



Addressing the Basic Infrastructure Gap in Strategic Areas of West Nusa Tenggara Province

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Abstract

This study examines the basic infrastructure gap in the Provincial Strategic Areas of West Nusa Tenggara, Indonesia, where investment-oriented spatial development has progressed faster than the provision of essential public services. The designation of eleven Provincial Strategic Areas under the 2024–2044 Regional Spatial Plan has strengthened development agendas in tourism, industry, agribusiness, and environmental conservation. However, communities around these areas still face unequal access to safe drinking water, proper sanitation, and accredited health facilities. Using a qualitative policy case study with a descriptive-prescriptive design, this research analyzed spatial planning documents, regional development plans, minimum service standard reports, sectoral documents, and stakeholder assessments. The analysis combined the Urgency, Seriousness, and Growth matrix, Fishbone root-cause analysis, and policy-option assessment. The findings show that access to safe drinking water reached 58%, proper sanitation 42%, and accredited health facilities only 31%, indicating a substantial mismatch between strategic-area development and basic service fulfillment. The USG analysis identified the basic utility infrastructure crisis as the highest-priority problem. Root-cause analysis further shows that the gap is shaped by regulatory weakness, institutional fragmentation, fiscal limitation, and spatial-ecological pressure. This study contributes to sustainable infrastructure and regional governance debates by positioning basic infrastructure as the key mechanism through which strategic-area development either reduces or reproduces regional disparities. The study recommends strategic-area-specific Minimum Service Standards, a functional Regional Governance Board, and a Sustainable Infrastructure Fund to align investment growth with equitable, coordinated, and resilient service delivery.

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INTRODUCTION

Strategic regional development has become an important policy instrument for accelerating economic growth, strengthening territorial competitiveness, and reducing spatial inequality. In many developing regions, strategic areas are designed as growth poles that integrate tourism, industry, agribusiness, logistics, and environmental protection within a single spatial-development agenda. However, the success of strategic areas cannot be measured only through large-scale physical projects, iconic infrastructure, or investment value. It also depends on whether surrounding communities have reliable access to basic infrastructure, including safe water, sanitation, health facilities, local connectivity, and environmental services. Infrastructure contributes to inclusive development when it expands both economic productivity and public access to essential services (Das, 2024; Goel & Vishnoi, 2022; Kwilinski et al., 2023). Without this balance, strategic-area development may generate economic visibility while reproducing unequal access to basic rights. Therefore, the relationship between investment-led spatial planning and basic infrastructure provision deserves closer academic and policy attention.

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The issue is particularly relevant in West Nusa Tenggara Province, Indonesia, where eleven Provincial Strategic Areas have been designated under the 2024–2044 Regional Spatial Plan. These strategic areas consist of eight economic-growth areas and three environmental-function areas distributed across ten regencies and municipalities, covering 493 villages and urban communities. The policy has encouraged the expansion of major development nodes, including tourism destinations, industrial zones, agribusiness areas, and ecological conservation regions. Yet, the acceleration of strategic-area development has not been fully accompanied by adequate provision of basic utilities in surrounding communities. The manuscript reports that access to safe drinking water, proper sanitation, and accredited health facilities in strategic-area buffer villages remains low, at 58%, 42%, and 31%, respectively. These figures indicate a structural imbalance between spatial-development ambition and public-service capacity. This imbalance is not merely a local service problem, but a sign of deeper spatial inequality within regional development governance.

