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Evaluating the Achievement of Good Environmental Governance and the Physical Environmental Sustainability Status of Pohon Cinta Beach Destination, Pohuwato Regency

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Abstract: Social media driven visitor growth at Pohon Cinta Beach, Pohuwato Regency, has placed pressure on sanitation facilities, cleanliness, and coastal vegetation, while previous studies have not measured environmental governance jointly with the destination's physical condition. This study aims to evaluate the achievement of the six principles of Good Environmental Governance and the physical environmental sustainability status of the destination. A descriptive evaluative quantitative approach was applied using a 24 item Likert scale questionnaire administered to 111 respondents between August and September 2026, analysed through percentage achievement indices, interval class categorisation, and paired gap mapping. The results show that governance achievement falls into the moderate category with an index of 68.24 percent, with equity as the highest principle and accountability as the lowest. Physical environmental sustainability falls into the fairly sustainable category with an index of 68.26 percent, with sanitation facilities as the weakest aspect. The largest gap lies in the pair of effectiveness and efficiency with physical comfort and site layout. Its novelty lies in pairing six governance principles with six physical aspects, revealing that the destination is currently sustained by its natural landscape and absorbable visitor pressure rather than by the institutional capacity of its managers.

Keywords: Good Environmental Governance, Physical Environmental Sustainability, Coastal Tourism, Carrying Capacity, Pohon Cinta Beach

INTRODUCTION

Coastal destinations have become a mainstay of tourism development in many regions of Indonesia because they offer landscapes and distinctive ecosystems that are readily enjoyed by visitors. The same advantage is also a point of vulnerability, since beach ecosystems are fragile and degrade easily when visitor pressure grows faster than the readiness of their managers. Visitor surges, particularly on weekends and public holidays, frequently trigger waste accumulation, damage to coastal vegetation including mangroves, and excessive loads

on basic facilities such as sanitation, parking, and access (Priatna et al., 2024; Sirih et al., 2024). Environmental quality is the principal asset of a destination and must be safeguarded through well-directed management (Sayuti, 2023), and destinations that ignore their capacity limits are prone to overtourism, which erodes the very foundation of the destination itself (Milano et al., 2024).

Pohuwato Regency in Gorontalo Province faces a similar dynamic. Pohon Cinta Beach, located in Pohuwato Timur Village, Marisa District, is a marine destination that has become an icon of regional tourism, and its popularity has soared in recent years through social media exposure without any formal marketing campaign by its managers. The attractiveness of the site rests on its seascape and on the historical and ecological value of the mangrove formation from which the destination takes its name (Boekoesoe et al., 2023; Nevi Kurniawati, 2023). A preliminary observation on 25–26 June 2026 identified several pressures on the physical environment of the site. Waste bins were concentrated only around the culinary centre and nearby retail outlets, so that piles of waste were still found at several points along the beach; the core area had only one public toilet; some of the iconic trees had fallen due to abrasion; and signs of soil compaction were observed around mangrove root zones. Visits increased after 17.00 local time and peaked at night, while cleaning staff worked only in the morning, no rule boards were in place, and the area levy mechanism was no longer active. Such shortages of basic facilities are a classic indicator that the physical carrying capacity of a destination has been exceeded (Saveriades, 2000).

These conditions cannot be read merely as technical problems, because environmental problems at destinations are also institutional, concerning who decides, who benefits, and who bears the environmental burden (Salam et al., 2024). The Good Environmental Governance (GEG) framework offers a lens for reading this institutional dimension through six principles, namely participation, transparency, accountability, effectiveness and efficiency, rule of law, and equity (Husna et al., 2024; Septianda, 2023). These principles are rooted in the New Public Administration paradigm, which positions social equity as a pillar of public administration on a par with efficiency and economy (Hatcher, 2019), and their institutionalisation through the good governance discourse has been shown to be shaped by paradigm shifts in public administration (Kalalo et al., 2024). The success of environmental governance is not measured by the mere existence of rules but by the extent to which applied principles produce tangible environmental improvements (Adanma & Ogunbiyi, 2024). Tourism development likewise affects environmental sustainability positively only when it is managed under sustainable principles (Baloch et al., 2023).

