenging topographical conditions, and relatively limited infrastructure networks. Despite these challenges, several settlements have successfully developed into regional growth centers that play vital roles in supporting economic activities, public service delivery, and territorial integration. These development experiences offer valuable lessons for other regions facing similar geographical and developmental conditions. Previous studies on urbanization in Indonesia indicate that decentralization policies and infrastructure expansion have contributed significantly to the emergence of new regional growth centers outside Java, particularly in eastern Indonesia where secondary cities increasingly perform strategic administrative and economic functions [12]. The World Bank (2021) notes that infrastructure investment and urban connectivity remain among the most important determinants of regional development in Indonesia, particularly in lagging and geographically dispersed regions.

Among the emerging urban centers in Eastern Indonesia, Saumlaki and Merauke represent two distinctive yet complementary examples of rural settlement transformation. Although both cities are located in peripheral regions, their development trajectories have been shaped by different geographical contexts and economic structures. Examining these cases provides an opportunity to understand how diverse development pathways can lead to successful urban transformation.

Saumlaki is located in the Tanimbar Islands Regency of Maluku Province and serves as the administrative capital of the regency. Historically, Saumlaki was a relatively small coastal settlement whose economy relied primarily on fisheries, local trade, and subsistence activities. Its geographical isolation and dependence on maritime transportation limited economic interactions with larger regional centers. However, significant investments in transportation infrastructure, port facilities, government institutions, educational services, healthcare facilities, and communication networks gradually strengthened its role within the regional settlement hierarchy. Today, Saumlaki functions as the primary service center for the Tanimbar Islands and plays a strategic role in connecting surrounding island communities.

Merauke presents a different urbanization trajectory. Located in the southern part of Papua, Merauke developed from an agricultural settlement into one of the most important regional centers in eastern Indonesia. Unlike Saumlaki, whose development was strongly influenced by maritime connectivity, Merauke's growth was largely driven by agricultural expansion, government investment, transportation infrastructure development, and strategic national development programs. Improvements in road

networks, airport facilities, port infrastructure, public services, and administrative functions have transformed Merauke into a major urban center serving a vast hinterland. The city now functions as a regional hub for trade, government administration, education, healthcare, and agricultural production [13].

To better understand the similarities and differences among the selected case-study cities, a comparative overview is presented below.

**Table 1.** Comparative Characteristics of Saumlaki, Merauke, and Maliana

| Indicator                  | Saumlaki                              | Merauke                                            | Maliana                                 |
|----------------------------|---------------------------------------|----------------------------------------------------|-----------------------------------------|
| Administrative Status      | Capital of Tanimbar Islands Regency   | Capital of Merauke Regency                         | Capital of Bobonaro Municipality        |
| Geographic Setting         | Archipelagic coastal city             | Continental lowland city                           | Inland valley city                      |
| Main Economic Activities   | Fisheries, trade, government services | Agriculture, trade, logistics, government services | Agriculture, trade, government services |
| Regional Function          | Regional service center               | Regional growth center                             | Municipal service center                |
| Main Infrastructure Driver | Port and maritime connectivity        | Roads, airport, and logistics infrastructure       | Road connectivity and public facilities |
| Development Challenge      | Geographical isolation                | Distance from national economic centers            | Limited infrastructure capacity         |

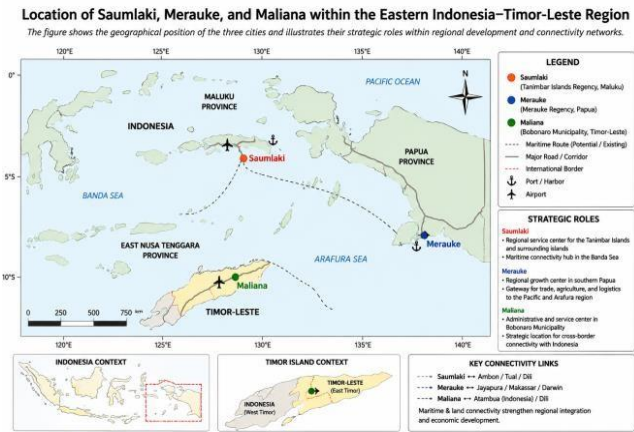
As shown in Table 1, despite differences in geographical setting and economic specialization, Saumlaki, Merauke, and Maliana share several common characteristics. All three settlements function as administrative centers, rely significantly on public service provision, and serve broader hinterland populations. These similarities suggest that the development experiences of Saumlaki and Merauke may offer relevant insights for understanding the future trajectory of Maliana. The

