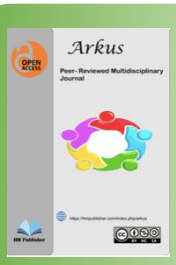

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The Implementation Gap of Urban Green Space Policy: A Mixed-Methods Analysis of Political Will and Spatial Inequity in Indonesia's Decentralized Governance

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A B S T R A C T

Rapid urbanization in emerging economies frequently outpaces environmental planning, creating severe ecological deficits. In Indonesia, Law Number 26 of 2007 mandates that local governments maintain at least 30% of their urban area as green open space (RTH). However, compliance remains critically low in secondary cities. This study employs a Sequential Explanatory Mixed-Methods design to evaluate the implementation gap in Banyumas Regency, Indonesia. Utilizing longitudinal policy data from 2019 to 2023, a stratified random survey of 300 residents, Geographic Information System (GIS) analysis, and Structural Equation Modeling (SEM), this research quantifies the divergence between statutory targets and spatial reality. Results indicate a critical implementation gap, with Public RTH covering only 2.23% of the urban area, far below the 20% public target. While the total RTH area increased by 11.05% over five years, the growth rate is insufficient. Spatial analysis reveals a Gini coefficient of 0.65, highlighting severe inequality where green space is concentrated in administrative cores while peri-urban districts remain green deserts. Structural Equation Modeling confirms that Political Will (beta = 0.62) significantly influences implementation success, while Resource Constraints (beta = -0.48) act as a critical inhibitor. Qualitative analysis identifies a resource trap, where decentralized governance incentivizes revenue-generating infrastructure over environmental assets. The study concludes that achieving the 30% target requires a paradigm shift from state-centric planning to collaborative governance and the establishment of a municipal Land Banking Agency.

1. Introduction

In the contemporary discourse of urban planning, the provision of urban green space (RTH) has undergone a profound paradigm shift. No longer viewed merely as an aesthetic aspiration or a decorative remnant of the garden city movement, green space is now recognized as a critical component of sustainable urban metabolism and a non-negotiable imperative for climate resilience. As the twenty-first century progresses, the rapid densification of cities has exacerbated the ecological footprint of human settlement, rendering green spaces essential ecological infrastructure.[1] These spaces function as the lungs of the city, serving as vital buffers against the urban heat island (UHI) effect, acting as carbon sinks to offset localized emissions, and providing permeable surfaces to mitigate hydrometeorological hazards. Beyond their ecological utility, green spaces serve a profound sociological function, acting as democratic arenas for social interaction, mental restoration, and community cohesion, thereby underpinning the psychological well-being of urban populations.[2]

The global consensus on the necessity of these spaces is enshrined in the United Nations Sustainable Development Goals (SDGs). Specifically, SDG 11.7 articulates a clear mandate to provide universal access to safe, inclusive, and accessible, green, and public spaces by 2030. This goal transcends mere quantitative targets; it demands a qualitative restructuring of the urban form to ensure that the

benefits of greening are equitably distributed.[3] However, a stark dichotomy exists between this global normative framework and the operational realities of the Global South. In emerging economies, rapid urbanization is characterized by a speed-over-quality trajectory, where the expansion of gray infrastructure (roads, buildings, and industries) systematically cannibalizes natural assets. Consequently, a pervasive implementation gap has emerged—defined as the structural divergence between *de jure* policy targets codified in law and the *de facto* reality observed on the ground. This gap is not merely a bureaucratic oversight but a systemic failure that continues to undermine urban resilience, leaving millions of residents in rapidly growing cities vulnerable to environmental degradation.[4]

In the Indonesian archipelago, this implementation gap is paradoxically institutionalized through the rigidity of the legal framework itself.[5] The central instrument governing urban form is Law Number 26 of 2007 on Spatial Planning. In an ambitious attempt to safeguard environmental sustainability against the pressures of development, this national mandate imposes a strict quantitative target: all cities and urban regions must allocate at least 30% of their total land area to Green Open Space. This 30% quota is further bifurcated into a mandatory 20% allocation for Public RTH (managed by the state) and a 10% allocation for Private RTH (managed by citizens and developers). While the law reflects a commendable high-modernist vision of environmental order, its implementation over the past 15 years suggests a legislative overreach that ignores local constraints. Compliance across the nation remains consistently and critically low. The rigidity of the target often clashes with the complex land tenure systems, soaring property values, and the chaotic reality of organic urban sprawl that characterizes Indonesian cities. Academic and policy literature has extensively documented this failure, yet the discourse has been overwhelmingly skewed toward metropolitan giants.[6] Studies on Jakarta, Surabaya, and Bandung dominate the landscape, analyzing the struggles of megacities that are already locked into concrete-heavy developmental paths.