Empirically, the basic infrastructure gap in West Nusa Tenggara appears in several strategic areas with different economic and ecological characteristics. In Mandalika, tourism-oriented investment has expanded faster than water-supply and sanitation systems, creating tension between destination development and community service needs. In Gili Tramen, limited water, sanitation, and health infrastructure may weaken tourism resilience and increase environmental pressure on small islands. In SAMOTA, cross-regency development is constrained by the absence of a functional joint management body, making infrastructure planning fragmented across administrative boundaries. In agribusiness and environmental strategic areas, weak logistics, commodity-price instability, upstream ecological degradation, and limited fiscal capacity further complicate infrastructure provision. These conditions show that the problem is not simply the absence of infrastructure projects, but the failure to integrate basic services into strategic-area governance. Studies on regional governance argue that cross-boundary development requires institutional coordination, clear authority, and shared financing mechanisms to avoid policy fragmentation (Akello et al., 2026; Krüger et al., 2026; Mao & Zhu, 2023). Thus, the NTB case provides an important empirical context for examining how strategic areas can become growth engines while still leaving basic-service deficits unresolved.

The urgency of this study lies in the fact that basic infrastructure is the foundation of spatial justice, public welfare, and long-term investment sustainability. Large-scale investment may increase regional income and attract private capital, but its development benefits can erode when basic services remain inaccessible to surrounding communities. Infrastructure investment produces stronger social and economic outcomes when it is planned as an integrated system rather than as isolated physical assets (Rezvani et al., 2024; Sandu et al., 2023). In the context of strategic areas, safe water, sanitation, health facilities, waste management, and local connectivity are not supplementary facilities; they are enabling conditions for inclusive competitiveness. When these services are weak, strategic areas may develop as enclaves where economic benefits are concentrated among specific actors while local communities bear environmental, social, and health-related burdens. This makes the basic infrastructure gap a critical issue for both development policy and academic inquiry. The case of West Nusa Tenggara is therefore important because it reveals the contradiction between strategic spatial planning and uneven fulfillment of Minimum Service Standards.

Previous studies have discussed infrastructure and regional development from several important perspectives. Suhrab et al., (2024) emphasize that infrastructure can promote growth and reduce inequality when access is broadly distributed. Kaiser & Barstow, (2022) show that infrastructure interventions are more effective when they improve service reliability, affordability, and inclusion. Talitha, (2026) examine how megaprojects and state-led spatial restructuring reshape regional governance in Indonesia. Butzin & Terstriep, (2023) highlights the importance of place-sensitive regional policy in responding to spatial disparities. Studies on multi-level governance also demonstrate that regional development requires coordination across government levels and policy sectors (Allen et al., 2023; Bianchi & Richiedei, 2023). In the Indonesian and NTB contexts, previous studies have examined spatial planning, tourism development, agribusiness infrastructure, environmental pressure, and regional coordination problems (Ariyani & Fauzi, 2024; Pramono et al., 2026; Valerio et al., 2022). Overall, these studies confirm that infrastructure, governance, and spatial policy are closely connected in determining whether regional development becomes inclusive or exclusionary.

Nevertheless, the existing literature still leaves several critical gaps. First, many studies on strategic-area development focus mainly on economic growth, tourism competitiveness, investment promotion, or spatial legality, while the basic infrastructure deficit in buffer communities receives less systematic attention. Second, studies on infrastructure inequality often discuss access disparities in general, but rarely connect them directly with Minimum Service Standards within formally designated strategic areas. Third, research on multi-level governance tends to explain institutional fragmentation, yet it does not sufficiently show how fragmented authority affects the delivery of safe water, sanitation, health facilities, and other basic services in cross-boundary strategic zones. Fourth, policy-oriented studies frequently offer normative recommendations without using transparent tools for problem prioritization, root-cause identification, and policy-option assessment. These gaps indicate the need for a more integrated framework that connects basic infrastructure deficits, spatial justice, Minimum Service Standards, multi-level governance failure, and innovative financing. Addressing this gap is essential to move the debate beyond whether strategic areas can attract investment toward whether they can distribute development benefits fairly.