relevance of these lessons becomes increasingly apparent when considering the development context of Timor-Leste. Since achieving independence, Timor-Leste has pursued national development strategies aimed at improving infrastructure, strengthening regional connectivity, expanding public services, and promoting economic diversification. The Timor-Leste Strategic Development Plan 2011–2030 identifies infrastructure development and regional growth centers as key pillars for achieving long-term economic growth and social welfare [14]. Within this framework, municipalities outside Dili are expected to play increasingly important roles in supporting balanced territorial development.

Maliana, the capital of Bobonaro Municipality, occupies a strategic position within western Timor-Leste.

The city serves as an administrative center, commercial hub, and service provider for surrounding communities. Its location near the Indonesian border provides additional opportunities for trade, mobility, and economic cooperation. Furthermore, Maliana lies along important transportation corridors connecting rural communities with national and regional markets. These characteristics position Maliana as one of the most promising emerging urban centers in Timor-Leste. Recent municipal development assessments undertaken in Timor-Leste indicate that municipalities outside Dili continue to face challenges related to infrastructure provision, institutional capacity, and public service delivery. At the same time, these municipalities possess considerable potential to become regional development hubs if supported by targeted investments and effective governance frameworks [15].

In recent years, Maliana has experienced increasing urban functions associated with population growth, commercial expansion, and public infrastructure development. New educational facilities, healthcare services, administrative buildings, commercial establishments, and transportation improvements have contributed to the gradual transformation of the municipality's capital into a more complex urban center. Nevertheless, significant challenges remain. These include limitations in infrastructure capacity, insufficient urban services, land-use management issues, and the need for stronger economic diversification. Addressing these challenges requires a better understanding of how similar cities have successfully navigated the transition from rural settlements to urban centers.



**Figure 2.** Location of Saumlaki, Merauke, and Maliana within the Eastern Indonesia-Timor-Leste Region

The experiences of Saumlaki and Merauke suggest that infrastructure investment alone is insufficient to ensure successful urban transformation. Sustainable development also depends on effective governance, institutional capacity, economic diversification, public service provision, and integration with regional transportation systems. These factors collectively determine whether a settlement can evolve into a resilient and functional urban center capable of supporting long-term regional development.

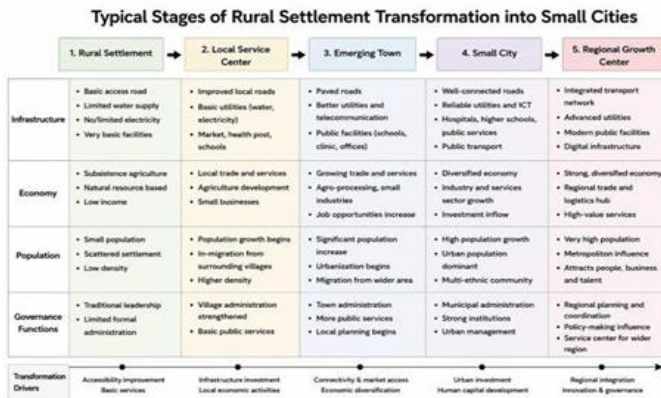
To further illustrate the key drivers of urban transformation identified in the literature, a comparative synthesis is presented below.