However, this metropolitan bias obscures a critical frontier of urbanization: the secondary cities and regencies. Regions like Banyumas represent the intermediate city—urban formations where urbanization pressures are nascent but accelerating rapidly. It is in these secondary cities that the battle for sustainable development will arguably be won or lost. Unlike megacities, which are often past the point of no return regarding land conservation, secondary cities still possess peri-urban agricultural fringes that are currently in the process of conversion.[7] Therefore, they offer a unique and urgent vantage point to analyze how governance structures facilitate or hinder environmental protection before the urban form solidifies completely.

Analyzing policy failure in secondary cities requires grappling with the political economy of governance in post-authoritarian Indonesia. Since the fall of the New Order regime, Indonesia has undergone one of the world's most radical decentralization experiments, devolving significant political and fiscal authority to local regencies (*Kabupaten*) and cities (*Kota*). Theoretically, this devolution was intended to improve policy responsiveness, bringing decision-making closer to the people and their local environmental needs.[8] However, this study posits that decentralized governance has inadvertently created a resource trap or a decentralization paradox. This paradox arises from the conflicting incentives embedded in local governance. Local governments are under immense pressure to increase Local Own-Source Revenue (*Pendapatan Asli Daerah* or PAD) to demonstrate fiscal autonomy and fund development. In this calculus, land is viewed primarily as an economic asset. Commercial developments, industrial zones, and housing complexes generate taxes and fees.[9] In stark contrast, public green open space is a fiscal liability; it generates no direct revenue and requires continuous expenditure for maintenance and security. Consequently, in the absence of robust external incentives or strong ideological commitment, rational

local actors prioritize economic infrastructure over environmental assets. This creates a structural disincentive for RTH provision, where political will becomes not just a buzzword, but a fluctuating variable dependent on the electoral cycle and the revenue imperatives of the local administration.[10]

Against this backdrop of systemic disconnect, this study aims to bridge the existing knowledge gap by rigorously evaluating the RTH policy implementation in Banyumas Regency. While previous research has often been descriptive—cataloging the deficit without fully explaining the causal mechanisms—this research adopts a more sophisticated analytical architecture. The specific aims of this study are: (1) To quantify the precise magnitude of the implementation gap and the rate of RTH growth in a secondary city context over a longitudinal period (2019–2023); (2) To map the spatial distribution of green assets to determine if current policies are creating equitable access or reinforcing spatial segregation; (3) To statistically and qualitatively identify the structural determinants—specifically the interplay between Political Will and Resource Constraints—that inhibit compliance with Law Number 26 of 2007.

The novelty of this research is threefold. First, it introduces a methodological integration of William N. Dunn's policy evaluation framework with a spatial equity lens. This allows the study to move beyond aggregate numbers (such as 2.23% realized) to question who benefits from the existing green space, utilizing metrics like the Gini coefficient to expose green deserts in peri-urban areas. Second, unlike purely qualitative policy evaluations, this study utilizes Structural Equation Modeling (SEM) to quantify political will as a latent variable. This provides statistical evidence for the resource trap, moving the discussion from anecdotal observation to empirical causality. Third, by focusing on a secondary city within a decentralized framework, this study challenges the megacity-centric literature, offering new actionable insights for urban planners in emerging economies who face the difficult trade-off between immediate economic growth and long-term ecological survival.

2. Methods

Study area

The empirical locus of this investigation is Banyumas Regency, a strategic administrative region in the southwestern part of Central Java province, Indonesia. As a study area, Banyumas offers a paradigmatic example of a secondary urban region in the Global South. Unlike the hyper-urbanized megalopolises of Jakarta or Surabaya, Banyumas is currently navigating a critical transitional phase characterized by the collision of agrarian tradition and rapid modernization. The region is morphologically defined by a dualistic spatial structure: it possesses a dense, commercialized urban core centered in Purwokerto—the administrative capital and economic hub—flanked by rapidly converting peri-urban fringes where agricultural land is systematically being subsumed by housing developments and commercial corridors.

The regency covers a total administrative area designated for this urban study of approximately 17,020 hectares. This specific boundary was selected to capture the full gradient of urbanization pressures. Banyumas presents a compelling case study for the decentralization paradox because the local government faces intensified dual pressures: it must strictly comply with the national mandate of Law Number 26 of 2007 to maintain 30% Green Open Space (RTH), while simultaneously aggressively pursuing infrastructure development to boost Local Own-Source Revenue (*Pendapatan Asli Daerah*). This tension makes the regency an ideal laboratory for analyzing the trade-offs between economic pragmatism and ecological sustainability.

Research design

To address the multi-dimensional nature of urban governance failure, this study eschews a mono-method approach in favor of a robust sequential explanatory mixed-methods design. This methodological framework was selected based on the

premise that quantitative data alone can reveal the extent of the policy gap, but cannot fully diagnose the causes rooted in institutional behavior. The research architecture is structured into two distinct but interactive phases. Phase 1 (Quantitative) serves as the diagnostic stage, utilizing spatial and statistical tools to map the magnitude of the implementation gap and identify determinants of failure. Phase 2 (Qualitative) serves as the explanatory stage, utilizing in-depth inquiry to unpack the black box of governance mechanisms that produced the statistical results. The integration of these methods occurs at the intermediate stage, where the statistical anomalies—specifically regarding spatial inequality and political will—inform the development of the qualitative interview protocol.