This study aims to analyze the structural factors causing the basic infrastructure gap in the Provincial Strategic Areas of West Nusa Tenggara and to formulate policy options that align investment-led spatial development with the fulfillment of basic public services. Specifically, it examines how regulatory fragmentation, institutional coordination failure, fiscal constraints, and spatial-ecological pressures shape unequal access to safe water, sanitation, and health facilities in strategic-area buffer communities. The novelty of this study lies in its integrated policy framework that connects basic infrastructure deficits, Minimum Service Standards, spatial justice, multi-level governance failure, and innovative financing within the specific context of island-based Provincial Strategic Areas. Unlike previous studies that discuss infrastructure inequality, regional governance, or strategic-area development separately, this study positions basic infrastructure as the central mechanism through which investment-led spatial planning can either reproduce or reduce regional disparities. The theoretical contribution of this study is to extend sustainable infrastructure and regional-governance debates by placing basic services at the center of strategic-area development. Practically, this study offers policy directions through strategic-area-specific Minimum Service Standards, a functional Regional Governance Board, and a Sustainable Infrastructure Fund. Through this contribution, the study seeks to support a model of strategic-area governance that is economically competitive, socially equitable, institutionally coordinated, and environmentally resilient.

METHOD

Research Design

This study used a qualitative policy case study with a descriptive-prescriptive design. The design was selected because the study aimed to explain the basic infrastructure gap in the Provincial Strategic Areas of West Nusa Tenggara and to formulate operational policy alternatives. A case study approach is appropriate for examining complex policy problems that involve institutional coordination, spatial planning, fiscal capacity, and service delivery within a specific regional context (Córdoba Hernández & Camerin, 2024; Wang & Xu, 2024). The prescriptive component was applied through public policy analysis to identify priority problems, trace root causes, and evaluate feasible policy options (Fouladgar et al., 2021).

Research Location and Context

The study was conducted in West Nusa Tenggara Province, Indonesia, focusing on eleven Provincial Strategic Areas designated in the 2024–2044 Regional Spatial Plan. These areas consist of economic-growth zones and environmental-function zones distributed across ten regencies and municipalities, covering 493 villages and urban communities. The analysis focused on buffer communities around strategic areas because they are directly affected by investment-led spatial development and unequal access to basic services. The manuscript reports that access to safe drinking water, proper sanitation, and accredited health facilities in KSP buffer villages remained low, at 58%, 42%, and 31%, respectively.

Data Sources and Participants

The study used documentary data and stakeholder-based assessment. Documentary data were obtained from the NTB 2024–2044 Regional Spatial Plan, RPJMD, RKPD, minimum service standard reports, APBD documents, Bappeda policy documents, Public Works and Spatial Planning reports, health-service documents, and relevant academic studies. Stakeholder assessment involved 15 key informants selected through purposive sampling, including representatives from Bappeda, the Public Works and Spatial Planning Office, the Health Office, regional finance agencies, selected regency or municipal planning agencies, and technical actors involved in KSP infrastructure planning. Informants were selected because they had direct responsibility or technical knowledge related to strategic-area development, minimum service standards, and basic infrastructure provision (Sherief et al., 2023).

Table 1. Data Sources and Analytical Use

Data source	Main information extracted	Analytical use
RTRW NTB 2024–2044	KSP designation, spatial direction, strategic-area boundaries	Defining research context and unit of analysis
RPJMD and RKPD	Development targets, program priorities, service indicators	Linking KSP agenda with regional planning
SPM reports	Water, sanitation, and health-service achievement	Measuring basic infrastructure gaps
APBD and sectoral documents	Budget allocation and program financing	Assessing fiscal constraints
Bappeda, PUPR, and health documents	Technical planning and implementation issues	Identifying institutional and operational barriers
Stakeholder assessment	Policy priorities, root causes, feasibility of alternatives	USG scoring, Fishbone analysis, and policy evaluation

Table 1 presents the data sources used in this study and explains how each source contributed to the policy analysis. The RTRW NTB 2024–2044 was used to define the spatial context, strategic-area boundaries, and official designation of the eleven Provincial Strategic Areas. RPJMD, RKPD, SPM reports, APBD documents, and sectoral agency reports were used to examine the relationship between regional planning, service-performance targets, infrastructure achievement, and fiscal capacity. Stakeholder assessment complemented documentary data by providing institutional perspectives on policy priorities, implementation barriers, and feasibility of policy alternatives.

