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INTEGRATING LAND AND SEA: MARINE SPATIAL PLANNING IN INDONESIAN PROVINCIAL PLANS

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ABSTRACT

Indonesia has folded marine spatial planning into provincial spatial plans, requiring conformity assessment for activities using marine space alongside the long-established land-use planning apparatus. This study asked what the international marine spatial planning literature predicts about such integration, and assessed the Indonesian arrangement against those predictions. The method combines documentary analysis of the provincial spatial plan and its marine annexes with a structured review of empirical marine spatial planning research published between 2017 and 2024. Three findings emerge. First, the international evidence is markedly less favourable than the policy discourse surrounding integration: across more than fifty implemented plans, stated objectives skew toward environmental and economic goals while cultural heritage, indigenous rights, human well-being and climate adaptation are largely neglected, and independent index assessment finds participatory and adaptive principles the weakest-performing dimensions. Second, the critical literature identifies specific depoliticising mechanisms through which participation becomes choreographed rather than substantive, and warns that importing standardised frameworks into tropical contexts risks displacing small-scale fishers. Third, Indonesian marine governance has been characterised as path-dependent toward large-scale infrastructure and profit-oriented activity, which is precisely the condition under which the international critique predicts that integration functions as economic licensing. The study argues that whether integration serves allocation or protection is determined by participation design rather than by the planning instrument itself.

ABSTRAK

Indonesia telah memasukkan perencanaan ruang laut ke dalam rencana tata ruang wilayah provinsi, dengan mensyaratkan penilaian kesesuaian bagi kegiatan yang memanfaatkan ruang laut berdampingan dengan perangkat perencanaan penggunaan lahan yang telah lama mapan. Penelitian ini mempertanyakan apa yang diramalkan literatur perencanaan ruang laut internasional mengenai integrasi semacam itu, lalu menilai pengaturan di Indonesia terhadap ramalan tersebut. Metodenya memadukan analisis dokumen rencana tata ruang provinsi beserta lampiran ruang lautnya dengan telaah terstruktur atas riset empiris perencanaan ruang laut terbitan 2017 hingga 2024. Tiga temuan diperoleh. Pertama, bukti internasional jauh kurang menggembirakan dibanding wacana kebijakan yang menyertai integrasi: pada lebih dari lima puluh rencana yang telah dilaksanakan, tujuan yang dinyatakan condong ke sasaran lingkungan dan ekonomi sementara warisan budaya, hak masyarakat adat, kesejahteraan manusia, dan adaptasi iklim sebagian besar terabaikan, dan penilaian indeks independen menemukan prinsip partisipatif

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dan adaptif sebagai dimensi berkinerja paling lemah. Kedua, literatur kritis mengidentifikasi mekanisme depolitisasi tertentu yang membuat partisipasi menjadi terkoreografi alih-alih substantif. Ketiga, tata kelola kelautan Indonesia telah dicirikan sebagai bergantung lintasan ke arah infrastruktur berskala besar dan kegiatan berorientasi laba — persis kondisi yang, menurut kritik internasional, membuat integrasi berfungsi sebagai perizinan ekonomi. Penelitian ini berargumen bahwa apakah integrasi melayani alokasi atau perlindungan ditentukan oleh desain partisipasi, bukan oleh instrumen perencanaannya.
Kata kunci: perencanaan ruang laut; interaksi darat-laut; rencana tata ruang; tata kelola pesisir; partisipasi

1. INTRODUCTION

Spatial planning has historically stopped at the shoreline. Land was planned; sea was licensed, sector by sector, by authorities that rarely consulted one another. Over the past two decades that division has been dismantled in a growing number of jurisdictions, as marine spatial planning has moved from a specialist conservation technique to a mainstream instrument of maritime governance.

Indonesia, with the world's second-longest coastline and an economy in which fisheries, shipping, tourism and offshore extraction all compete for the same waters, has strong reason to adopt it. Provincial spatial plans now incorporate marine space, and activities using that space require a conformity assessment analogous to the permit conformity requirement applying on land.

