

Governance Gaps and Uneven Environmental Performance: Evidence from an Analysis of Strategic Environmental Planning and Good Environmental Governance in Tanjungpinang City

Kesenjangan Tata Kelola dan Kinerja Lingkungan yang Belum Merata: Bukti dari Analisis Perencanaan Lingkungan Strategis dan Tata Kelola Lingkungan yang Baik di Kota Tanjungpinang

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Abstract

This research analyzes the correlation between strategic environmental planning and actual environmental performance in Tanjungpinang City in 2017–2023, focusing on the role of good environmental governance (GEG). Unlike previous studies that consider environmental indicators or governance separately, this study bridges the gap by combining performance evaluation and governance analysis into one framework. This evaluative case study combines descriptive quantitative analysis with qualitative document analysis. Secondary data from official planning documents and institutional reports were analyzed through gap and trend analyses, complemented by a qualitative assessment of governance principles. Only three indicators exceeded their established targets—the Water Quality Index, the Percentage of Regional Climate Change Action Plan, and the Environmental Quality Index—while the Environmental Data and Information indicator met its target exactly; the Land Cover Quality Index and waste-related indicators performed relatively weakly. This uneven pattern shows that meeting targets does not guarantee consistently good environmental performance. The trend analysis reveals generally stable gains across most variables, alongside persistent shortcomings in land use management. Environmental performance appears strongly influenced by governance quality, particularly policy coordination and integration: indicators under tighter administrative control perform better, while those requiring cross-sectoral cooperation perform worse. This paper thus contributes to understanding that environmental-planning effectiveness depends not only on target achievement but also on governance's capacity to translate policy into coordinated cross-sectoral action. Strengthening cross-sectoral integration, accountability, and participatory mechanisms is essential to achieving more aligned and sustainable environmental outcomes.

Keywords

Strategic Environmental Planning; Good Environmental Governance; Environmental Performance.

Abstrak

Studi ini mengkaji kesesuaian antara perencanaan strategis lingkungan dan kinerja lingkungan aktual di Kota Tanjungpinang selama periode 2017–2023, dengan fokus pada peran tata kelola lingkungan yang baik (GEG). Berbeda dari penelitian sebelumnya yang menilai indikator lingkungan atau tata kelola secara terpisah, studi ini mengisi kesenjangan tersebut dengan mengintegrasikan evaluasi kinerja dan analisis tata kelola dalam satu kerangka. Studi kasus evaluatif ini menggabungkan analisis kuantitatif deskriptif dengan analisis dokumen kualitatif. Data sekunder dari dokumen perencanaan resmi dan laporan kelembagaan dianalisis melalui analisis kesenjangan dan tren, dilengkapi penilaian kualitatif terhadap prinsip tata kelola. Hanya tiga indikator yang melampaui target yang ditetapkan—Indeks Kualitas Air, Persentase Rencana Aksi Daerah Adaptasi Perubahan Iklim, dan Indeks Kualitas Lingkungan Hidup—sementara indikator Data dan Informasi Lingkungan mencapai targetnya; Indeks Kualitas Tutupan Lahan dan indikator persampahan menunjukkan kinerja yang relatif lebih rendah. Pola ini menunjukkan bahwa pencapaian target tidak selalu mencerminkan kinerja



DOI: [10.35967/njip.v25i1.923](https://doi.org/10.35967/njip.v25i1.923)

Submitted: 6 February 2026

Accepted: 25 May 2026

Published: 19 June 2026

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lingkungan yang konsisten. Analisis tren menunjukkan peningkatan yang umumnya stabil pada sebagian besar variabel, disertai kelemahan persisten dalam pengelolaan lahan. Kinerja lingkungan tampak sangat dipengaruhi oleh kualitas tata kelola, khususnya koordinasi dan integrasi kebijakan: indikator di bawah kendali administratif lebih ketat berkinerja lebih baik, sementara yang memerlukan kolaborasi lintas sektor berkinerja lebih lemah. Studi ini berkontribusi analitis pada pemahaman bahwa efektivitas perencanaan lingkungan tidak hanya ditentukan oleh pencapaian target, tetapi juga oleh kapasitas tata kelola dalam menerjemahkan kebijakan menjadi tindakan lintas sektor yang terkoordinasi. Penguatan integrasi lintas sektor, akuntabilitas, dan mekanisme partisipatif menjadi penting untuk mencapai hasil lingkungan yang lebih selaras dan berkelanjutan.