**Table 2.** Major Drivers of Rural-to-Urban Transformation

| Development Driver          | Saumlaki | Merauke   | Potential Relevance to Maliana |
|-----------------------------|----------|-----------|--------------------------------|
| Government Administration   | High     | High      | High                           |
| Infrastructure Development  | High     | Very High | High                           |
| Transportation Connectivity | High     | Very High | High                           |
| Economic Diversification    | Medium   | High      | Medium-High                    |
| Public Service Expansion    | High     | High      | High                           |
| Regional Integration        | Medium   | High      | High                           |
| Trade Development           | High     | High      | High                           |
| Agricultural Development    | Low      | Very High | High                           |

The comparison presented in Table 2 indicates that infrastructure development, transportation connectivity, public service expansion, and government administration consistently emerge as the most influential factors in urban transformation. While economic structures may differ between coastal and inland cities, these drivers appear to be universally important for strengthening urban functions and regional influence.

Despite the growing literature on urbanization, secondary cities, and regional development, studies that explicitly examine how the development experiences of Eastern Indonesian cities may inform urban planning in Timor-Leste remain limited. Existing studies generally focus on national urbanization trends, metropolitan growth, or sector-specific issues, leaving a significant gap in comparative analyses involving small cities in peripheral regions. This gap is particularly important because Eastern Indonesia and Timor-Leste share many geographical, economic, and developmental characteristics. Understanding the similarities and differences between these contexts may contribute to more effective urban development strategies and policy interventions.



**Figure 3.** Typical Stages of Rural Settlement Transformation into Small Cities

Therefore, this study aims to review the

transformation processes of Saumlaki and Merauke from rural settlements into small cities and to identify lessons applicable to the sustainable development of Maliana, Timor-Leste. Through a comprehensive synthesis of literature related to urban transformation, infrastructure development, regional connectivity, public services, and economic diversification, this study seeks to contribute both to the academic understanding of small-city development and to practical planning efforts aimed at strengthening Maliana's role as a future regional growth center.

## METHODOLOGY

This study adopts a Narrative Literature Review (NLR) approach to examine the transformation of rural settlements into small cities and to identify lessons applicable to the sustainable development of Maliana, Timor-Leste. Narrative literature review is widely used in urban and regional studies because it enables researchers to synthesize evidence from diverse sources and develop a comprehensive understanding of complex development phenomena that cannot be adequately explained through quantitative analysis alone [16]. The method is particularly suitable for investigating urban transformation processes, where physical development, infrastructure provision, economic change, governance systems, and social dynamics interact over extended periods of time.

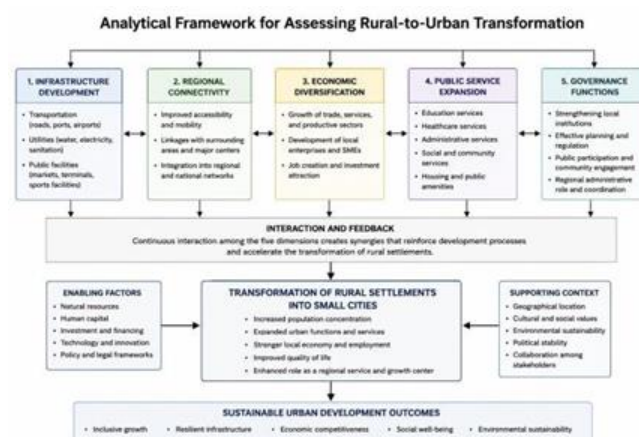
The review was designed to explore how small cities emerge and evolve from rural settlements, with particular emphasis on the experiences of Saumlaki and Merauke in Eastern Indonesia. These two cities were selected because they represent distinct pathways of urban transformation in peripheral regions. While Saumlaki developed primarily through maritime connectivity and administrative functions, Merauke experienced growth through agricultural expansion, transportation infrastructure, and regional economic integration. Examining both cases allows a broader understanding of the factors influencing urban development in geographically diverse settings.