Integration of this kind is generally presented as a technical improvement: one plan rather than two, coherent treatment of processes that cross the shoreline, and reduced conflict between sectors. The international research literature offers a more equivocal picture, and a substantial critical strand argues that marine spatial planning has functioned less as a tool for reconciling uses than as a mechanism for allocating marine space to economic activity under a planning vocabulary.

This study therefore asks three questions. First, what does the international evidence establish about what marine spatial planning delivers in practice, as distinct from what it promises? Second, what does the critical literature identify as the mechanisms by which planning becomes allocation? Third, what do these findings imply for Indonesian integration of marine space into provincial plans?

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

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The critical turn in marine spatial planning scholarship

Marine spatial planning research has undergone a self-described critical turn. Flannery et al. (2020) characterise the earlier literature as atheoretical and asocial, locked within a rationalist natural-science paradigm that treated planning as a technical optimisation problem, and call for engagement with power and distributional consequences. Rafael et al. (2024), reviewing 476 articles published between 2004 and 2020, find 74 per cent concerned with conceptual governance questions, with decision-support tools and participatory methods as emerging themes.

Clarke and Flannery (2019) supply the most developed diagnosis, identifying five mechanisms through which marine spatial planning becomes post-political: neoliberalism, choreographed participation, technocratic-managerialism, path dependency, and the illusion of progressive change. The category of choreographed participation is particularly consequential, describing consultation processes that satisfy procedural requirements while foreclosing substantive disagreement.

Queffelec et al. (2021) develop the distributional argument, warning that marine spatial planning in the tropical Atlantic risks ocean grabbing — the displacement of small-scale fishers through imbalanced stakeholder power and opaque decision-support tools. Their specific caution against importing standardised global frameworks into tropical contexts bears directly on the Indonesian case.

What implemented plans actually contain

The critical claims are testable, and two studies test them. Zuercher, Motzer et al. (2022), examining more than fifty implemented plans, find that real-world marine spatial planning prioritises environmental and economic goals while largely neglecting cultural heritage, indigenous rights, human well-being and climate adaptation. The pattern is not an artefact of any single jurisdiction but a regularity across the implemented population.

Reimer et al. (2023) construct a marine spatial planning index of thirty-six features across six principles and apply it to six cases, finding that adaptive and participatory principles consistently underperform. Arriving independently and by a different method, this converges with the finding above: what plans deliver least reliably is precisely the participatory and adaptive character that distinguishes planning from licensing.

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Zuercher, Ban et al. (2022) approach the same question from the other direction, identifying nineteen enabling and disabling conditions for effective marine spatial planning across plan attributes, legal context, plan development and social integration. Their framework provides the diagnostic categories against which a specific arrangement can be assessed.

Land-sea interaction as a planning problem

A distinct literature addresses the substantive content of integration. Innocenti and Musco (2023) establish that land-sea interactions are primarily human-induced and flow predominantly from land to sea, with coastal wetlands acting as buffers — which implies that effective marine planning depends on terrestrial land-use decisions more than the reverse.

Maragno et al. (2020), working in the North Adriatic, demonstrate that integrating marine spatial planning with climate adaptation planning produces more holistic coastal strategies than either alone. Asprogerakas et al. (2020) apply a cumulative impact score index in Chios, Greece, arguing that quantitative tools coupled with integrated onshore-offshore governance are required.

Wang et al. (2024) provide the most directly instructive evidence for institutional design. Examining Xiamen, China, they find that institutional reform unifying land and sea management departments measurably reduced planning conflicts, with average grid-cell contradiction falling from 6.621 to 4.258. This is evidence that administrative integration produces substantive rather than merely procedural improvement.

Pikner et al. (2022), examining three Baltic cases, qualify the optimism: integrating sociocultural values remains difficult at national planning level, with local-scale land-sea interfaces showing more promise. The scale at which integration occurs therefore conditions what it can accommodate.