Kata Kunci

Perencanaan Lingkungan Strategis; Tata Kelola Lingkungan yang Baik; Kinerja Lingkungan.

1. Introduction

The challenge of improving environmental quality has become more difficult, especially in cities that are experiencing rapid growth under the pressures of accelerated urbanization. Urban areas are becoming hubs of pollution accumulation and environmental destruction as urbanization accelerates, driven by the expansion of built-up areas, the growth of industry and transportation, and rising emissions and waste, which place urban agglomeration regions under increasing environmental pressure (Liang et al., 2019). Tanjungpinang City, as a developing coastal city in Indonesia, has many environmental issues, such as declining air and water quality, limited green open space, and suboptimal waste management. Such conditions continue to occur even though there are comprehensive environmental planning documents, such as the Rencana Pembangunan Jangka Menengah Daerah [Regional Medium-Term Development Plan] (RPJMD), the Rencana Strategis Dinas Lingkungan Hidup [Strategic Plan of the Environmental Agency] (Renstra DLH), and the Rencana Kerja Pemerintah Daerah [Regional Government Work Plan]. The inability of some environmental indicators to meet their targets demonstrates a gap between planning and implementation and points to problems in both the formulation of planning and in environmental governance.

From a conceptual perspective, many studies have emphasized the importance of integrated and adaptive environmental governance in achieving urban sustainability. The achievement of a sustainable urban environment depends not only on sound regulations and law enforcement, but also on integrated environmental governance within the city's strategic planning (Ioppolo et al., 2016). Strategic environmental planning helps to integrate the objectives of development programs in a participatory, collaborative, and interactive manner (Nursaputra et al., 2025). The success of environmental policies is highly influenced by the principles of good environmental governance (GEG), such as transparency, accountability, openness, and compliance with the law (Putri et al., 2024). Moreover, the function of adaptive governance and e-Government and the interplay between government and non-governmental organizations are central in facing the challenges raised by more complex urban environments (Apriyani, 2024; Ferlan et al., 2025; Sudirman & Saidin, 2022).

The development alone is not sufficient to achieve sustainable cities; it must be accompanied by ecosystem services, environmental resilience, and stakeholder collaboration (Song & Wang, 2025). Besides, good urban governance should also be capable of responding to and adapting to all changes occurring in socio-ecological relationships in society (Haase, 2025; Zhang & Tang, 2025). Other research examines the relationship between the Sustainable Development Goals and sustainable urban governance in achieving long-term environmental goals (Praja et al., 2025). Conversely, Nature-based Solutions and green infrastructure are

increasingly applied to improve environmental quality and city resilience to various challenges (Cook et al., 2025).

So far, a number of studies are still largely normative in nature; they focus on conceptual frameworks and best practices. These studies have not yet systematically examined how to measure the impact of environmental planning targets at the local level. Moreover, some studies show that targets obtained administratively do not lead to direct environmental gains because of the disconnect between indicators and poor coordination of institutions (Mukrimin, 2023; Pillay & Buschke, 2020). The limitations of institutional capacity, including the shortcomings of professionalism, competence, and performance management in the public institutions, also affect the policy implementation (Sasmito, 2022). Therefore, to fill the gap of policy implementation, it is necessary to strengthen the institutional role (Saksono, 2021). Also, there is a need for clear and measurable performance indicators to better synchronize the planning and implementation processes (Sulastri et al., 2022). Another fact is that local political leaders play an essential role in their regions to improve environmental management and the effectiveness of environmental strategies (Tinov et al., 2022). Furthermore, there is no research on the relationship between planning documents, the environmental performance outcomes, and governance quality, jointly in the context of coastal cities. Geographically, Tanjungpinang is a coastal city with very unique challenges, such as limited space, ecosystem vulnerability, and land-use pressures. In this condition, Tanjungpinang needs to have better integration between planning and governance urgently. The previous studies have not explained the effect of governance factors on the alignment sufficiently.