The conceptual basis of the study is derived from established theories of urban and regional development. Central Place Theory argues that settlements grow when they are capable of providing goods and services to surrounding populations, thereby expanding their sphere of influence [7]. Similarly, Growth Pole Theory suggests that strategic investments and economic concentration within specific locations generate multiplier effects that stimulate regional development [8]. More recent studies on secondary cities emphasize that infrastructure provision, accessibility, public services, and institutional capacity are essential elements supporting the transformation of rural settlements into urban centers [3][9].

The literature review process involved the identification, selection, evaluation, and synthesis of relevant sources. Publications discussing rural transformation, secondary cities, urbanization, regional development, infrastructure investment, public service provision, and urban planning were systematically collected and reviewed. Priority was given to peer-reviewed journal articles, academic books, government publications, development reports, and policy documents that provided empirical evidence or theoretical insights relevant to the

objectives of the study. To ensure contemporary relevance, particular attention was given to literature published between 2010 and 2026, while seminal theoretical works were included to establish the conceptual foundation of the analysis. The review procedure generally follows widely accepted principles of literature synthesis that emphasize systematic identification, screening, evaluation, and integration of knowledge from multiple sources in order to develop a coherent understanding of the phenomenon under investigation [17].

The collected literature was subsequently assessed according to its relevance to five analytical dimensions that emerged consistently across the reviewed studies. These dimensions include infrastructure development, regional connectivity, economic diversification, public service expansion, and governance functions. Existing research suggests that these dimensions collectively influence the emergence and growth of small cities by shaping accessibility, investment opportunities, institutional capacity, and quality of life [4][18].



**Figure 4.** Analytical Framework for Assessing Rural-to-Urban Transformation

Following the literature collection phase, a comparative case analysis was undertaken. Comparative analysis is particularly useful for identifying common patterns and context-specific characteristics across different geographical settings [19]. Through this approach, the experiences of Saumlaki and Merauke were examined across the five analytical dimensions in order to identify similarities, differences, and transferable lessons for Maliana.

The analysis focused on understanding how infrastructure investment influenced urban growth, how economic activities diversified over time, how public services expanded alongside increasing population concentrations, and how governance functions strengthened the role of each city as a regional service center. Rather than evaluating individual projects, the study sought to identify broader development trajectories and recurring themes that explain the transformation of rural settlements into small cities.

**Table 3.** Analytical Dimensions Used in the Comparative Assessment

| Analytical Dimension       | Focus of Assessment                                              |
|----------------------------|------------------------------------------------------------------|
| Infrastructure Development | Roads, ports, airports, utilities, and public facilities         |
| Regional Connectivity      | Accessibility, mobility, and regional integration                |
| Economic Transformation    | Diversification of economic activities and employment structures |
| Public Service Expansion   | Education, healthcare, administration, and community services    |
| Governance Functions       | Institutional capacity, administration, and regional influence   |

The collected information was analyzed using qualitative content analysis. Data extracted from the literature were categorized according to the analytical dimensions and then synthesized into broader themes. This process enabled the identification of recurring drivers, constraints, and outcomes associated with urban transformation. The synthesis was guided by three principal questions: (1) How did Saumlaki transform from a rural settlement into a regional service center? (2) How did Merauke evolve into a major urban center in Eastern Indonesia? and (3) What lessons from these transformations are applicable to the sustainable development of Maliana?

Several limitations should be acknowledged. The study relies exclusively on secondary sources, which means that findings are dependent upon the quality and availability of existing literature. Furthermore, data availability for Maliana remains more limited than for Saumlaki and Merauke. Nevertheless, the integration of literature review and comparative analysis provides a robust framework for identifying development patterns and generating policy-relevant insights for emerging small cities in developing regions.