Indonesian marine governance

Wen et al. (2022), drawing on an eighty-participant symposium, identify the barriers to moving Indonesian marine spatial planning from plan to implementation: data deficiencies, stakeholder conflict, permitting and enforcement weakness, and cross-sectoral coordination failure. Theirs is the most directly relevant assessment of Indonesian implementation capacity.

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Talib et al. (2022) supply the structural argument. Examining three centuries of Indonesian marine governance, they find it path-dependent toward large-scale infrastructure and profit-oriented activity at the expense of environmental protection and coastal fishing communities. This is the Indonesian instance of the critique that Clarke and Flannery (2019) develop generally, and it establishes that the conditions the critical literature identifies as producing allocation rather than protection are present.

Amkieltiela et al. (2022) examine the rapid expansion of Indonesia's marine protected area estate and the management effectiveness it requires, providing context on the gap between designation and capacity that characterises Indonesian marine governance more broadly.

What marine spatial plans actually contain

Zuercher, Motzer et al. (2022) supply the closest published analogue to the conformity assessment attempted here, comparing the aspirational goals stated in the marine spatial planning literature against the objectives actually written into 52 finalised plans worldwide. Plans consistently prioritise environmental, economic and governance objectives while frequently omitting cultural heritage, human well-being, indigenous rights, human safety and climate change. The gap between what the field says planning is for and what plans contain is therefore documented rather than suspected.

Zuercher, Ban et al. (2022) convert that observation into an assessment instrument, identifying nineteen enabling and disabling conditions across four categories — plan attributes, legal context, plan development and social context, and integration — and proposing semi-quantitative scoring against them. The fourth category is the one that bears directly on the present study, since integration with terrestrial planning is treated there as a condition of effectiveness rather than as an optional refinement.

Rezaei et al. (2024), reviewing practice across seven pioneering jurisdictions, identify four recurring difficulties: inconsistent political framework and support, weak understanding of the social dimension, insufficient stakeholder engagement at early stages, and the balance between protection and economic growth. Jiang et al. (2023), through bibliometric analysis of 6,151 publications between 1990 and 2021, document the field's exponential growth and its concentration in a small number of countries and outlets, which is a caution about whose planning experience the literature actually represents.

Land-sea integration in practice

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Wang et al. (2024) provide the strongest available evidence that institutional integration changes planning outcomes measurably. Following the merger of land and marine planning functions under a single ministry, they find the total planning-contradiction value in one coastal city falling by approximately 607,981 units, the grid-cell mean falling from 6.621 to 4.258, and the maximum recorded conflict falling from 71 to 37.7. Integration is therefore not only an administrative tidying but a reduction in measurable inconsistency between plans.

Pikner et al. (2022), examining three Baltic cases, argue that land-sea interaction is sociocultural as well as spatial, and that planning requires situated places of interaction, means of public participation, and boundaries that are meaningful to the people they affect. Their cases run from coastal tourism and harbour networks through ecosystem-services mapping to cultural heritage documentation, and each identifies a form of interaction that a purely zonal instrument does not register.

Amkieltiela et al. (2022) supply the Indonesian scale and its central tension, reporting approximately 23.9 million hectares of marine protected area against a 32.5 million hectare target, with roughly 20 million hectares under effective management. Spatial designation, they conclude, has outpaced management capacity. The finding matters for conformity assessment because it indicates that a plan's spatial content and its operational effect are separable, and that assessing the first says little about the second.

Research gap and analytical proposition

The literature contains no assessment of Indonesian provincial spatial plan integration of marine space against the enabling conditions and critical mechanisms the international research identifies. This study addresses that gap, advancing a specific proposition: that the effect of integration depends not on the planning instrument but on whether participation is designed against the depoliticising tendency that Clarke and Flannery (2019) document. Where it is not, the international evidence predicts that integration will function as economic licensing with a planning vocabulary.