This study aims to analyze the relationship between the targets of strategic environmental planning and the reality of environmental quality in Tanjungpinang City in 2017–2023. The study also aims to determine the governance factors that influence the relationship between strategic environmental planning and the reality of environmental quality in Tanjungpinang City. The study is based on multi-level theoretical foundations, where environmental governance is placed as the overarching theory that explains the role of institutions in environmental management. GEG is used to emphasize some of the important principles, such as transparency, accountability, public participation, and coordination at the meso level, as well as gap analysis in public policy. In this study, GEG provides an analytical lens to assess divergences between planned targets and achieved environmental outcomes. The novelty of this research is on the integration of these perspectives into the common evaluative framework linking strategy planning alignment, environmental performance and governance quality, especially for the urban coastal areas. Thus, this study is guided by the following questions:

1. How far has the environmental quality of Tanjungpinang City reached the target set in the strategic planning document?
2. What governance factors shape the fit or misfit between environmental planning targets and outcomes?

2. Methods

This research adopts a case study design of an evaluative type, where Tanjungpinang City is chosen as a case of local environmental governance. The analysis is intended to evaluate the correlation between the indicators of environmental strategic planning, as mentioned in the Renstra DLH and the reported results of environmental performance. For this purpose, the research employs descriptive quantitative analysis with qualitative document analysis. The analysis period of this study is 2017–2023, which is one RPJMD period (2018–2023) plus the baseline year before the implementation. This period provides a more complete assessment of

policy consistency, implementation dynamics, and performance trends across the planning period.

The present study combines a descriptive quantitative analysis with a qualitative document analysis in one evaluative study (Lu & Wang, 2021; Walls et al., 2012). The descriptive quantitative analysis presented here focuses on comparing planning targets, actual outcomes, levels of achievement, performance gaps, and trends for eight environmental indicators. Meanwhile, the qualitative document analysis focuses on governance-related information from official planning documents, institutional reports, and environmental status documents. The principles of GEG, including participation, transparency, accountability, effectiveness, and cross-sectoral coordination are the basis of the analysis. This evaluative case study helps this research to investigate the interrelation of strategic planning, reported environmental performance and governance arrangements in the context of environmental management at the local or regional level.

In addition to the quantitative approach, this study also uses a qualitative assessment of environmental governance using the principles of GEG, namely participation, transparency, accountability, effectiveness, and cross-sectoral coordination. This governance assessment uses indicators listed in the Dokumen Informasi Kinerja Pengelolaan Lingkungan Hidup Daerah [Regional Environmental Management Performance Report] (DIKPLHD) 2024. All analyses in this study were conducted using secondary data obtained from official local government planning documents and published institutional reports.

The documents used in this research are the DIKPLHD and Renstra DLH, which contain strategic indicators in the field of the environment, consisting of eight major environmental indicators that were continuously monitored during the period 2017–2023. These indicators are chosen based on three main considerations, namely (1) the official inclusion of the indicators in strategic planning documents (RPJMD and Renstra DLH), (2) the suitability of these indicators in representing urban environmental quality, namely waste management, air quality, water quality, green open spaces, and climate-related aspects, and (3) the availability of data during the study period. Therefore, these indicators are regarded as sufficient to reflect the general environmental performance at the urban scale. To ensure the accuracy of the data, this study also compared several data sources, such as the RPJMD of Tanjungpinang City, the Renstra DLH, and annual Laporan Kinerja Instansi Pemerintah [Government Agency Performance Reports] of the Dinas Lingkungan Hidup [Environmental Agency]. This was performed to ensure the consistency and accuracy of the reported indicators. The data are officially published and are reported annually, which allows for comparison year on year.