## RESULTS AND DISCUSSION

### 3.1 Urban Transformation of Saumlaki

The transformation of Saumlaki from a small rural coastal settlement into a regional service center illustrates how infrastructure investment and administrative functions can drive urban development in geographically isolated regions. Located in the Tanimbar Islands Regency of Maluku Province, Saumlaki historically functioned as a fishing settlement whose economic activities were largely dependent on marine resources, small-scale trade, and subsistence livelihoods. The geographical isolation of the Tanimbar Islands limited interaction with larger urban centers and constrained economic diversification for many decades.

During the decentralization era in Indonesia, the role of Saumlaki gradually changed following the strengthening of regional governance structures and increased government investment in public infrastructure. As the administrative capital of the regency, Saumlaki became the focal point for government offices, educational facilities,

healthcare services, and transportation infrastructure. This administrative concentration generated increased demand for housing, commercial activities, and supporting urban services.

One of the most significant factors contributing to Saumlaki's transformation was the improvement of transportation connectivity. The development of port facilities and airport infrastructure enhanced mobility between the Tanimbar Islands and other regions of eastern Indonesia. Improved connectivity reduced transportation costs, facilitated trade flows, and increased access to public services. Consequently, Saumlaki evolved beyond its traditional role as a fishing settlement and emerged as the principal service center for the surrounding islands.

**Figure 5.** Urban Development Process of Saumlaki

In parallel with infrastructure expansion, the economic structure of Saumlaki became increasingly diversified. Although fisheries remain an important economic sector, growth in government services, retail activities, education, healthcare, tourism, and transportation services has expanded the city's economic base. This diversification reduced dependence on primary-sector activities and increased the resilience of the local economy.

The development trajectory of Saumlaki demonstrates that in archipelagic regions, transportation infrastructure and administrative functions are often the primary catalysts for urban transformation. Rather than being driven by industrialization, urban growth in Saumlaki was largely stimulated by the concentration of public services and regional governance functions.

**Table 4.** Major Factors Contributing to Urban Transformation in Saumlaki

| Factor                   | Contribution                          |
|--------------------------|---------------------------------------|
| Regional Administration  | Strengthened urban functions          |
| Port Development         | Improved accessibility                |
| Airport Development      | Enhanced regional connectivity        |
| Public Services          | Increased concentration of activities |
| Economic Diversification | Expanded non-primary sectors          |
| Inter-Island Trade       | Stimulated local economy              |

The case of Saumlaki highlights the importance of

strategic public investment in overcoming geographical constraints. It also demonstrates that small cities can emerge as effective regional service centers even in areas characterized by low population density and physical isolation.

3.2 Urban Transformation of Merauke

Compared with Saumlaki, Merauke represents a different pathway of urban transformation. Located in the southern part of Papua, Merauke evolved from an agricultural frontier settlement into one of the most important regional urban centers in eastern Indonesia. Its development has been closely associated with government investment, agricultural expansion, transportation infrastructure, and regional economic integration.

Historically, Merauke's economy was dominated by agriculture and natural resource activities. Large areas of relatively flat land provided opportunities for agricultural production, while government programs aimed at promoting food security increased investment in the region. Over time, these investments stimulated population growth and attracted migrants seeking economic opportunities.

Transportation infrastructure played a critical role in supporting this transformation. The expansion of road networks, airport facilities, and port infrastructure improved accessibility both within Papua and between Papua and other regions of Indonesia. Enhanced connectivity facilitated the movement of goods, services, and people, strengthening Merauke's role as a regional growth center.

Unlike Saumlaki, where urbanization was strongly linked to administrative functions and maritime connectivity, Merauke's development was largely driven by agricultural production and regional economic expansion. Nevertheless, the strengthening of government institutions and public services also contributed significantly to urban growth.



Figure 6. Urban Development Process of Merauke

As urban functions expanded, Merauke experienced increasing demand for educational facilities, healthcare services, housing, commercial activities, and transportation systems. The city gradually became a hub for trade, logistics, public administration, and service provision throughout southern Papua.