3. METHOD

The study combines documentary analysis with structured literature review. It generates no primary field data; its contribution is the application of an international evidence base to an Indonesian arrangement that has not previously been assessed against it.

Documentary sources

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The provincial spatial plan and its annexes concerning marine space conformity were examined, together with the national spatial planning framework and the statutory basis for marine space conformity assessment. Spatial plans must be publicly announced, and all documents used are public. Analysis addressed the treatment of marine space in the plan structure, the conformity assessment mechanism, and the indicative programme.

Literature selection

Empirical and conceptual studies published between 2017 and 2024 were identified addressing marine spatial planning theory and critique, land-sea interaction in spatial planning, marine spatial planning effectiveness evaluation, and Indonesian marine and coastal planning. Studies were retained where bibliographic details could be verified against publisher or indexing records.

Analytical procedure and limitations

The Indonesian arrangement was assessed against the enabling conditions identified by Zuercher, Ban et al. (2022) and against the depoliticising mechanisms identified by Clarke and Flannery (2019). The assessment is documentary rather than observational: it examines what the planning instrument provides for, not how it has operated in practice, since the arrangement is recent and implementation evidence is not yet available. Conclusions are accordingly framed as predictions supported by comparative evidence rather than as findings about Indonesian outcomes.

4. RESULTS AND DISCUSSION

What the international evidence predicts

The convergent finding across the two independent assessments is the study's point of departure. Zuercher, Motzer et al. (2022) find implemented plans skewing to environmental and economic objectives; Reimer et al. (2023) find participatory and adaptive principles the weakest dimensions in scored assessment. Both point to the same conclusion: marine spatial planning as practised delivers spatial allocation reliably and deliberative governance unreliably.

Table 1. Objectives prioritised and neglected in implemented marine spatial plans

Consistently prioritised	Consistently neglected
Environmental protection objectives	Cultural heritage
Economic development objectives	Indigenous and customary rights

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Sectoral conflict reduction	Human well-being
Spatial allocation of uses	Climate change adaptation

Source: compiled from Zuercher, Motzer et al. (2022), examining more than fifty implemented plans.

The neglected column is not a random assortment. Cultural heritage, customary rights, human well-being and climate adaptation share the property that they are diffusely held, poorly represented by organised sectoral interests, and difficult to express in the spatial vocabulary that planning instruments use. Sectors with defined spatial claims — shipping lanes, extraction blocks, aquaculture concessions — translate readily into planning categories. A fishing community's customary access does not.

This supplies the mechanism connecting the two literatures. Choreographed participation, in Clarke and Flannery's (2019) terms, need not involve deliberate exclusion; it follows from a process whose categories accommodate some claims and not others. Participants whose interests cannot be expressed in the available vocabulary participate without effect.

Why the Indonesian context heightens the risk

Talib et al.'s (2022) finding of path dependence toward large-scale infrastructure and profit-oriented activity establishes that Indonesian marine governance already exhibits the orientation the critical literature warns integration will reinforce. Path dependency is itself one of Clarke and Flannery's (2019) five depoliticising mechanisms, which means the Indonesian starting condition includes the mechanism rather than merely being vulnerable to it.

Queffelec et al.'s (2021) specific caution about tropical contexts compounds this. Indonesian coastal waters support small-scale fisheries of a scale and dispersion that differ fundamentally from the European settings in which most marine spatial planning methodology was developed. Where planning categories and decision-support tools are imported without adaptation, the fishers whose access is least formally documented are the ones whose claims the process is least equipped to register.

Wen et al.'s (2022) identification of data deficiency as a leading barrier connects to the same problem from the technical side. Where the spatial extent of small-scale fishing activity is undocumented while commercial concessions are precisely mapped, the planning process will allocate around the documented uses by default. The data gap is not neutral; it has a direction.

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Scale and the limits of national-level integration

Pikner et al. (2022) add a qualification that bears directly on the Indonesian design choice. Across three Baltic cases they find sociocultural values difficult to integrate at national planning level, with local-scale land-sea interfaces showing more promise. The finding suggests that the scale at which integration occurs determines what it can accommodate.