The analytical method used in this study consists of several stages of assessment, namely (1) direct comparison of indicator achievement in 2023 with the final target contained in the Renstra DLH or the RPJMD of Tanjungpinang City; (2) gap analysis to identify the differences between the target and the actual results, as well as to assess the effectiveness of the performance (Kim & Ji, 2018; Permendagri No. 86/2017, 2017); (3) analysis of data trends from 2017 to 2023 to determine the pattern of changes in performance from year to year for each indicator; (4) assessment of the classifications of achievement levels based on percentages, as stipulated in Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 86 Tahun 2017 tentang Tata Cara Perencanaan, Pengendalian, dan Evaluasi Pembangunan Daerah, Tata Cara Evaluasi Rancangan Peraturan Daerah tentang Rencana Pembangunan Jangka Panjang Daerah dan Rencana Pembangunan Jangka Menengah Daerah, serta Tata Cara Perubahan Rencana Pembangunan Jangka Panjang Daerah, Rencana Pembangunan Jangka Menengah Daerah, dan Rencana Kerja Pemerintah Daerah [Regulation of the Minister of Home Affairs of the

Republic of Indonesia No. 86 of 2017 on Procedures for Regional Development Planning, Control, and Evaluation, Procedures for Evaluating Draft Regional Regulations on Long-Term and Medium-Term Regional Development Plans, and Procedures for Amending Long-Term Regional Development Plans, Medium-Term Regional Development Plans, and Regional Government Work Plans] ([Permendagri No. 86/2017](#)). Gap analysis is used in the study because it is able to identify the discrepancies between the environmental policy targets and achievements. To this end, this study draws on various sources of literature and official documents, such as annual reports, planning documents, and publications from government agencies ([Nizmi et al., 2024](#)). The classification of achievement levels is as follows:

Table 1. Performance Achievement Classification

Range Value	Assessment Criteria
91 % ≤ 100 %	Excellent
76 % ≤ 90 %	High
66 % ≤ 75 %	Moderate
51 % ≤ 65 %	Low
≤ 50 %	Poor

Source: [Permendagri No. 86/2017](#)

In addition to quantitative analysis, this study also employs qualitative analysis to evaluate the quality of governance based on GEG principles. The qualitative assessment was performed by analyzing the contents of relevant documents such as the DIKPLHD 2024, the annual Laporan Kinerja Instansi Pemerintah of the Dinas Lingkungan Hidup, official publications, and public consultation forums, which were reviewed based on pre-determined governance indicators. The GEG principles are broken down into several criteria, for instance: (1) participation is evaluated by the evidence of stakeholders' involvement in the planning and consultation processes; (2) transparency is evaluated by the accessibility and availability of environmental information to the public; (3) accountability is examined by performance reporting and disclosure mechanisms; (4) effectiveness is assessed by the consistency between planned programs and reported results; and (5) coordination is evaluated by the evidence of cross-sectoral collaboration among government agencies. The data obtained is grouped into several main themes to facilitate analysis, then interpreted to determine the level of implementation of each principle.

This study has limitations because all the data used are derived from secondary administrative data, which may be subject to reporting bias, data inconsistencies, and incompleteness. This is because secondary data may not necessarily reflect actual conditions on the ground. Nevertheless, official government documents can be used to evaluate the alignment between planning and performance as well as governance practices.

3. Results and Discussion

3.1. Comparison Between the Achievement Value of 2023 and the Final Target of RPJMD/Renstra DLH

A comparison of targets and achievements for 2023 is presented in Table 2. The results show uneven environmental performance, not all indicators demonstrate consistent performance. Some indicators met or exceeded their targets, while others,

such as land cover quality, waste reduction, waste management, and air quality, fell short of the planned targets.

The results show that six of the eight indicators fall into the high to very good performance categories. Indicators such as Water Quality Index, Indeks Kualitas Lingkungan Hidup [Environmental Quality Index] (IKLH), Rencana Aksi Daerah Adaptasi Perubahan Iklim [Regional Climate Change Adaptation Action Plan] (RAD-API), and Environmental Data and Information have fully reached or exceeded the target. The other three indicators, Production Waste Reduction, Waste Management, and the Air Quality Index, are still below target but still in the high-performance category. However, the lowest achievement was recorded by the Land Cover Quality Index (81.1%) and is the only indicator with a moderate rank in comparison with the other indicators.