Instruments and Validity

Four instruments were used: a document review sheet, a USG matrix, a Fishbone Diagram worksheet, and a multi-criteria policy evaluation form. The document review sheet was used to extract regulatory, fiscal, spatial, and service-performance information. The USG matrix assessed each problem based on urgency, seriousness, and growth using a 1–5 scale. The Fishbone Diagram classified root causes into regulatory, institutional, fiscal, and spatial-ecological dimensions. The multi-criteria evaluation form assessed policy alternatives based on feasibility, efficiency, responsiveness, spatial equity, implementation risk, and sustainability. Instrument validity was strengthened through expert judgment, source triangulation, and limited member checking with selected informants (Bellindo-Garcia et al., 2022; Biddix & Bourke, 2026).

Table 2. USG Scoring Criteria

Score	Urgency	Seriousness	Growth
1	Can be addressed in the long term	Limited impact on public services	Low possibility of worsening
2	Requires attention but not immediate action	Minor impact on one sector or area	May increase slowly
3	Requires medium-term intervention	Moderate impact on service quality or investment support	Likely to expand if unmanaged
4	Requires short-term policy response	Serious impact on communities, institutions, or investment	High possibility of worsening

5	Requires immediate intervention	Critical impact on basic rights, public welfare, and strategic-area sustainability	Very likely to worsen rapidly
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Table 2 explains the scoring criteria used in the Urgency, Seriousness, and Growth matrix. Urgency measures how quickly a problem requires government intervention, seriousness assesses the magnitude of its social, economic, institutional, and environmental impacts, while growth evaluates the likelihood that the problem will worsen if no policy response is taken. The use of a 1–5 scale makes the prioritization process more transparent and replicable because each score is linked to a clear operational meaning. In this study, the matrix was used to identify the most critical policy problem among infrastructure and governance issues in the Provincial Strategic Areas.

Data Collection Procedure

Data collection was conducted in four stages. First, official planning, regulatory, budgetary, and service-performance documents were collected and reviewed. Second, infrastructure problems across the eleven strategic areas were mapped, particularly those related to safe drinking water, sanitation, health facilities, logistics, environmental pressure, and cross-boundary governance. Third, selected stakeholders assessed the identified problems using the USG matrix. Fourth, the priority problem was examined through Fishbone analysis and translated into policy alternatives for multi-criteria evaluation.