Indonesian integration operates at provincial level, between the national and local scales that Pikner et al. contrast. That position carries a specific risk and a specific opportunity. The risk is that a provincial plan covering a coastline of several hundred kilometres necessarily works at a resolution too coarse to register village-scale fishing grounds, so the sociocultural integration problem the Baltic cases identify appears in a sharper form. The opportunity is that provinces are close enough to the coast to convene the actors involved, which national planning bodies are not.

Whether the opportunity or the risk dominates depends on whether provincial planning is articulated with a finer-grained instrument below it. Where a provincial plan allocates broad zones and a district or village level instrument resolves access within them, the scale problem is manageable. Where the provincial plan is the operative allocation and nothing sits beneath it, the resolution mismatch is structural. This is a design question that documentary analysis can identify but not resolve, and it merits direct empirical attention.

What integration nonetheless makes possible

The analysis so far is cautionary, and it would be one-sided to stop there. Wang et al.'s (2024) Xiamen evidence establishes that administrative integration can produce measurable conflict reduction, with grid cell contradiction falling from 6.621 to 4.258 following departmental unification. That is a substantive gain and it was achieved through exactly the kind of institutional integration Indonesia has adopted.

Innocenti and Musco's (2023) finding that land-sea interactions flow predominantly from land to sea identifies where integration has most value. Marine water quality, sedimentation and coastal habitat condition are determined largely by terrestrial land-use decisions. A planning system that governs both within one instrument can internalise those effects; two separate systems cannot. This is the strongest substantive argument for the Indonesian arrangement, and it is independent of the participation concerns.

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Maragno et al. (2020) point to a further opportunity specific to the Indonesian north coast context. Integrating marine spatial planning with climate adaptation planning produced more holistic coastal strategies in their North Adriatic case. Given the subsidence and tidal flooding affecting Indonesian northern coastal cities, an integrated instrument that treats coastal land, coastal water and adaptation together addresses a genuine and pressing coordination failure.

Table 2. Assessment of the integration arrangement against enabling conditions

Enabling condition domain	Indonesian arrangement	Assessment
Legal context	Statutory basis in national spatial planning law; conformity assessment required for marine space use	Strong: the instrument has clear legal force
Plan attributes	Marine space incorporated into the provincial plan with dedicated annexes and indicative programme	Adequate: integration is structural rather than nominal
Plan development	Prepared through the standard spatial planning process, with consultation requirements	Uncertain: consultation form does not guarantee substantive participation
Social integration	No documented mechanism for registering customary or small-scale fishing access	Weak: the dimension the international evidence identifies as most often failing

Source: authors' assessment against the enabling condition domains identified by Zuercher, Ban et al. (2022). Assessment is documentary and predictive; implementation evidence is not yet available.

Conformity assessment as the operative instrument

Attention naturally falls on the plan, but the instrument through which the plan bites is the conformity assessment required before marine space may be used. It is worth considering what the international evidence implies about it specifically.

A conformity requirement is a licensing gate. Its distributional effect depends on who must pass through it and who is capable of doing so. A commercial operator with legal capacity and documented spatial claims obtains conformity as a routine transaction cost. A small-scale fisher operating under customary access, without documented spatial extent and frequently without the administrative capacity to engage a permitting process, faces a requirement that may be formally equal and practically prohibitive.

This is the same asymmetry documented in other regulatory contexts where a uniform compliance requirement meets a highly unequal capacity distribution. The remedy is likewise familiar: either exempt below a threshold, or provide the documentation at public cost. Whether Indonesian implementing provisions do either is the question on which the

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distributional effect of the whole arrangement turns, and it is a more consequential question than the content of the spatial plan itself.

The point generalises. Wen et al. (2022) identify permitting and enforcement as a leading barrier to Indonesian marine spatial planning implementation. That barrier is usually read as a capacity problem on the state side. The analysis here suggests it is also a capacity problem on the applicant side, and that the two require different remedies.