Table 2. Comparison of Actual Achievement Value Against the Target of 2023

Indicator	Target 2023	Actual 2023	Achievements (%)	Category
Production Waste Reduction	47	23.51	87.1%	High
Water Quality Index	42	53.11	126.5%	Excellent
Air Quality Index	90	86.37	96%	High
Land Cover Quality Index	46.62	37.82	81.1%	Moderate
Percentage of Regional Climate Change Action Plan	70	78	111.4%	Excellent
Environmental Data and Information	100	100	100%	Excellent
Waste Handling	66.68	63.87	95.5%	High
Environmental Quality Index	58.25	63.23	108.5%	Excellent

Source: the author's analysis. (2025)

3.2. Evaluation Gap between Target and Achievement

An analysis of the gap between targets and actual results (Table 3) was used to identify performance discrepancies. This approach follows the concept of performance gap analysis, in which such discrepancies indicate the degree of alignment between planned targets and achieved results (Mutmainah et al., 2022). In this study, negative gaps represent overachievement, while positive gaps indicate underperformance (Parasuraman et al., 1991).

The results of the analysis showed the largest negative difference in the Water Quality Index and the Environmental Quality Index, indicating good performance of the indicators. On the contrary, the highest positive difference (+8.80) was registered for the Land Cover Quality Index, which indicates the worst performance of this indicator. The results show the imbalance in the performance of the indicators. Further research on the governance and implementation factors affecting the indicators is needed.

Table 3. Gap Analysis of Environmental Performance Indicators in 2023

Indicator	Gap (Target - Actual)	Remarks
Land Cover Quality Index	+8.80	Unachieved
Production Waste Reduction	+3.49	Unachieved
Waste Handling	+2.99	Unachieved
Air Quality Index	+3.63	Unachieved
Regional Climate Change Action Plan	-8	Exceeds Target
Water Quality Index	-11.11	Exceeds Target

Environmental Quality Index	-4.98	Exceeds Target
Environmental Data and Information	0	On Target

Source: the author's analysis. (2025)

3.3. Trend Analysis (2017–2023)

The trend of environmental indicators from 2017 to 2023, including baseline conditions and RPJMD/Renstra DLH targets, is presented in Table 4. This section describes the development of each indicator over time to provide a longitudinal overview of environmental performance (Jahanishakib et al., 2018).

Generally, the environmental performance of Tanjungpinang has shown good progress, but there are several indicators progress has been uneven. The progress of the waste reduction has increased from 16% to 23.51%, but has not yet reached the target of 27%. Similarly, waste treatment performance has also been uneven, decline from 58.75% in 2019 to 57.96% in 2021, then increase to 63.87% in 2023. Although there has been an improvement in performance, this achievement remains below the established target of 66.86%.

The Water Quality Index showed some oscillations during the observation period. The value of water quality index in 2018 was 50 points, in 2019 was 62.44 points and in 2023 was 53.11 points. However, this value is over the aim of 42 points. In the meantime, the air quality index exhibited relative stability between 88.01 and 90.59 points, and then dropped to 86.37 points in 2023, this figure is somewhat below the established target.

The Land Cover Quality Index showed improvement based on the observed data. However, this achievement has not yet met the planned target. In contrast, the RAD-API indicator demonstrated remarkable progress. During the 3 years of observation, there are no achievements were recorded for this indicator, but in 2022 the performance reached 63% and further increased to 78% in 2023.

According to the data obtained, the Environmental Data and Information indicator consistently reached 100% during the 2017–2023 period. Additionally, the IKLH rose from 48.6 points in 2018 to 63.23 points in 2023; this figure exceeded the established target of 58.25 points.