Table 5. Major Factors Contributing to Urban Transformation in Merauke

| Factor                        | Contribution                      |
|-------------------------------|-----------------------------------|
| Agricultural Development      | Economic growth driver            |
| Transportation Infrastructure | Improved accessibility            |
| Government Programs           | Stimulated investment             |
| Public Service Expansion      | Increased urban functions         |
| Population Growth             | Expanded labor market             |
| Regional Trade                | Strengthened economic integration |

The experience of Merauke demonstrates that urban transformation can occur through the combination of economic specialization, infrastructure development, and government intervention. The city illustrates how strategic investments can transform a peripheral settlement into a regional growth pole.

3.3 Comparative Analysis of Transformation Drivers

Although Saumlaki and Merauke differ significantly in their geographical settings and economic structures, the comparative analysis reveals several common drivers of urban transformation. Both cities experienced substantial improvements in transportation infrastructure, expansion of public services, strengthening of government functions, and increasing regional connectivity. These factors collectively enhanced their attractiveness as locations for investment, commerce, and settlement.

Table 6. Comparative Drivers of Urban Transformation

| Driver                        | Saumlaki  | Merauke   |
|-------------------------------|-----------|-----------|
| Government Administration     | High      | High      |
| Transportation Infrastructure | High      | Very High |
| Economic Diversification      | Medium    | High      |
| Public Service Expansion      | High      | High      |
| Regional Connectivity         | High      | Very High |
| Trade Development             | High      | High      |
| Agricultural Development      | Low       | Very High |
| Fisheries Development         | Very High | Medium    |

The comparison suggests that no single factor alone explains urban transformation. Instead, successful development emerges from the interaction of multiple drivers. Infrastructure provides accessibility, governance creates institutional capacity, and economic diversification generates employment opportunities. Together, these factors create conditions conducive to urban growth.



**Figure 7.** Comparative Framework of Urban Transformation Drivers

Another important finding is that urban transformation is highly context-specific. While Saumlaki relied heavily on maritime connectivity and government services, Merauke benefited from agricultural development and large-scale infrastructure investment. This indicates that development strategies must be adapted to local conditions rather than replicated directly from one location to another.

### 3.4 Lessons for Sustainable Development of Maliana

The experiences of Saumlaki and Merauke provide valuable insights for the future development of Maliana. Although Maliana differs in geographical setting and national context, it shares several characteristics with both cities, including its role as an administrative center, its dependence on public services, and its importance within a broader regional settlement system.

One of the most important lessons is the central role of infrastructure development. Both Saumlaki and Merauke demonstrate that transportation networks, public utilities, and service facilities form the foundation of urban transformation. For Maliana, continued investment in road infrastructure, drainage systems, water supply, sanitation, and public facilities will be essential for supporting future growth.

A second lesson concerns regional connectivity. The success of both case-study cities was closely associated with their ability to connect surrounding communities with broader economic systems. Maliana's strategic location near the Indonesian border creates opportunities for cross-border trade and regional integration. Strengthening transportation corridors and commercial linkages could enhance the city's role as a regional service center.

A third lesson relates to economic diversification. Sustainable urban growth requires the expansion of economic activities beyond traditional agriculture. While agriculture will likely remain important in Bobonaro Municipality, additional opportunities in trade, logistics, tourism, education, and public services could strengthen Maliana's economic resilience.

**Table 7.** Lessons from Saumlaki and Merauke for Maliana

| Development Aspect | Lesson from Saumlaki         | Lesson from Merauke            | Implication for Maliana              |
|--------------------|------------------------------|--------------------------------|--------------------------------------|
| Infrastructure     | Improve connectivity         | Expand transport network       | Prioritize infrastructure investment |
| Economy            | Diversify local economy      | Strengthen productive sectors  | Promote economic diversification     |
| Governance         | Strengthen service functions | Enhance institutional capacity | Improve municipal services           |
| Connectivity       | Develop regional links       | Improve accessibility          | Strengthen cross-border integration  |
| Public Services    | Expand service provision     | Improve service quality        | Enhance education and healthcare     |

Overall, the findings suggest that Maliana possesses significant potential to evolve into a stronger regional service center. However, achieving this transformation will require integrated planning strategies that simultaneously address infrastructure development, economic diversification, public service provision, and regional connectivity. The experiences of Saumlaki and Merauke demonstrate that sustainable urban transformation is not driven by a single intervention but rather by the cumulative effects of coordinated investments and institutional development over time.