The output side of such governance is the physical environmental sustainability of the destination, which this study reads through the framework of tourism carrying capacity, namely the maximum level of use of an area before environmental quality and the visitor experience decline (Coccossis & Mexa, 2004). Carrying capacity assessment has shifted from simple numerical approaches towards more holistic ones (Santos & Brilha, 2023), with the recognition that destination capacity is dynamic and varies across space and time (Pásková et al., 2021). At coastal destinations, this ecological dimension is manifested in six aspects: beach cleanliness and waste management, availability and quality of sanitation facilities, preservation of beach and mangrove vegetation, physical comfort and site layout, visitors' ecological behavioural compliance, and spatial distribution and ecological access. Meeting basic infrastructure standards has been shown to determine the carrying capacity of a destination (Fatina et al., 2023), inclusive sanitation provision contributes to safer and more comfortable destinations (Loehr et al., 2021), and sustainability indicator frameworks can be applied empirically to assess the environmental performance of a destination (Lee et al., 2021).

Previous studies reveal a clear gap. Studies at Pohon Cinta Beach have focused on the potential of mangrove ecotourism (Nevi Kurniawati, 2023) and on architectural planning of the area (Boekoesoe et al., 2023). GEG studies in Indonesia are largely qualitative or limited to a

single issue, such as environmental balance in general (Husna et al., 2024) and coastal waste management (Septianda, 2023), while environmental studies of beach destinations mostly highlight waste pressure without measuring the quality of governance (Priatna et al., 2024). International studies linking governance and the environmental sustainability of tourism generally operate at the macro, national level (Islam et al., 2023). The resulting research gap is the absence of an integrated measurement that operationalises the six GEG principles into an achievement index and pairs it quantitatively with physical environmental conditions at an emerging coastal destination, particularly in eastern Indonesia.

The state of the art of this study lies in a paired evaluation design in which each GEG principle is matched with the physical environmental aspect it most directly affects, so that the gap between governance achievement and environmental condition can be mapped in both magnitude and direction. The mapping results are interpreted through two theoretical lenses at once: New Public Administration to interpret the pattern of achievement across governance principles, and tourism carrying capacity to interpret the pattern of conditions across physical environmental aspects. Accordingly, this study aims to: 1. measure the achievement of the six Good Environmental Governance principles at Pohon Cinta Beach Destination; 2. measure the sustainability status of six physical environmental aspects of the destination; and 3. map the paired gaps between governance achievement and physical environmental condition in order to determine critical management points.

METHOD

This study employed a quantitative approach with descriptive evaluative design. The approach was chosen because the aim was to map the level of GEG achievement and the physical environmental sustainability status rather than to test causal relationships between variables. The study was conducted at Pohon Cinta Beach Destination, Pohuwato Timur Village, Marisa District, Pohuwato Regency, Gorontalo Province, at coordinates N 0°26'58.65" E 121°56'53.22". The study area covered the core beach zone and its public facilities as well as supporting areas directly related to tourism activities, namely the parking area, culinary centre, clusters of business operators, and access routes. Quantitative data were collected from 5 August to 5 September 2026.

The population comprised all parties interacting directly with the environmental management of the site, namely tourists, micro, small, and medium enterprises (MSMEs), and local residents. Because the number of tourists is unknown, the minimum sample size was determined using the Lemeshow formula for an unknown population, as follows:

$$n = \frac{Z^2 \times P(1 - P)}{d^2}$$

In this formula, n is the minimum sample size, Z is the Z value at a 95% confidence level (1.96), P is the maximum estimated proportion (0.5), and d is the sampling error (0.10). Substituting these values yielded 96.04, which was rounded to 100 respondents (Lemeshow et al., 1990). The sampling plan consisted of 60 tourists selected through *accidental sampling*, as well as 20 MSME operators and 20 local residents selected through *purposive sampling*. The realised sample reached 111 respondents, all of whom completed the 24 items, and it consisted of 61 tourists (54.95%), 29 local residents (26.13%), and 21 MSME operators (18.92%). Most respondents were female (58.56%) and aged 20–29 years (76.58%), and 14 respondents (12.61%) came from outside Pohuwato Regency.