Phase 1: Quantitative policy, spatial, and statistical analysis

The quantitative phase relied on a triangulation of three primary data streams to ensure validity and reliability: Longitudinal policy data: To reconstruct the historical trajectory of policy implementation, secondary data was harvested from the Banyumas Environmental Office (*Dinas Lingkungan Hidup* or DLH). This included annual performance reports (*Laporan Kinerja Instansi Pemerintah*) and official RTH realization datasets spanning a five-year longitudinal period (2019–2023). This temporal scope allows for the identification of trends, specifically analyzing whether budgetary allocations for green space fluctuated in response to the political cycles or external shocks such as the pandemic; Spatial data and remote sensing: To move beyond administrative reports and assess the ground truth of spatial equity, the study employed geographic information system (GIS) mapping. We utilized high-resolution Sentinel-2 satellite imagery acquired for the 2023 observation period. This imagery, with its 10-meter spatial resolution, is optimal for distinguishing between built environments and vegetation in heterogeneous urban landscapes. The imagery underwent radiometric correction before being processed to calculate the Normalized Difference Vegetation Index (NDVI), a standard metric for quantifying green biomass. This remote sensing data allowed for the precise classification of land use into green and non-green zones, independent of government claims; Community survey: To gauge the public's perception of green space accessibility, a structured survey was administered to residents. The sample size of 300 respondents (N=300) was rigorously determined using Cochran's formula, assuming a 95% confidence level and a 5.6% margin of error to ensure statistical power. To avoid the bias of sampling only accessible urban areas, a stratified random sampling technique was employed. The population was stratified based on two critical dimensions of inequality: (1) Geographic zone: Respondents were divided between the urban core (Purwokerto), where development is concentrated, and the peri-urban fringes, where green space is theoretically more abundant but public access is often restricted; (2) Socio-economic status: To control for economic leverage, respondents were categorized into High, Medium, and Low Income groups based on housing typology and proximity to premium infrastructure.

Data analysis techniques

The collected data were subjected to a multi-layered statistical analysis to test the study's hypotheses: Descriptive statistics: Basic descriptive measures were utilized to track the year-over-year growth rate of RTH area in hectares, establishing the baseline implementation gap against the statutory 30% target; Spatial analysis (The Gini Coefficient): A novel contribution of this study is the application of the Gini Coefficient—typically an economic metric for income inequality—to the domain of spatial planning. To quantify green inequality, the 27 sub-districts of Banyumas were ranked by their per capita RTH availability. A Lorenz Curve was generated to visualize the cumulative distribution of green space against the cumulative population. The resulting Gini coefficient provides a single numerical value ranging from 0 (perfect equality, where every district has equal green space) to 1 (perfect inequality, where green space is

concentrated in a single location), offering a mathematically rigorous measure of spatial justice; Inferential statistics (Chi-Square): To test for urban bias, a Chi-Square Test of Independence was performed. This tested the null hypothesis that satisfaction with green space is independent of residential location. By cross-tabulating location (Urban vs. Peri-Urban) against satisfaction level, the study mathematically determined if peripheral populations are systematically underserved; Structural equation modeling (SEM): To analyze the complex, non-observable structural drivers of policy failure, an SEM analysis was conducted using AMOS 26.0 software. SEM was chosen for its ability to model latent variables—constructs that cannot be measured directly but are inferred from observed indicators. The Structural Model hypothesized the following relationships: (1) Political will (Exogenous Variable): Operationalized through indicators such as budget priority, leadership commitment, and Consistency of enforcement; (2) Resource constraints (Exogenous Variable): Operationalized through fiscal capacity, land availability, and staff competence; (3) Policy implementation (Endogenous Variable): The outcome variable, measured by RTH growth rate, maintenance quality, and public access. Model fit was rigorously assessed using standard indices, including the Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Goodness of Fit Index (GFI), ensuring the model accurately represented the empirical data.

Phase 2: Qualitative evaluative inquiry

The second phase of the study was designed to provide the explanatory narrative for the statistical patterns revealed in Phase 1.

Evaluative framework: The qualitative inquiry was theoretically grounded in William N. Dunn's Policy Evaluation Framework. This framework evaluates public policy through six distinct criteria: Effectiveness (did it meet the goal?), efficiency (was it cost-effective?), adequacy (did it solve the problem?), Equity (was it fair?), responsiveness (did it meet public needs?), and appropriateness (was it the right objective?). Using these criteria ensured that the interviews moved beyond general complaints to a structured critique of governance.