These results indicate that many environmental indicators have met, and in some cases even exceeded, the established targets, particularly in terms of water quality, the IKLH, and the RAD-API. However, indicators such as waste management, air quality, and land cover require greater attention, as the expected targets for these indicators have not yet been fully achieved.

Table 4. Trend of Environmental Indicators (2017–2023)

Indicator	2017	2018	2019	2020	2021	2022	2023	RPJMD Target
Waste Handling (%)	-	-	58.75	62.01	58.80	57.96	63.87	66.86
Waste Reduction (%)	16	18	14.26	18.72	22.09	22.41	23.51	27
Water Quality Index	NA	50	62.44	NA	50	54.08	53.11	42
Air Quality Index	NA	80.01	90.10	90.59	90.36	85.28	86.37	90
Land Cover Quality Index	NA	18	34	37.8	35.76	35.86	37.82	46.62

Regional Climate Change Action Plan (%)	NA	NA	0	NA	NA	63	78	70
Environmental Data and Information (%)	100	100	100	100	100	100	100	100
Environmental Quality Index (IKLH)	NA	48.6	-	-	-	-	63.23	58.25

Source: *Laporan Kinerja Instansi Pemerintah [Government Agency Performance Report] of the Dinas Lingkungan Hidup [Environmental Agency] of Tanjungpinang City (2024)*

3.4. Uneven Pattern of Environmental Performance

The results demonstrate that environmental performance in Tanjungpinang City is not evenly distributed across indicators. As presented in Tables 2 and 3, most indicators have achieved or exceeded their targets. This indicates that the environmental management programs have been generally implemented effectively. But this achievement is not uniform across all sectors.

The achievement of indicators such as the Water Quality Index, the IKLH, and Environmental Data and Information, is quite strong. Meanwhile, the Land Cover Quality Index consistently records the lowest achievement. The pattern indicates that environmental performance is a function not only of having policies or targets, but also of the governance mechanisms that reinforce their implementation.

The overperformance of the Water Quality Index (126.5%) is noteworthy: the reported figure is far beyond the planned target. In the context of secondary administrative data, this pattern may reflect improved reported performance, but it may also point to a relatively conservative target-setting process within the planning framework. Therefore, this figure should not be read as a standalone confirmation of field-level environmental improvement, but rather suggests a possible misfit between the assumptions made at baseline, target setting, and performance evaluation. This indicates the need for re-assessment of environmental targets on more realistic and evidence-based standards and to complement administrative reporting by periodic field verification to enhance the assessment of policy effectiveness.

An uneven pattern is evident based on an analysis of trends from 2017 to 2023. Some indicators, such as Environmental Data and Information and the IKLH, show stable trends, while other indicators, such as land cover and water quality, do not show a consistent upward trend. This pattern suggests that environmental performance has improved unevenly over time, possibly because of inconsistencies between policies and their implementation. Also, the RAD-API indicator is difficult to interpret due to the lack of data in some observation years. Thus, the analysis of the increasing trend for this indicator is carried out with caution.

From a governance perspective, these time dynamics are the expression of changes in the implementation of the principles of GEG. Transparency, accountability and administrative control are relatively strong, some indicators are more likely to improve or stabilize. On the other hand, indicators with fluctuating patterns such as land cover are often associated with weaknesses in cross-sectoral coordination and policy integration. This implies that trends in environmental performance are not solely driven by technical factors but also importantly by governance capacity to address complex environmental issues that span sectors.

This finding further supports the argument that effective environmental management depends on the quality of governance, particularly on the institutional

capacity, accountability and public participation (Evans et al., 2006; Lockwood, 2010).

3.5. Causal and Institutional Factors Behind Weak Land Cover Performance

The continuous poor performance of the Land Cover Quality Index as shown in Tables 2–3 and supported by the trend analysis in Table 4, indicates a structural rather than an incidental problem. Unlike other indicators, land cover does not show stable improvement over time and remains below the established target.