The main instrument was a structured questionnaire comprising 24 statements on a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Twelve items measured the application of the six GEG principles (Variable X), and twelve items measured the six aspects of physical environmental sustainability (Variable Y), with each sub-component represented by two items. The indicators for Variable X were derived from good governance

principles and GEG studies (Husna et al., 2024; Septianda, 2023), whereas those for Variable Y were derived from destination sustainability indicator frameworks and the concept of tourism carrying capacity (Coccossis & Mexa, 2004; Lee et al., 2021). The two variables were arranged in pairs: participation with beach cleanliness and waste management; transparency with sanitation facilities; accountability with the preservation of beach and mangrove vegetation; effectiveness and efficiency with physical comfort and layout; rule of law with visitors' ecological behavioural compliance; and equity with spatial distribution and ecological access. This pairing was analytical and served as the basis for descriptive comparison. A pilot test involving 30 respondents outside the main sample showed that all items were valid, with Pearson product-moment correlation coefficients ranging from 0.671 to 0.925, which exceeded the critical r value of 0.361. The instrument was also reliable, with a *Cronbach's alpha* of 0.949 for Variable X and 0.965 for Variable Y. Structured observation of the physical condition of the site provided supporting data for triangulating the interpretation.

The data were analysed using descriptive percentage statistics. The mean score of each sub-component was calculated using the following formula:

$$\bar{X}_j = \frac{\sum x_{ij}}{n \times b}$$

In this formula, $\bar{X}_j$ is the mean score of sub-component j , $\sum x_{ij}$ is the sum of the respondents' scores on the items of that sub-component, n is the number of respondents (111), and b is the number of items per sub-component (2). Each mean score was then converted into a percentage achievement index using the following formula:

$$\text{Index (\%)} = \left(\frac{\bar{X}_j}{5} \right) \times 100\%$$

Categories were determined through interval classes with a width of $(5 - 1) \div 3 = 1.33$, so that scores from 1.00 to below 2.34 were categorised as low or unsustainable, scores from 2.34 to below 3.67 as moderate or fairly sustainable, and scores from 3.67 to 5.00 as high or highly sustainable. The gap between each pair of sub-components was calculated using the following formula:

$$\text{Gap}_j = \bar{X}(X)_j - \bar{X}(Y)_j$$

Priority ranks were assigned according to the absolute size of the gap, whereas the direction of the gap determined its interpretation: a positive value indicates that governance achievement stands above the physical environmental condition, whereas a negative value indicates the opposite. Where two absolute gaps were equal to two decimal places, the higher priority was assigned to the pair containing the lowest-scoring sub-component. The gap values are descriptive and comparative, and they are not interpreted as statistically tested differences.

RESULTS AND DISCUSSION

Achievement of Good Environmental Governance Principles

The mean scores, achievement indices, and categories of the six GEG principles are presented in Table 1. The aggregate of Variable X obtained a mean score of 3.41 with an achievement index of 68.24%, placing it in the moderate category. Five of the six principles fall into the moderate category and only one reaches the high category.

Table 1. Achievement of the Six Good Environmental Governance Principles

Code	GEG Principle	Item 1 Mean	Item 2 Mean	Mean Score	Index (%)	Category
X1	Participation	3.39	3.68	3.54	70.72	Moderate
X2	Transparency	3.54	3.36	3.45	69.01	Moderate
X3	Accountability	3.12	3.24	3.18	63.60	Moderate
X4	Effectiveness and Efficiency	3.29	3.14	3.21	64.23	Moderate
X5	Rule of Law	3.25	3.45	3.35	67.03	Moderate
X6	Equity	3.71	3.77	3.74	74.86	High
X	Aggregate of Variable X	–	–	3.41	68.24	Moderate

Source: Processed primary data, 2026 (n = 111)

Table 1 shows that the highest achievement was obtained by equity, with a score of 3.74 or 74.86%, followed by participation at 3.54 or 70.72% and transparency at 3.45 or 69.01%. The lowest achievement was obtained by accountability at 3.18 or 63.60%, followed by effectiveness and efficiency at 3.21 or 64.23% and rule of law at 3.35 or 67.03%. At item level, the lowest score was recorded for clarity regarding the party responsible for managing the area (3.12), while the highest score was recorded for the openness of economic opportunities for small traders and nearby residents (3.77).