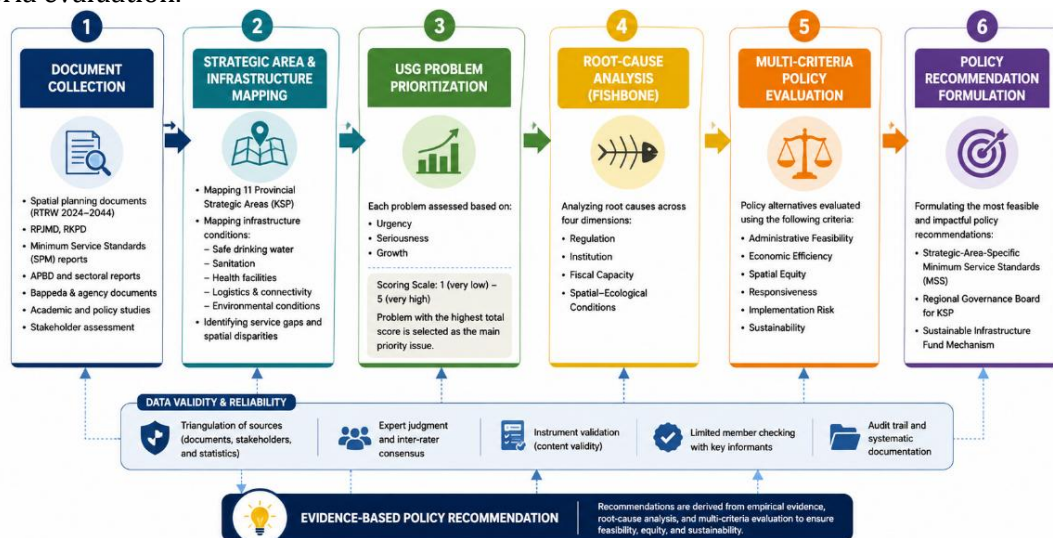


Figure 1. Research Procedure Flowchart

Figure 1 illustrates the overall research procedure employed in this study, beginning with document collection and strategic-area infrastructure mapping, followed by problem prioritization using the Urgency, Seriousness, and Growth (USG) matrix. The workflow then continues with root-cause identification through Fishbone analysis, evaluation of policy alternatives using multi-criteria assessment, and formulation of evidence-based policy recommendations. Throughout the process, data validity and reliability were ensured through source triangulation, expert judgment, document validation, limited member checking, and audit trail documentation. This systematic procedure ensured that the proposed policy recommendations were empirically grounded, analytically rigorous, and operationally feasible for addressing the basic infrastructure gap in the Provincial Strategic Areas of West Nusa Tenggara.

Data Analysis Technique

Data were analyzed using qualitative policy analysis supported by structured prioritization tools. Document and stakeholder data were reduced, coded, and categorized into four dimensions: regulation, institution, fiscal capacity, and spatial-ecological conditions. The USG matrix was used to determine the most urgent policy problem, while Fishbone analysis was used to identify its root causes. Policy alternatives were then compared through multi-criteria analysis to assess their feasibility, equity orientation, efficiency, risk, responsiveness, and sustainability (Francis & Thomas,

2022; Mecca, 2023). The final recommendation was selected based on the consistency between empirical evidence, theoretical relevance, stakeholder assessment, and operational feasibility.

Research Ethics

This study followed academic research ethics by ensuring informed consent, confidentiality, and responsible use of official documents. Informants were informed about the purpose of the study and their voluntary participation. Personal identities were anonymized unless institutional attribution was formally permitted. The researchers also avoided data manipulation, unsupported claims, and selective reporting in presenting findings and policy recommendations.

RESULTS AND DISCUSSION

Results

The results of this study are presented in four interconnected parts. The first part describes the level of basic infrastructure achievement in KSP buffer villages, focusing on safe drinking water, proper sanitation, and accredited health facilities. The second part presents the prioritization of strategic-area problems using the USG matrix. The third part explains the structural causes of the basic infrastructure gap based on regulatory, institutional, fiscal, and spatial-ecological dimensions. The final part integrates these findings to show how infrastructure deficits are connected to broader challenges in strategic-area governance.

Basic Infrastructure Gap in KSP Buffer Villages

The analysis identified a substantial gap in basic infrastructure provision across the buffer villages of the eleven Provincial Strategic Areas in West Nusa Tenggara. Three core indicators were examined: access to safe drinking water, proper sanitation, and accredited health facilities. The results show that all three indicators remain far below the ideal service target. Access to safe drinking water reached 58%, proper sanitation reached 42%, and accredited health facilities reached only 31%. These figures indicate that investment-oriented strategic-area development has not been matched by adequate fulfillment of basic public services.

Table 3. Basic Infrastructure Achievement in KSP Buffer Villages

Indicator	Achievement	Ideal target	Service gap
Safe drinking water	58%	100%	42%
Proper sanitation	42%	100%	58%
Accredited health facilities	31%	100%	69%

Table 3 shows that the most serious deficit occurs in accredited health facilities, followed by sanitation and safe drinking water. This pattern indicates that the infrastructure gap is not limited to physical utilities, but also involves social infrastructure that directly affects public welfare, visitor safety, and the long-term resilience of strategic areas.