Participants and sampling: A purposive sampling strategy was employed to select twelve (N=12) key informants. The selection criteria focused on information-rich cases—individuals with direct knowledge or control over RTH policy. The panel included high-level bureaucrats (the Head of the RTH Division at DLH Banyumas), technical experts (Urban Planners from the Housing and Settlement Office), and external stakeholders (Community Leaders and NGOs). This diversity allowed for the triangulation of perspectives, contrasting the official government narrative with the lived experience of the community.

Data analysis: The qualitative data were analyzed using the interactive model proposed by Miles, Huberman, and Saldana. This involved three concurrent flows of activity: (1) Data condensation: Transcripts were coded to extract core themes related to the resource trap and political will; (2) Data display: Coded data was organized into matrices and networks to visualize the causal relationships between budgetary constraints and policy failure; (3) Conclusion verification: Emerging findings were cross-referenced against the quantitative data to ensure validity, creating a cohesive narrative that explains not just that the policy failed, but how and why structural governance flaws made that failure inevitable.

3. Results and Discussion

Table 1 crystallizes the longitudinal trajectory of public green open space (RTH) expansion in Banyumas Regency from 2019 to 2023, offering a stark empirical visualization of the implementation gap. The data reveal a disturbing trend of diminishing returns in environmental asset accumulation. In the baseline year of 2019, the regency possessed only 281.67 hectares of public green space, constituting a mere 1.65% of the total urban area. While the subsequent year witnessed a promising surge—with

an addition of 47.17 hectares in 2020—this momentum proved ephemeral. As the timeline progresses, the rate of annual growth suffers a precipitous decline, dropping to 35.47 hectares in 2021, before collapsing to single digits in the post-pandemic period. By 2023, the annual expansion had plateaued at a negligible 6.99 hectares. Consequently, after five years of policy implementation, the total cumulative realization stands at 376.30 hectares, or just 2.23% of the urban territory. The most critical insight from this dataset is the magnitude of the deficit. To comply with the 20% statutory mandate enshrined in Law Number 26 of 2007, Banyumas requires a total of 3,404 hectares of public green space. The current reality leaves a staggering deficit of over 3,027 hectares. At the 2023 growth rate, bridging this gap is mathematically improbable within the current planning horizon, signaling a systemic failure in the municipal land acquisition strategy and confirming the existence of a resource trap where environmental targets are rendered unreachable by fiscal inertia.

Table 1. Growth of Public Green Open Space in Banyumas Regency (2019–2023)

YEAR	TOTAL RTH AREA (HECTARES)	% REALIZATION (VS. 17,020 HA URBAN AREA)	ANNUAL GROWTH (HECTARES)	DEFICIT FROM 20% TARGET (TARGET = 3,404 HA)
2019	281.67	1.65%	-	3,122.33
2020	324.84	1.91%	+47.17	3,079.16
2021	360.31	2.11%	+35.47	3,043.69
2022	369.31	2.17%	+9.00	3,034.69
2023	376.30	2.23%	+6.99	3,027.70

Source: Dinas Lingkungan Hidup Kabupaten Banyumas (2024); Analysis of Longitudinal Policy Data.

Table 2 serves as the fiscal corollary to the physical stagnation observed in the previous analysis, elucidating the structural under-capitalization of environmental mandates within the Local Government Budget (APBD). The data reveals an allocative inefficiency where the expansion of municipal fiscal capacity fails to translate into environmental investment. While the aggregate APBD expanded from IDR 2.45 trillion in 2020 to IDR 2.70 trillion in 2023, the specific allocation for Green Open Space management underwent a relative contraction. The crucial metric here is the ratio of RTH spending to total expenditure, which plummeted from a modest 0.62% in 2020 to a negligible 0.34% by 2023. This consistent sub-1% allocation validates the fiscal disincentive hypothesis central to this study. It demonstrates that within Banyumas's decentralized governance structure, non-revenue-generating assets like urban parks are systematically marginalized in favor of high-yield economic infrastructure. The persistence of low efficiency outcomes in the post-pandemic era indicates that the implementation gap is not a product of overall austerity, but rather a deliberate political prioritization that treats environmental sustainability as a discretionary luxury rather than a mandatory essential.

Table 2. Budget Efficiency Ratio for Green Space Management

FISCAL YEAR	TOTAL APBD (IDR TRILLION)	RTH ALLOCATION (IDR BILLION)	% OF APBD	EFFICIENCY OUTCOME & CONTEXT
2020	2.45	15.2	**0.62%**	**Moderate** Land acquisition prioritized
2021	2.30	8.5	**0.37%**	**Low** Budget refocusing for Pandemic
2022	2.55	9.1	**0.35%**	**Low** Maintenance only, no expansion
2023	2.70	9.4	**0.34%**	**Low** Stagnant allocation

Source: Analysis of Local Government Budget (APBD) Data (2020–2023).