The moderate aggregate achievement indicates that the six GEG principles are recognised and partly implemented at the destination level, but have not yet been institutionalised. A value of 68.24%, located in the middle of the moderate range, places the destination in a position that cannot be called a failure, yet it lacks the governance capacity reserve needed to cope with increasing visitor pressure. This reading is consistent with the view that the success of environmental governance is measured by the extent to which principles actually produce improvements perceived by stakeholders, not by the mere presence of those principles (Adanma & Ogunbiyi, 2024).

The ranking of principles carries more information than the aggregate value. The classical tradition of public administration, rooted in Weberian bureaucracy, places efficiency, hierarchy, and a clear division of duties at the foundation of government (Rahman et al., 2025), whereas New Public Administration adds social equity as a third pillar alongside efficiency and economy (Hatcher, 2019). At Pohon Cinta Beach this order is reversed: the equity pillar is the most fulfilled, while accountability and effectiveness and efficiency, which belong to the classical agenda, are the weakest. Normatively, this appears consistent with the demands of New Public Administration, but institutionally it indicates the opposite.

The source of the equity achievement explains why this alignment is only apparent. The highest item concerns the openness of economic opportunities for small traders and nearby residents, in line with the fact that the site charges no entrance ticket and is open to operators from other villages. Equity achieved in this way is not the result of an administrative design that sets quotas, priorities, or protection for particular groups, but a by-product of the absence of regulation. Such equity is fragile because it may disappear once the area is formally regulated or when better-capitalised actors enter, given that stakeholder collaboration in tourism never takes place on an equal footing (Saito & Ruhanen, 2017) and that unequal distributions of influence tend to marginalise small actors (Hazra et al., 2017).

This fragility becomes clearer when equity and participation are read at item level. Active involvement in conservation actions scored 3.68, whereas the involvement of local actors in planning scored only 3.39. In other words, distributive equity in the form of access to space and business opportunities is already felt, but procedural equity in the form of involvement in decision-making has not been built. Yet a safe space for local groups to engage in management is a form of justice that enables meaningful participation (Rastegar & Ruhanen, 2021), and perceived fairness among small business operators is positively correlated with community citizenship behaviour towards the environment (Wu et al., 2022). Distributive equity that is not

accompanied by procedural equity therefore does not automatically translate into environmentally protective behaviour.

The lowest achievement, in accountability, carries the sharpest diagnostic meaning. Clarity about who is responsible is a legacy of the classical agenda that should have been completed before the normative agenda was pursued, so the destination is in a double condition: the classical agenda remains unfinished, while the values promoted by New Public Administration have been achieved without being designed. This finding shows that the institutionalisation of good governance principles (Kalalo et al., 2024) has touched only the surface of values and has not yet reached institutional structures. A similar pattern appears in the difference between transparency (3.45) and accountability (3.18). Openness of information without clarity about who is responsible produces no party that can be held to account, reinforcing the view that environmental problems at destinations are both technical and institutional (Salam et al., 2024). Under effectiveness and efficiency, the item on optimising environmental facilities scored 3.14, lower than the timeliness of cleaning programmes at 3.29, while under rule of law, firmness of sanctions against offenders scored 3.25, lower than the consistency of rule application at 3.45. Both patterns are consistent with the observation that no rule boards have been installed and that facilities supporting environmental management remain limited.

Physical Environmental Sustainability Status of the Destination

The evaluation of the six physical environmental sustainability aspects is presented in Table 2. The aggregate of Variable Y obtained a mean score of 3.41 with an achievement index of 68.26%, placing it in the fairly sustainable category.

Table 2. Evaluation of the Six Physical Environmental Sustainability Indicators

Code	Physical Environmental Sustainability Aspect	Item 1 Mean	Item 2 Mean	Mean Score	Index (%)	Category
Y1	Beach cleanliness and waste management	3.14	3.39	3.27	65.32	Fairly Sustainable
Y2	Availability and quality of sanitation facilities	3.08	3.31	3.19	63.87	Fairly Sustainable
Y3	Preservation of beach and mangrove vegetation	3.37	3.53	3.45	69.01	Fairly Sustainable
Y4	Physical comfort and site layout	3.50	3.52	3.51	70.27	Fairly Sustainable
Y5	Visitors' ecological behavioural compliance	3.35	3.49	3.42	68.38	Fairly Sustainable
Y6	Spatial distribution and ecological access	3.57	3.70	3.64	72.70	Fairly Sustainable
Y	Aggregate of Variable Y	–	–	3.41	68.26	Fairly Sustainable