This condition can be explained through several causal and institutional factors. First, institutional fragmentation impedes effective coordination. Land cover management is carried out by a number of agencies, such as those in environmental, spatial planning, and infrastructure sectors, which often act with sectoral priorities. Such feeble coordination can attenuate the coherent link between policy and implementation outcomes. Second, pressures of urban development converting land to built-up areas can reduce green open spaces and ecological balance. In this case, there is a structural tension between development goals and environmental sustainability. Third, the policy integration is limited, thus reducing the effectiveness of environmental interventions. Environmental considerations are not yet fully embedded in spatial planning and development control. Land-based indicators are not optimal.

From a governance perspective, the positive gap found in the Land Cover Quality Index (+8.80) points to weaknesses in some important GEG dimensions, in particular cross-sectoral coordination and policy integration. Unlike indicators with negative gaps (overachievement), which generally are supported by strong administrative control and accountability mechanisms, performance in land cover is highly dependent on collaborative governance arrangements involving multiple institutions. This gap is closely connected with the absence of strong coordination frameworks and integrated spatial-environmental policies. This suggests that performance gaps are not only technical anomalies, but also expressions of governance failure in addressing complex, land-based environmental issues.

These results support the conclusion that the land cover performance gap is strongly related to governance structure and institutional capacity, rather than technical limitations alone.

3.6. Critical Evaluation of GEG

Table 5 shows the GEG evaluation in Tanjungpinang City. The governance principles have been implemented in Tanjungpinang City. Their use, however, differs in depth and effectiveness.

Public participation has been facilitated through focus group discussions, but so far this has been limited to the planning stage and has not yet extended to the monitoring and evaluation stages. As for transparency, it has been enhanced through the availability of data and documents published on the institution's official website, although improvements are needed in terms of data updates, and it is hoped that access to this information will be made easier.

Accountability is evidenced in reporting mechanisms in administration, especially annual performance reports. However, external evaluation mechanisms, such as environmental audits or public accountability processes, are not yet fully institutionalised (Dirawan, 2024).

Effectiveness is demonstrated by the achievement of most environmental indicators. However, some aspects of efficiency and long-term sustainability have not been systematically evaluated. Furthermore, the cross-sectoral coordination is the weakest dimension because there is no formal integration among agencies in the

policy frameworks. These findings overall suggest that GEG implementation is still mostly procedural as opposed to a fully integrated governance system.

Table 5. Comparison of Actual Achievement Value Against the Target of 2023

Governance Principle	Assessment Indicator	Evaluation	Notes
Public Participation	Community involvement in the preparation and consultation of environmental documents	Implemented through focus group discussions with stakeholders during the environmental policy planning stage	It needs to be expanded to the evaluation and monitoring stages of policy implementation
Water Quality Index	Availability of environmental information and documents through online platforms or official channels	An official website of the Dinas Lingkungan Hidup [Environmental Agency] (DLH) of Tanjungpinang City is available, publishing strategic documents and data on environmental indicator achievements	Consistency in data updates, as well as improvements in accessibility and readability for the public, are needed
Air Quality Index	Reporting of performance achievements and transparency of annual evaluations	The DLH reports annual indicator achievements in the form of achievement tables and administrative reports	Strengthening is needed in the form of narrative evaluations or public external audits
Land Cover Quality Index	Achievement of indicators and optimal use of resources	Six out of eight indicators have met or exceeded their targets, indicating overall effectiveness in the implementation of environmental programs	Further assessment of budget efficiency and program sustainability is still required
Environmental Quality Index	Integration of environmental policies with other regional agencies (spatial planning, public works, licensing, etc.)	Coordination has been carried out in the preparation of the RAD-API, yet it has not been explicitly reflected in the form of sectoral policies across agencies	Systematic documentation and a stronger emphasis on integration within cross-sectoral planning are required.

Source: the author's analysis. (2025)

These governance evaluation results are consistent with the empirical patterns identified in the previous sections. These are overachievement, underperformance, and diverging trends. This variation in indicator performance indicates that the application of GEG principles is not homogeneous across sectors and does not reflect isolated issues.

Indicators that are backed by strong administrative structures usually show stable or high performance, whereas those that require cross-sectoral coordination and consistent policy frameworks tend to be more volatile. This indicates that the effectiveness of governance in Tanjungpinang is not evenly distributed, but depends on the level of implementation of GEG principles in a substantive, not procedural way.