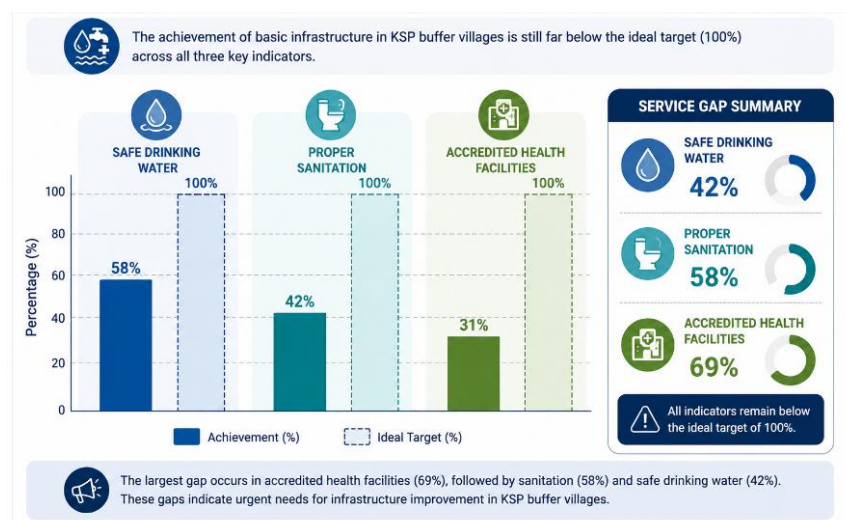


Figure 2. Basic Infrastructure Achievement in KSP Buffer Villages

Figure 2 visualizes the difference between actual service achievement and the ideal service target. The graph confirms that none of the three basic infrastructure indicators has reached an adequate level. The widest gap is found in accredited health facilities, suggesting that health-service readiness is the most critical weakness in the current development of KSP buffer villages.

Priority Problem Based on USG Analysis

The Urgency, Seriousness, and Growth analysis was used to determine the most critical policy problem among six major issues affecting Provincial Strategic Areas. The basic utility infrastructure crisis obtained the highest total score, namely 14. This score consists of urgency 5, seriousness 5, and growth 4. The result confirms that basic infrastructure is the most immediate and strategic problem because it affects public welfare, investment sustainability, and the fulfillment of minimum service standards.

Table 4. USG Analysis of Strategic-Area Problems

No.	Main problem	U	S	G	Total
1	Basic utility infrastructure crisis	5	5	4	14
2	Technical vulnerability and dependence on a single mining sector	4	5	4	13
No.	Main problem	U	S	G	Total
3	Weak logistics and price stabilization in agribusiness areas	3	3	5	11
4	Cross-regency institutional governance failure	4	4	4	12
5	Maize-policy failure and environmental degradation	4	4	5	13
6	Internal thematic conflict and urban externalities	3	4	4	11

Table 4 shows that the basic utility infrastructure crisis is the highest-priority problem. This finding provides a clear empirical basis for focusing the study on water, sanitation, and health facilities. The result also shows that basic infrastructure is more urgent than other problems because it is directly connected to minimum public services and the operational sustainability of strategic areas.

Structural Causes of the Infrastructure Gap

The root-cause analysis indicates that the basic infrastructure gap is driven by four interrelated factors. The first factor is regulatory weakness, especially the absence of strategic-area-specific service standards that explicitly connect spatial planning with basic infrastructure obligations. The second factor is institutional fragmentation, particularly in cross-regency strategic areas where authority, budgeting, and implementation are divided among different local governments. The third factor is fiscal limitation, shown by the continued dependence on regional budgets and the limited use of alternative infrastructure financing. The fourth factor is spatial-ecological pressure, including upstream degradation, uneven infrastructure distribution, and land-use conflict.

Table 5. Synthesis of Root Causes of the Basic Infrastructure Gap

Dimension	Main finding	Effect on KSP development
Regulatory	Spatial planning has not been fully linked with basic service obligations	Weak alignment between KSP development and minimum service fulfillment
Institutional	Coordination across regencies and sectors remains fragmented	Infrastructure programs are implemented partially and inconsistently
Fiscal	Financing depends heavily on APBD and sectoral budgets	Basic infrastructure investment remains limited and unstable
Spatial-ecological	Upstream degradation and unequal spatial distribution persist	Water, sanitation, and environmental services become increasingly vulnerable

Table 5 shows that the infrastructure gap is not caused by a single technical failure. Instead, it emerges from the interaction between regulatory, institutional, fiscal, and spatial-ecological constraints. This means that infrastructure improvement in KSP buffer villages requires more than project construction; it requires stronger policy integration, coordination, financing, and spatial control.