Source: Processed primary data, 2026 (n = 111)

Table 2 shows that the best condition was found in spatial distribution and ecological access at 3.64 or 72.70%, followed by physical comfort and site layout at 3.51 or 70.27% and the preservation of beach and mangrove vegetation at 3.45 or 69.01%. The weakest condition was found in the availability and quality of sanitation facilities at 3.19 or 63.87%, followed by beach cleanliness and waste management at 3.27 or 65.32%. All aspects fall into the fairly sustainable category, with none reaching the highly sustainable category or falling into the unsustainable category. At item level, the lowest score in the entire instrument was the adequacy and suitability of public toilets (3.08), while the highest was the safety and ease of pathways for all visitors (3.70).

This uniform distribution places the destination in a transition band, a condition in which tourism pressure has not yet produced damage perceived as severe, yet no aspect has a safety

margin against further pressure. Within the tourism carrying capacity framework, the six aspects are manifestations of the physical and ecological carrying capacity limits of the area (Coccossis & Mexa, 2004), so a low score in an aspect is read as an indication that the capacity limit in that dimension is approaching, rather than merely as a complaint about service quality. The finding on sanitation holds a particular theoretical position, because a shortage of public toilets is a classic indicator that the physical carrying capacity of a destination has been exceeded (Saveriades, 2000). A site that is open 24 hours with only one public toilet, while other facilities are attached to individual businesses, provides public sanitation capacity that is disproportionate to visitor volume. This deficit therefore functions as a capacity ceiling for the area, in line with findings that meeting basic infrastructure standards determines destination carrying capacity (Fatina et al., 2023) and that inclusive water and sanitation provision contributes to safer and more comfortable destinations (Loehr et al., 2021).

Beach cleanliness and waste management point to a different dimension of carrying capacity. Observation recorded that visits peak at night, whereas cleaning staff work only in the morning. This temporal mismatch between peak pressure and management working hours indicates that the binding constraint of the area lies in managerial carrying capacity, namely the institutional ability to manage the area, rather than in spatial carrying capacity (Saveriades, 2000). This reading is supported by the view that destination capacity is dynamic across space and time (Pásková et al., 2021) and by the finding that visitor surges at beach destinations go hand in hand with waste pressure (Priatna et al., 2024).

Conversely, the two aspects in the best condition, spatial distribution and ecological access and physical comfort and layout, relate to the space and landscape of the site. These attributes derive largely from natural conditions, namely a gently sloping white-sand beach stretching along the coastline, rather than from management interventions. The spatial carrying capacity of the area is thus still loose, whereas the carrying capacity of facilities and services is already under pressure. This difference in the source of achievement matters because advantages stemming from the natural landscape cannot be claimed as management successes. The preservation of beach and mangrove vegetation at 3.45 requires cautious interpretation. The score is above the Variable Y mean, whereas observation recorded that some iconic trees had fallen due to abrasion and that soil compaction was visible around mangrove root zones. Respondents' perceptions are thus more favourable than actual conditions. This discrepancy is an inherent limitation of perception-based indices, especially since 61 of the 111 respondents were tourists who generally spend time in the culinary zone and do not reach the mangrove area. Overall, the site does not yet display the characteristics of *overtourism*, a condition in which visitor pressure exceeds capacity and triggers environmental degradation and a declining visitor experience (Milano et al., 2024). However, the absence of a safety margin in all aspects, together with the absence of an entrance ticket or an active levy, means that the site has neither an instrument to control visitor numbers nor an independent source of funding for facility maintenance. This condition is precarious because uncontrolled tourism pressure directly affects environmental quality (Pata & Tanriover, 2023).

Paired Gaps between Governance Achievement and Physical Environmental Condition

At the aggregate level, Variables X and Y obtained practically identical mean scores of 3.41, so the aggregate gap is close to zero. This balance is misleading when read alone, because at the pair level the gaps range from -0.30 to $+0.27$, as presented in Table 3.