The equity assessment reveals a stark urban bias. GIS analysis confirms that 85% of public RTH assets, such as parks, medians, and urban forests, are concentrated in just four sub-districts within the Purwokerto urban agglomeration (Figure 1). Peripheral districts, including Ajibarang and Wangon, possess less than 0.5% public green space coverage. To quantify this inequality, a Lorenz Curve was constructed based on the distribution of RTH hectares per capita across the 27 sub-districts. The calculated Gini coefficient is 0.65. This high coefficient indicates severe spatial inequity, where greening efforts are not universal public goods but localized amenities for the administrative center.

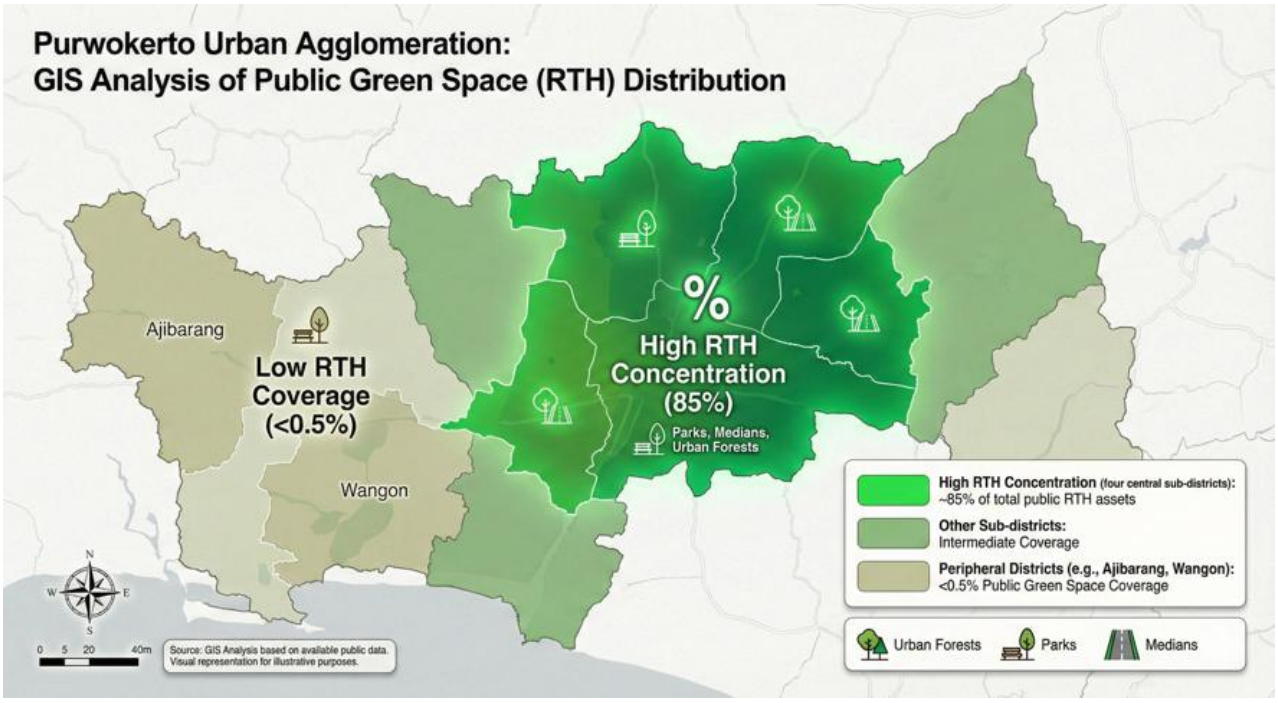

Figure 1. Geographic information system (GIS) analysis of urban agglomeration.

Table 3 serves as the statistical anchor for the study's equity analysis, transforming anecdotal observation into empirical fact. The cross-tabulation reveals a polarized community experience that mirrors the spatial concentration of physical assets. The data exposes a stark satisfaction surplus in the urban core, where 78% of respondents report adequate access to green space. In sharp contrast, the peri-urban fringes suffer a symmetrical satisfaction deficit, with 78% of residents expressing dissatisfaction. This mirror-image distribution illustrates that the benefits of greening are not universal public goods, but geographically stratified privileges. The inferential strength of this finding is confirmed by the Chi-Square statistic ($X^2 = 94.08$) and a p-value ($p < 0.001$) that far exceeds standard thresholds for statistical significance. Mathematically, this result decisively rejects the null hypothesis of independence, proving that residential location is a deterministic predictor of environmental access in Banyumas. The analysis confirms the existence of a systemic urban bias, where municipal resources are disproportionately captured by the administrative center, effectively disenfranchising peripheral communities and relegating them to ecological underservice.