Integrated Finding

Overall, the results show that the development of Provincial Strategic Areas in West Nusa Tenggara has produced a strong investment agenda but has not yet ensured balanced basic infrastructure provision. The most critical weakness is the low availability of accredited health facilities, followed by sanitation and safe drinking water. The USG analysis confirms that the basic utility infrastructure crisis is the most urgent policy problem among the six identified issues. Root-cause analysis further shows that this crisis is structurally shaped by regulatory gaps, fragmented institutions, limited fiscal capacity, and spatial-ecological pressure. These findings provide a clear basis for the subsequent discussion on how strategic-area governance should be redesigned to align investment growth with minimum service fulfillment and spatial equity.

Discussion

The findings reveal that the development of Provincial Strategic Areas in West Nusa Tenggara has not yet produced a balanced relationship between investment acceleration and basic service fulfillment. The low achievement of safe drinking water, proper sanitation, and accredited health facilities indicates that strategic-area development remains stronger in creating economic visibility than in ensuring everyday service accessibility for buffer communities. This finding supports the view that infrastructure contributes to inclusive development only when it expands both economic productivity and access to essential public services (Das, 2024; Goel & Vishnoi, 2022). It also confirms that infrastructure should not be understood merely as physical assets, but as a social foundation that determines whether regional development is spatially just or exclusionary. Compared with previous studies that emphasize infrastructure as a driver of competitiveness, this study shows that competitiveness becomes fragile when basic services are not embedded in strategic-area planning. The NTB case therefore demonstrates that investment-led spatial development may reproduce regional disparities when the surrounding communities remain underserved. This finding strengthens the argument that Minimum Service Standards must become a core indicator in evaluating the success of strategic-area development.

The USG analysis confirms that the basic utility infrastructure crisis is the most urgent and strategic problem among the six identified issues. This result is important because it shows that water, sanitation, and health-service readiness are not secondary consequences of development, but immediate determinants of public welfare and investment sustainability. From a policy analysis perspective, a problem becomes critical when it combines high urgency, serious impact, and a strong tendency to worsen without intervention (Fouladgar et al., 2021; Mecca, 2023). This finding is consistent with studies arguing that infrastructure vulnerability can weaken regional resilience and reduce the long-term benefits of development projects (Rezvani et al., 2024; Suhrab et al., 2024). However, this study goes further by showing that the infrastructure crisis occurs inside formally designated strategic areas, not only in peripheral or non-priority regions. This means that strategic-area status alone does not guarantee equitable service delivery. The implication is clear: regional governments need strategic-area-specific Minimum Service Standards so that investment growth is directly linked to basic public-service obligations.

The root-cause analysis shows that the infrastructure gap is not caused by a single technical failure, but by the interaction of regulatory weakness, institutional fragmentation, fiscal limitation, and spatial-ecological pressure. This finding supports multi-level governance theory, which emphasizes that cross-boundary development requires clear authority, coordination mechanisms, and shared implementation responsibility (Allen et al., 2023; Bianchi & Richiedei, 2023; Mao & Zhu, 2023). In NTB, several KSPs involve more than one administrative area, but infrastructure planning and budgeting still tend to follow sectoral and jurisdictional boundaries. This creates a mismatch between the functional scale of strategic areas and the administrative scale of public-service delivery. Similar problems have been found in studies on regional governance and megaproject implementation, where fragmented authority often produces gaps between spatial plans and service outcomes (Krüger et al., 2026; Talitha, 2026). The contribution of this study lies in showing that institutional fragmentation directly affects the availability of safe water, sanitation, and health facilities in KSP buffer villages. Therefore, the establishment of a functional Regional Governance Board is not merely an administrative reform, but a necessary institutional mechanism to coordinate planning, budgeting, and implementation across regions.