Table 3. Paired Gaps between GEG Achievement (X) and Physical Environmental Sustainability (Y)

Pair	Paired Aspects	X Score	Y Score	Gap (X–Y)	Priority
X1–Y1	Participation – Beach cleanliness and waste management	3.54	3.27	+0.27	3
X2–Y2	Transparency – Sanitation facilities	3.45	3.19	+0.26	4

Pair	Paired Aspects	X Score	Y Score	Gap (X–Y)	Priority
X3–Y3	Accountability – Beach and mangrove vegetation	3.18	3.45	–0.27	2
X4–Y4	Effectiveness and efficiency – Physical comfort and layout	3.21	3.51	–0.30	1
X5–Y5	Rule of law – Visitors' ecological behaviour	3.35	3.42	–0.07	6
X6–Y6	Equity – Spatial distribution and ecological access	3.74	3.64	+0.11	5
Aggregate	Variable X against Variable Y	3.41	3.41	≈ 0.00	–

Source: Processed primary data, 2026. Note: X3–Y3 ranks above X1–Y1 because it contains the lowest score (accountability, 3.18).

Pairs with a positive gap, namely participation with beach cleanliness (+0.27), transparency with sanitation facilities (+0.26), and equity with spatial distribution (+0.11), indicate governance achievements that have not been converted into improved physical conditions. For participation and beach cleanliness, resident involvement, which takes the form of conservation actions more than involvement in planning, has not been institutionalised into sustained waste management. This reading is consistent with the finding that successful collaborative governance in environmental management requires a clear process design and leadership capacity to sustain engagement (Ulibarri et al., 2023). For transparency and sanitation facilities, openness of information cannot substitute for the physical provision of facilities if it has no budgetary consequences. The pair of equity and spatial distribution is the only pair in which both sides occupy the highest positions, but this double advantage stems from informal openness and is therefore conditional.

Pairs with a negative gap, namely effectiveness and efficiency with physical comfort (–0.30), accountability with vegetation preservation (–0.27), and rule of law with visitors' ecological behaviour (–0.07), indicate relatively good physical conditions that are not yet supported by an equivalent governance system and are therefore not guaranteed to last. The pair of effectiveness and efficiency with physical comfort ranks first because the comfort of the site is sustained more by the landscape than by the capacity of the management system. The pair of accountability and vegetation preservation offers the most distinctive lesson: a preservation score higher than the accountability score does not signify successful protection, but rather an absence of management intervention that is read as preservation, even though abrasion and soil compaction in root zones have already been observed. The ecological carrying capacity of the mangrove zone is thus not being managed but left unattended.

The pair of rule of law and visitors' ecological behaviour has the smallest gap. This near-parity does not indicate successful enforcement; rather, it indicates that both sides rely on informal mechanisms in the form of appeals and social reprimands, without rule boards or written sanctions. A sense of being treated fairly may explain why compliance persists without formal instruments (Wu et al., 2022), but such reliance is fragile because social control works effectively only in communities whose members know one another, while the number of visitors from outside the area keeps growing. This pattern underlines the importance of a clear regulatory framework and its consistent enforcement as determinants of destination environmental sustainability (Khater et al., 2025).

The two theoretical lenses converge on a single conclusion. From the perspective of New Public Administration, the highest governance achievements are in principles that demand neither budget nor structure, namely equity attained through informal openness and participation attained through collective action, whereas the lowest achievements are in principles that demand institutional commitment and budget allocation, namely accountability and effectiveness and efficiency. From the perspective of tourism carrying capacity, the best physical conditions are in aspects rooted in the natural landscape, whereas the weakest are in aspects requiring provision and maintenance, namely sanitation and cleanliness. Both point to the same condition: the physical environmental sustainability of Pohon Cinta Beach is currently

sustained by the natural advantages of the site and by visitor pressure that can still be absorbed, not by its governance capacity. Consequently, any increase in visits may degrade physical conditions faster than the governance system is able to restore them.