## CONCLUSION

The transformation of rural settlements into small cities is a gradual and multidimensional process that involves not only population growth but also structural changes in infrastructure, economic activities, governance systems, public services, and regional connectivity. Through a comparative review of the development trajectories of Saumlaki and Merauke, this study demonstrates that successful urban transformation is largely determined by the interaction of multiple development drivers rather than a single dominant factor.

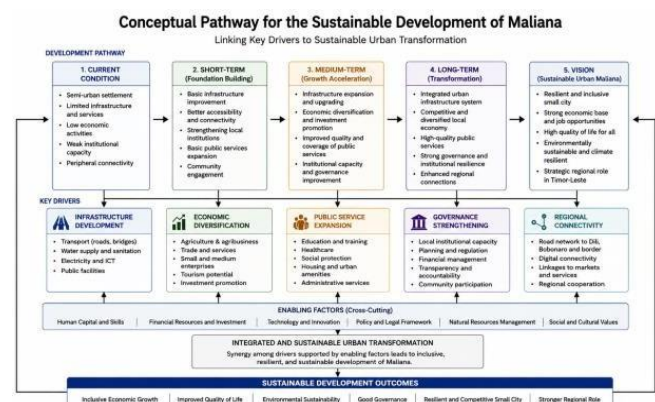
The experience of Saumlaki illustrates how administrative functions, public service expansion, and maritime connectivity can transform an isolated rural settlement into a regional service center. Government investment in transportation infrastructure, education, healthcare, and administrative facilities strengthened the city's role within the Tanimbar Islands and enabled it to provide services to a wider hinterland. The case confirms that even geographically isolated settlements can evolve into functional urban centers when supported by strategic infrastructure and institutional development [20].

In contrast, the development trajectory of Merauke demonstrates the importance of economic specialization and large-scale infrastructure investment in accelerating urban growth. Agricultural development, transportation infrastructure, regional accessibility, and government intervention collectively transformed Merauke from a

peripheral settlement into a major urban center in eastern Indonesia. The city illustrates how productive economic sectors can generate employment opportunities, attract investment, and stimulate broader urban development processes.

Despite their different geographical and economic contexts, both Saumlaki and Merauke share several common characteristics that appear to be fundamental drivers of urban transformation. These include infrastructure development, improved accessibility, expansion of public services, strengthening of governance functions, and increasing regional connectivity. The comparative analysis suggests that urban transformation is most successful when these factors develop simultaneously and reinforce one another.

For Maliana, the findings of this study indicate that the city possesses considerable potential to strengthen its role as a regional service center within Bobonaro Municipality and western Timor-Leste. Similar to the early stages of development observed in Saumlaki and Merauke, Maliana currently functions as an administrative and commercial center serving surrounding rural communities. Its strategic location near the Indonesian border provides additional opportunities for regional trade, mobility, and economic integration. However, realizing this potential will require long-term planning and coordinated investment strategies capable of supporting sustainable urban growth.



**Figure 8.** Conceptual Pathway for the Sustainable Development of Maliana

Based on the findings of this study, several policy implications can be identified.

First, infrastructure development should remain the primary foundation of urban transformation. Investments in road networks, drainage systems, water supply infrastructure, sanitation facilities, electricity networks, and digital connectivity are essential for supporting future urban growth. The experiences of both Saumlaki and Merauke demonstrate that infrastructure acts as the catalyst through which economic and social development can occur. Therefore, infrastructure planning in Maliana should be implemented in an integrated manner that supports both current needs and future urban expansion. Such investments are also aligned with global development priorities articulated in the Sustainable Development Goals, particularly Goal 9 (Industry, Innovation and Infrastructure) and Goal 11 (Sustainable Cities and

Communities), which emphasize the importance of resilient infrastructure and inclusive urban development [21].