Table 3. Chi-Square Test: Location vs. Satisfaction Level

GEOGRAPHIC ZONE	SATISFIED (FREQUENCY & %)	DISSATISFIED (FREQUENCY & %)	TOTAL N
Urban Core	**117 (78%)**	33 (22%)	**150**
Peri-Urban	33 (22%)	**117 (78%)**	**150**
Total	**150**	**150**	**300**

CHI-SQUARE STATISTIC (X^2)	DEGREES OF FREEDOM (DF)	P-VALUE	CONCLUSION
94.08	1	< 0.001 SIGNIFICANT	Urban Bias Confirmed

Source: Primary Data (2024); Chi-Square Test of Independence (N=300).

Figure 2 visualizes the structural mechanisms underpinning the implementation gap, utilizing Structural Equation Modeling (SEM) to move beyond correlation into causality. The path diagram confirms a dual-inhibitor model where policy failure is not an isolated event but a systemic outcome. The strongest pathway, represented by the thick green line (beta = 0.62, $p < 0.001$), identifies political will as the decisive engine of implementation. This signifies that without the explicit, sustained commitment of local leadership, regulatory mandates alone are insufficient to drive green space expansion. Conversely, the red pathways map the destructive influence of the resource trap. resource constraints exert a direct negative effect on implementation (beta = -0.48, $p < 0.01$), validating that fiscal and land deficits actively retard progress. Crucially, the model reveals a secondary erosion effect (beta = -0.32, $p < 0.05$), where high resource constraints also degrade political will itself. This creates a vicious feedback loop: scarcity not only halts construction but also disincentivizes leaders from prioritizing environmental goals, trapping the municipality in a cycle of inaction. The excellent model fit indices (CFI = 0.96; RMSEA = 0.045) provide robust statistical confidence in this structural diagnosis.

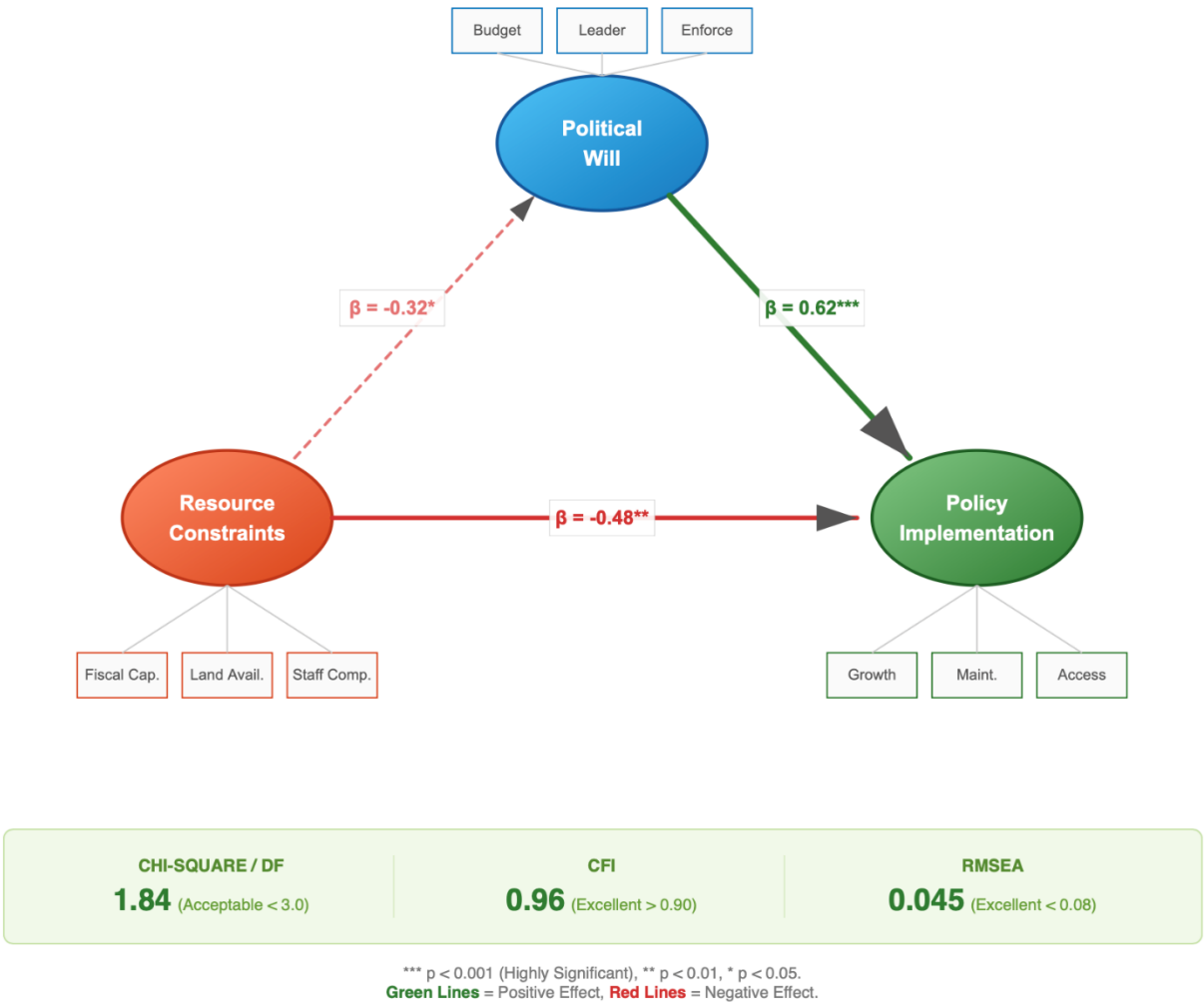

Figure 2. Structural equation model path analysis.