This finding also clarifies the position of the study relative to previous research. Husna et al., (2024) concluded qualitatively that applying GEG principles helps maintain environmental balance, while Baloch et al., (2023) emphasised that tourism development benefits the environment only when managed sustainably. This study, which measures both sides quantitatively and in pairs, finds that this contribution does not occur automatically. GEG achievement in the moderate category does not by itself produce adequate sustainability, because what matters is not the average achievement, but which principles are weak and on which physical aspects those weaknesses fall. Accordingly, the critical management points are accountability and effectiveness and efficiency on the governance side, and sanitation facilities and beach cleanliness and waste management on the physical environmental side, with the pair of effectiveness and efficiency with physical comfort as the largest gap.

The novelty of this study lies in three aspects. First, it operationalises the six Good Environmental Governance principles into a measurable achievement index and pairs it with six physical environmental sustainability aspects at an emerging coastal destination, so that gaps can be read in both magnitude and direction. Second, reading the direction of the gaps reveals patterns that are invisible in aggregate values, namely an apparent alignment between high equity and low accountability, and physical conditions that are good because of the landscape or because of an absence of intervention rather than because of management. Third, it combines the New Public Administration and tourism carrying capacity lenses to show that destination sustainability in a transition phase is supported by natural capital rather than institutional capital. These findings enrich the literature on tourism environmental governance by showing that GEG evaluations should always be paired with measurements of their physical outcomes.

CONCLUSION

Conclusion

The achievement of Good Environmental Governance at Pohon Cinta Beach Destination falls into the moderate category with an index of 68.24%, while its physical environmental sustainability falls into the fairly sustainable category with an index of 68.26%. These almost identical aggregate values conceal imbalances across principles and aspects. Equity is the only principle in the high category, but its achievement rests on informal openness and is not accompanied by procedural equity in planning, whereas accountability and effectiveness and efficiency, which require institutional commitment and budget, occupy the lowest positions. On the physical side, sanitation facilities and beach cleanliness and waste management are the weakest aspects, signalling pressure on physical and managerial carrying capacity, while the strongest aspects stem from the natural landscape of the site. All aspects lie in a transition band without a safety margin, and the largest gap is found in the pair of effectiveness and efficiency with physical comfort. This study contributes a paired evaluation approach showing that governance achievement does not automatically translate into improved physical conditions, so that the sustainability of emerging coastal destinations should be assessed by their institutional capacity and not only by their natural advantages.

Limitations

This study has several limitations. First, the assessment of governance achievement and physical environmental sustainability relies on respondents' perceptions supported by observation and has not been accompanied by numerical biophysical measurements of the carrying capacity of the site, so perception-based indices may lag behind actual degradation, as seen in the vegetation preservation aspect. Second, the respondent composition was

dominated by young tourists, so the assessment reflects visitors' experiences more than those of people who carry out daily activities at the site. Third, the study was conducted at a single destination during one data collection period and is descriptive, so the mapped gaps should not be interpreted as causal relationships and are not intended as generalisations to other destinations.

Recommendations

The Pohuwato Regency Government, through the Tourism, Youth, and Sports Office, is advised to prioritise strengthening accountability as a first step by establishing, in writing, the division of roles among agencies, the village government, and business operators, including a steward for the beach and mangrove vegetation zone, together with a clear channel for environmental complaints. Effectiveness can be improved by adjusting the schedules and zone coverage of cleaning staff to the night-time visitor peak, adding public sanitation facilities and waste bins in beach areas that are not yet served, and installing information boards on rules, fees, and sanctions. Reactivating the area levy mechanism should be considered both as an instrument to control visitor numbers and as a source of maintenance funding.

Site managers are advised to establish a planning forum involving MSME operators, local residents, and the Pohuwato Timur Village Government so that the equity already experienced in distributive terms develops into procedural equity. The indices used in this study can serve as a periodic monitoring instrument. Future research is recommended to include quantitative measurements of physical and ecological carrying capacity during the same period and to extend the analysis to several coastal destinations with different institutional arrangements.

Author Contributions

Sitti Mutiah Rahman is the sole author and was responsible for research conceptualisation, development of the theoretical framework, instrument development, data collection, data analysis, interpretation of results, manuscript writing, and final revision. The author has read and approved the final version of the manuscript submitted for publication.

AI Disclosure Statement

During the preparation of this manuscript, the author used Claude (Anthropic) to help restructure the thesis content into a journal article format, translate it into English, and edit the language. The author has thoroughly reviewed and revised the content and takes full responsibility for the entire publication.

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