Second, regional connectivity should be strengthened through improved transportation networks and cross-border economic cooperation. Maliana's proximity to Indonesia represents a strategic advantage that can facilitate trade, logistics, tourism, and investment activities. Strengthening connections between Maliana and surrounding municipalities, as well as cross-border linkages with neighboring Indonesian regions, can significantly enhance the city's economic competitiveness and regional influence.

Third, economic diversification should become a central component of future development strategies. Although agriculture will continue to play an important role in the economy of Bobonaro Municipality, long-term urban sustainability requires the development of complementary economic sectors. Trade, logistics, tourism, education, healthcare services, and small-scale industries offer opportunities for expanding employment and reducing dependence on a limited number of economic activities. The experiences of Saumlaki and Merauke indicate that diversified economic structures contribute to greater urban resilience and adaptability.

Fourth, public service provision must evolve alongside urban growth. Expanding access to education, healthcare, administrative services, and social infrastructure is necessary to improve quality of life and support increasing urban populations. As demonstrated by both case-study cities, public service concentration often serves as a major attraction factor for residents, businesses, and investors. Consequently, improving service quality should be considered a strategic investment rather than merely a social expenditure.

Fifth, urban governance and spatial planning should be strengthened to ensure that future development occurs in a coordinated and sustainable manner. Rapid urban growth can generate challenges such as land-use conflicts, informal settlement expansion, environmental degradation, and infrastructure shortages if not properly managed. Therefore, Maliana requires a proactive planning framework capable of guiding future land development, infrastructure provision, environmental management, and economic growth.

**Table 8.** Policy Implications for the Sustainable Development of Maliana

| Development Dimension | Key Lessons from Saumlaki and Merauke              | Policy Implications for Maliana                 |
|-----------------------|----------------------------------------------------|-------------------------------------------------|
| Infrastructure        | Infrastructure acts as a catalyst for urban growth | Prioritize integrated infrastructure investment |
| Connectivity          | Accessibility strengthens regional influence       | Improve national and cross-border connectivity  |
| Economy               | Diversification increases resilience               | Promote trade, tourism, and service sectors     |

|                     |                                                          |                                                           |
|---------------------|----------------------------------------------------------|-----------------------------------------------------------|
| Public Services     | Service concentration attracts population and investment | Expand education, healthcare, and administrative services |
| Governance          | Institutional capacity supports sustainable growth       | Strengthen urban planning and municipal governance        |
| Spatial Development | Planned growth reduces future urban challenges           | Implement proactive land-use planning                     |

The findings of this study also contribute to the broader discourse on small-city development in developing countries. While urbanization research frequently focuses on large metropolitan regions, the experiences of Saumlaki, Merauke, and Maliana demonstrate that small cities play an equally important role in supporting regional development and territorial integration. Their development trajectories highlight the importance of context-specific planning approaches that recognize the unique opportunities and challenges associated with peripheral regions.

Finally, this study acknowledges several limitations. The analysis relies primarily on secondary data and published literature, which may not fully capture recent local developments. Future research may therefore benefit from incorporating field surveys, stakeholder interviews, spatial analysis, and quantitative assessments of urban growth patterns. Such approaches would provide deeper insights into the dynamics of urban transformation and strengthen the evidence base for policy formulation.

In conclusion, the experiences of Saumlaki and Merauke suggest that sustainable urban transformation depends on the combined effects of infrastructure investment, economic diversification, governance strengthening, public service expansion, and regional connectivity. By applying these lessons within an integrated planning framework, Maliana has the potential to evolve from a municipal service center into a resilient and sustainable regional city capable of supporting long-term development in western Timor-Leste.

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