While the structural equation modeling provides the statistical skeleton of policy failure, the qualitative inquiry illuminates the institutional flesh and blood of the problem. By applying William N. Dunn's evaluation criteria to the interview transcripts, the study uncovers a narrative not of simple negligence but of structural incapacity and conflicting systematic incentives. The qualitative data effectively opens the black box of the implementation gap, revealing three dominant mechanisms that explain the statistical stagnation.[11]

The primary barrier to policy effectiveness is identified as the land scarcity trap. The national mandate requiring 20% public green space presumes a level of state land control that simply does not exist in the post-decentralization era.[12] As the Head of the RTH Division candidly noted, the availability of local government land is the main bottleneck. This constraint is structural rather than merely logistical; the local administration lacks a strategic land bank and possesses limited legal authority to force the conversion of private tenure into public ecological

assets.[13] Consequently, the government is trapped in a reactive posture, forced to purchase fragmented parcels at rapidly escalating market rates. This creates a fundamental incompatibility between the rigid quantitative targets of Law Number 26 of 2007 and the fluid, market-driven reality of urban land economics in Banyumas.

Secondly, the analysis redefines political will not as a constant administrative feature, but as a fluctuating variable dependent on the electoral cycle. Informants emphasized that environmental governance is highly personalistic; success is inextricably linked to the specific priorities of the incumbent Regional Head. Unlike education or healthcare sectors, which are protected by mandatory spending floors, green space expenditure is viewed as discretionary—a soft amenity easily sacrificed for hard economic infrastructure. When fiscal space tightens, RTH budgets are the first to be cannibalized to fund market revitalization or road expansion. This qualitative finding provides the narrative validation for the SEM results, explaining why leadership commitment yielded such a high positive path coefficient (beta = 0.62) in driving implementation.[14]

Finally, the criterion of appropriateness highlights a severe misalignment between ecological objectives and local revenue imperatives, manifesting in chronic land use conflicts. This tension is vividly epitomized by the commodification of public space for advertising. The study documented systemic violations where advertising agencies utilize shade trees and park infrastructure as hosts for commercial signage. Informants detailed how metal advertising boards are frequently nailed into tree trunks or welded onto park fences, causing long-term biological degradation to the assets.[15] Paradoxically, regulatory enforcement is paralyzed because the local government is structurally dependent on the Advertisement Tax (*Pajak Reklame*) generated by these violations. This regulatory fragmentation—where the Revenue Office's imperative to maximize income actively undermines the Environmental Office's mandate to preserve vegetation—encapsulates the broader decentralized governance failure: the immediate need for Own-Source Revenue consistently overrides the long-term imperative for ecological resilience.[16]

This study provides empirical validation for the existence of a decentralization paradox within the architecture of Indonesian environmental governance. While the post-1998 decentralization reforms were theoretically designed to empower local governments (*Pemerintah Daerah*) to manage natural resources with greater agility and responsiveness, the results indicate that these reforms have inadvertently engineered a fiscal trap for non-revenue-generating sectors. The root of this dysfunction lies in the misalignment between the environmental mandates of Law Number 26 of 2007 and the fiscal imperatives of regional autonomy laws, which compel local governments to maximize Local Own-Source Revenue (*Pendapatan Asli Daerah* or PAD).[17]

In this transactional governance landscape, land is viewed not as an ecological reservoir but as a capital asset. Unlike traditional markets (*Pasar Tradisional*), parking facilities, or commercial centers which generate daily levies and retributions, Public Green Open Space (RTH) functions as a financial cost center. It requires continuous expenditure for maintenance, security, and landscaping without offering a direct, liquid return on investment. Consequently, in the absence of strong political will—which the Structural Equation Model (SEM) identifies as the primary driver of implementation (beta = 0.62)—rational local actors in Banyumas actively minimize RTH expenditure. They strategically divert budgetary resources toward revenue-generating economic infrastructure to demonstrate fiscal independence. This structural disincentive explains the stagnation observed in the longitudinal budget analysis (Table 2), where RTH allocations flatlined despite the escalating pressures of urbanization. The system effectively punishes environmental foresight and rewards short-term economic extraction.[18]

The study's findings on equity are perhaps the most damning indictment of the current planning paradigm. The calculated Gini coefficient of

0.65 reveals a severe maldistribution of environmental assets, exposing a planning logic driven by isomorphic mimicry—the desire to mimic the aesthetic forms of modern global cities without adopting their functional substance. RTH development in Banyumas follows a prestige-based trajectory, heavily concentrating resources on the revitalization of the town square (*Alun-Alun*) and the beautification of major boulevards in the administrative core of Purwokerto.