The fiscal findings further indicate that dependence on APBD and sectoral budgets limits the capacity of local governments to close the infrastructure gap. Strategic areas require long-term, integrated, and cross-sectoral financing, while conventional regional budgeting often remains annual, fragmented, and vulnerable to competing political priorities. This condition explains why basic infrastructure may be delayed even when strategic-area development receives strong policy attention. Previous studies have shown that infrastructure policy becomes more effective when financing instruments are aligned with spatial priorities and service-delivery targets (Francis & Thomas, 2022; Sherief et al., 2023). In the NTB case, fiscal constraints are intensified by spatial-ecological pressures, including upstream degradation and uneven infrastructure distribution. This means that financing reform should not only add funds, but also redistribute infrastructure responsibility among beneficiaries, sectors, and administrative areas. The proposed Sustainable Infrastructure Fund is therefore relevant because it can function as a policy instrument for linking investment benefits with basic-service financing in KSP buffer communities.

Overall, this study contributes to the broader literature by reframing basic infrastructure as the central mechanism through which strategic-area development either reduces or reproduces regional disparities. Previous studies have discussed infrastructure inequality, regional governance, spatial planning, and place-sensitive development in separate analytical streams (Butzin & Terstriep, 2023; Valerio et al., 2022; Wang & Xu, 2024). This study integrates those streams by connecting basic infrastructure deficits, Minimum Service Standards, multi-level governance failure, and innovative financing in the context of island-based strategic-area development. The findings suggest that strategic-area policy cannot be evaluated only through investment realization, tourism facilities, industrial output, or spatial designation. It must also be assessed through the ability of the region to provide safe water, sanitation, health services, and coordinated governance for local communities. This perspective offers a more critical and operational contribution to the global debate on sustainable regional development. In practical terms, the study indicates that strategic-area-specific Minimum Service Standards, a Regional Governance Board, and a Sustainable Infrastructure Fund are mutually reinforcing instruments for building strategic areas that are competitive, inclusive, and resilient.

CONCLUSION

This study concludes that the development of Provincial Strategic Areas in West Nusa Tenggara has not yet been fully aligned with the fulfillment of basic infrastructure services in surrounding communities. The findings show that access to safe drinking water, proper sanitation, and accredited health facilities remains below the ideal service target, indicating a structural gap between investment-led spatial development and minimum public service provision. The USG analysis confirms that the basic utility infrastructure crisis is the most urgent policy problem, while root-cause analysis shows that this crisis is shaped by regulatory weakness, institutional fragmentation, fiscal limitation, and spatial-ecological pressure.

The main contribution of this study is its positioning of basic infrastructure as a central mechanism for evaluating whether strategic-area development reduces or reproduces regional disparities. Strategic-area status alone does not guarantee inclusive development when basic services are not integrated into planning, budgeting, and governance systems. Therefore, the policy implication of this study is clear: West Nusa Tenggara needs strategic-area-specific Minimum Service Standards, a functional Regional Governance Board, and a Sustainable Infrastructure Fund to ensure that investment growth is accompanied by equitable and resilient service delivery.

This study has limitations because it focuses on policy documents, stakeholder assessment, and selected basic infrastructure indicators. Future research should expand the analysis by using longitudinal data, household-level surveys, spatial mapping, and comparative studies across other island-based strategic regions. Such research would provide deeper evidence on how basic infrastructure, governance capacity, and financing mechanisms shape the inclusiveness of strategic-area development.

AUTHOR CONTRIBUTIONS STATEMENT

The author, Tribuana Tungga Dewi, was fully responsible for the entire research process, including developing the study concept, designing the methodology, collecting and organizing the data, conducting the analysis, interpreting the findings, preparing the original manuscript, revising the article, and approving the final version for publication.

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