Implications for design

Three implications follow, and they concern participation design rather than planning technique. First, because the neglected objective categories share the property of being spatially undocumented, the operative remedy is documentation. Mapping customary and small-scale fishing access before rather than during plan preparation would convert claims that the planning vocabulary cannot register into claims it can. This is a data exercise with a governance purpose.

Second, participation should be assessed by outcome rather than by procedure. Reimer et al.'s (2023) index approach — scoring plans against participatory and adaptive principles — provides a template that could be applied to Indonesian provincial plans directly, and would distinguish consultation that changed the plan from consultation that did not.

Third, given Innocenti and Musco's (2023) finding that interaction flows predominantly landward to seaward, the terrestrial provisions of the integrated plan matter more for marine outcomes than the marine provisions do. Evaluation that examines only the marine annexes will miss the mechanism through which the plan actually affects the sea.

Evaluating integration once it operates

Because the arrangement is new, the most useful contribution this study can make to future work is to specify what should be measured once implementation data exist. Three measures follow from the analysis.

The first is the composition of conformity approvals by applicant type. If the distributional concern raised above is well founded, approvals will be dominated by commercial applicants while small-scale users are absent from the record entirely — not because they were refused, but because they never applied. Absence from an approval register is therefore the diagnostic signal, and it is one that a register reporting only approvals and refusals would not reveal.

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The second is whether consultation altered the plan. Reimer et al. (2023) score participatory principles by examining plan features rather than process descriptions, and the equivalent here is straightforward: comparing draft and final plan provisions against the submissions received. Where no provision changed, consultation was choreographed in Clarke and Flannery's (2019) sense regardless of how many meetings were held.

The third is conflict incidence, following Wang et al. (2024). Their grid-cell contradiction measure fell from 6.621 to 4.258 after institutional unification in Xiamen, providing both a method and a benchmark. Applying it to Indonesian provincial waters before and after integration would establish whether the arrangement delivers the conflict reduction that is its principal technical justification, and would do so in a form comparable with the international literature.

The protected area comparison

Indonesian marine governance offers an internal comparison that sharpens the argument. Amkieltiela et al. (2022) document rapid expansion of the marine protected area estate alongside a requirement for improved management effectiveness. The pattern — designation outpacing the capacity to give designation effect — is structurally identical to the risk identified here for spatial plan integration.

The parallel is instructive because protected area designation and spatial plan integration are commonly treated as separate policy tracks with separate literatures. Both are instruments that draw lines on marine charts and attach legal consequences to them, and both depend for their effect on enforcement capacity and on the legibility of existing uses. That Indonesia has encountered the designation-capacity gap in the protected area track is a reason to anticipate it in the planning track rather than to treat the second as a fresh undertaking.

It also suggests an efficiency. Where the two instruments cover overlapping waters, the documentation of small-scale and customary use that this study identifies as the highest-value measure would serve both. Producing it once for both purposes is a materially smaller undertaking than producing it separately, and the case for it is correspondingly stronger than the spatial planning rationale alone would suggest.

A fifth measure concerns the terrestrial side. Because Innocenti and Musco (2023) establish that land-sea interaction flows predominantly landward to seaward, the terrestrial

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provisions of an integrated plan are the ones through which it most affects marine conditions. Monitoring should therefore track whether the integrated instrument has changed land-use decisions in coastal catchments, which is where its marine effect originates and where evaluation focused on marine annexes will not look.

What the plan must anticipate, and what it cannot restrain

Two bodies of evidence bear on whether a conformity-assessed plan is sufficient. The first concerns the physical baseline the plan assumes. Nicholls et al. (2021) find that although global mean relative sea-level rise is approximately 2.6 millimetres per year, coastal populations experience between 7.8 and 9.9 millimetres per year because settlement concentrates in subsiding areas. A coastal zonation fixed against present shoreline and present bathymetry is therefore fixed against a datum that is moving faster in the places where most people live.