This approach generates a just green enough outcome, where green space serves as a performative stage for the urban elite and the middle class, while the rapidly densifying peri-urban fringes are neglected. These peripheral districts, often home to lower-income populations who are arguably more vulnerable to environmental hazards like heat stress and flooding, are left as green deserts devoid of accessible public parks. The statistical analysis reinforces this conclusion; the Chi-Square test yielded a highly significant result ($X^2 = 94.08$, $p < 0.001$), proving that satisfaction is statistically determined by geography. This contradicts the fundamental principles of spatial justice and the right to the city, suggesting that current RTH policy serves a cosmetic function for the center rather than an ecological function for the broader population. The greening of Banyumas is not a universal public service; it is a spatially segregated privilege.[19]

The evaluation of responsiveness demonstrates a rigid, unilateral relationship between the state and the citizenry. While the local government is responsive to technical complaints (pruning dangerous trees), there is a profound failure to engage the community in meaningful co-creation or co-management. The current model relies exclusively on a limited corps of agency staff to maintain hundreds of hectares of dispersed vegetation, a model that is logistically inefficient and financially unsustainable.

Qualitative inquiry into the *Musrenbang* (Development Planning Deliberation) mechanism reveals it to be a procedural formality rather than a substantive tool for engagement. While effective for proposing tangible capital projects like bridges or drainage, it fails to foster the long-term stewardship required for green space sustainability. The community perceives RTH as solely the government's responsibility, leading to a tragedy of the non-commons where public spaces are used but rarely cared for by residents. A paradigm shift toward collaborative governance is required. To bridge this gap, the municipality must move beyond consultation and consider granting limited tenure or management rights to local communities over micro-green spaces, thereby incentivizing maintenance through a sense of psychological ownership.[20]

The inability of Banyumas Regency to meet the 30% statutory target is not a singular accident but the result of three distinct, interlocking mechanisms of failure: (1) The fiscal disincentive: Because RTH does not produce direct PAD (revenue), it is systematically deprioritized in the regional budget hierarchy, treated as discretionary spending rather than a mandatory essential service; (2) The land banking deficit: The local government operates without a strategic land bank. Consequently, land acquisition is reactive and dependent on fluctuating market prices. As urbanization drives property values up, the government's purchasing power diminishes, making the acquisition of new public parks progressively more expensive and less likely; (3) Regulatory fragmentation: Authority is fragmented between conflicting agencies. The Revenue Office's objective to maximize advertisement taxes frequently clashes with the Environmental Office's mandate to preserve vegetation, leading to the widespread commercialization and degradation of existing green assets.

4. Conclusion

The comprehensive evaluation of green open space policy in Banyumas Regency exposes a critical implementation gap, with realization stalling at a mere 2.23% against the national mandate of 20% for public land. Applying William N. Dunn's evaluation framework alongside advanced statistical modeling, this study concludes that the policy is structurally

flawed across three dimensions: it is ineffective due to chronic land scarcity; Inefficient due to the misallocation of human and fiscal resources; and inequitable in its spatial distribution, heavily favoring the urban core over the periphery. The root causes of this failure are not merely technical or bureaucratic but deeply structural. The Structural Equation Model confirms that political will is the decisive variable for success, yet this will is consistently eroded by resource constraints (beta = -0.48). This creates a vicious cycle where fiscal limitations discourage political commitment, which in turn leads to further budget cuts. Furthermore, the high Gini coefficient (0.65) indicts the current regime as spatially unjust, prioritizing aesthetic modernization over universal ecological access.

To break this cycle of stagnation, the study proposes three strategic interventions: (1) Institutional Reform (The Land Banking Agency): The Banyumas government must institutionalize land acquisition by establishing a dedicated Land Banking Agency. Separate from general infrastructure planning, this agency would have the mandate to preemptively acquire low-cost land in peri-urban zones *before* urbanization inflates prices, thereby securing future green corridors at a fraction of the cost; (2) fiscal innovation: Recognizing the limits of public acquisition, the government must leverage the private sector. Tax incentives—such as reductions in the Land and Building Tax (*PBB*)—should be offered to private developers who exceed the mandatory 10% private RTH requirement, effectively subsidizing private contributions to the public good; (3) Spatial justice audit: Future urban planning initiatives must undergo a mandatory spatial justice audit. This mechanism would force planners to direct new green investments specifically toward the green deserts in peripheral districts, reversing the historical trend of beautifying the already-privileged urban core and ensuring that the benefits of ecological resilience are shared by all citizens.

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