Hence, differences in performance observed should be considered as systemic governance results, rather than technical variations, increasing the need to improve institutional integration and consistency in governance practices.

3.7. Linking Governance Principles and Environmental Outcomes

A key finding of this study is that governance principles do not contribute equally to environmental performance outcomes. The relationship between governance and

indicator achievement becomes evident when comparing high-performing and low-performing indicators.

Relatively strong-performing indicators like water quality, Environmental Data and Information, and the IKLH are closely related to established administrative mechanisms, particularly transparency and accountability. These indicators normally demand clear procedures, measurable outputs and central institutional control.

Conversely, the poor performance of the Land Cover Quality Index is strongly related to poor cross-sectoral coordination and insufficient policy integration. This shows that governance problems of various types are more likely to influence indicators associated with spatial management and inter-institutional cooperation.

The findings of this research support the claim that governance quality exerts a strong influence on environmental performance mainly through the involvement, transparency, accountability and coordination dimensions (Dewi & Atmojo, 2025). However, in the context of this study these ideas have not yet been completely operationalized as an integrated system.

3.8. Implications for Environmental Governance

The results of this study suggest that environmental performance should not be understood only as the fulfilment of quantitative indicators. Rather, it should be seen as the outcome of governance processes and institutional arrangements.

In this sense, GEG is not only an administrative matter, but also a key factor in influencing environmental performance. Governance principles beyond formal compliance requirements must therefore be integrated into policy implementation, institutional coordination and decision-making processes.

This is especially important for indicators such as land cover that need long-term, cross-sectoral and spatially integrated approaches. Without more effective coordination mechanisms and a higher degree of policy integration, environmental performance is unlikely to improve uniformly.

This conclusion is consistent with the view that governance quality is a key determinant of environmental sustainability and policy effectiveness at the regional level (Pakidi & Tambaip, 2025).

4. Conclusion

The study finds that the achievement of environmental strategic planning targets and the reported environmental outcomes in Tanjungpinang City are not the same for different indicators. Some indicators have reached or exceeded the set targets, whilst some are still below the planned targets. The most significant gap is identified in the Land Cover Quality Index with the lowest achievement, gap, and development trend scores. The findings of this study indicate that the success of environmental performance is not only a function of planning targets but is also heavily dependent on the quality of governance, the effectiveness of institutional coordination and the existing implementation capacity.

Theoretically, the findings of this study emphasize the significance of good environmental governance (GEG) as a vital factor for environmental success, mainly through the implementation of the principles of transparency, accountability, participation, and cross-sectoral coordination. However, in the city of Tanjungpinang, the implementation of these principles is still procedural and formal, and has not been fully internalized in the implementation of policies or mechanisms of institutional cooperation. This condition is particularly present in indicators highly dependent on spatial governance and inter-institutional coordination, namely land cover management.

This study enriches the literature on environmental governance by combining planning alignment analysis, environmental performance evaluation and governance assessment into a single comprehensive evaluation framework, especially for coastal city governance. The research findings show that the gap between strategic planning targets and achieved environmental outcomes should not be regarded simply as a technical performance problem, but rather as an expression of different more fundamental and systemic governance and institutional constraints.

The policy implications are that strategic steps should be taken to strengthen intersectoral coordination, integrate environmental issues into the spatial planning process, enhance inter-agency collaboration and develop more evidence-based target-setting mechanisms. Some indicators have relatively good achievements in reporting, but without the basic improvements the environmental performance of Tanjungpinang City is likely to be fragmented.

There are some limitations to this study. First, the analysis relies only on secondary administrative data, which may not reflect the true environmental conditions on the ground. Secondly, the results of the study are limited in large part as the research was conducted only in one city and no other comparison cities were identified. Thus, future research is expected to conduct comparative studies across regions, with primary data, to further investigate institutional dynamics and the causal relationship between governance mechanisms and environmental performance outcomes.

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