The second concerns what a plan can actually restrain. Wu et al. (2022) find coastal urban land expanding at 6.51 per cent annually across all levels of flood protection and at 9.40 per cent annually in the least protected areas, so protection status does not restrain development of flood-prone land. Arifin et al. (2023), modelling peri-urban conversion around an Indonesian coastal city, project built-up land reaching 11,531.4 hectares or 67.27 per cent of the study area against 5,611.8 hectares remaining vacant, and recommend modifying coastal development strategy and enforcing zoning — which is to say that the instrument's weakness lies in enforcement rather than in designation.

What the plan is meant to protect is meanwhile changing independently of it. Xu et al. (2024) find a 25 per cent decline in a global mangrove coastal protection index between 2007 and 2019, driven principally by loss of height and biomass against an area loss of only two per cent, so that protective function has deteriorated far faster than any map of extent would show. Arifanti et al. (2022) report the Indonesian position at approximately 3.3 million hectares of mangrove with some 637,000 hectares degraded or converted in recent decades, and identify enforcement and coastal community engagement as the binding requirements.

Sengupta et al. (2023) formalise the choice a coastal plan implicitly makes, modelling a planning authority selecting between coastal defence and inland relocation under rising sea level and extreme events. A spatial plan that designates uses without stating which of those two paths it assumes has left its central premise implicit, and conformity assessment against

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such a plan will verify consistency with an unstated assumption rather than with a policy choice.

Limitations

Four limitations qualify this study. First, the assessment is documentary and predictive rather than observational; the arrangement is too recent for implementation evidence. Second, it examines one province's plan, and provincial practice varies. Third, the international evidence is drawn predominantly from European and North American settings whose transferability to Indonesian conditions is itself contested by Queffelec et al. (2021). Fourth, Indonesian-language scholarship on marine and coastal spatial planning sits largely in conference proceedings and local journals that could not be verified to the standard applied here, so the domestic literature is under-represented relative to the international.

A methodological note is warranted before concluding. This study assesses a planning arrangement against an evidence base drawn predominantly from European and North American practice, and Queffelec et al. (2021) caution specifically against importing standardised frameworks into tropical contexts. That caution applies to the present analysis as much as to the planning practice it examines. The enabling conditions and depoliticising mechanisms used here as assessment criteria were derived from settings with different fisheries structures, different tenure arrangements, and different administrative capacity. They are used as diagnostic prompts rather than as a validated instrument, and the appropriate test of their relevance is whether the predictions they generate are borne out in Indonesian implementation.

5. CONCLUSION

Indonesia's integration of marine space into provincial spatial plans is a substantial institutional reform with a sound technical rationale. Land-sea interactions flow predominantly from land to sea, and a single instrument governing both can internalise effects that two separate systems cannot. Comparative evidence from Xiamen demonstrates that administrative integration produces measurable conflict reduction.

The international evidence nonetheless indicates that what marine spatial planning reliably delivers is spatial allocation, and what it delivers least reliably is participatory and adaptive governance. Across more than fifty implemented plans, cultural heritage, customary rights, human well-being and climate adaptation are consistently neglected, and independent index

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assessment finds participatory principles the weakest-scoring dimension. These categories share a property that explains the pattern: they are diffusely held and spatially undocumented, so the planning vocabulary cannot register them.

Indonesian marine governance has been characterised as path-dependent toward large-scale and profit-oriented activity, which is the condition under which the critical literature predicts integration will function as economic licensing. That outcome is not determined by the instrument. It follows from whether participation is designed against the tendency, and the most consequential single measure available — documenting small-scale and customary access before plan preparation — is a data exercise within existing capacity.

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DECLARATIONS

Author contributions (CRediT)

Ilhamsyah Cahya Erdianto: conceptualisation; methodology; formal analysis; writing - original draft. Achmad Zein Maulana: validation; writing - review and editing.

Conflict of interest

The authors declare that they have no competing interests.

Data availability

All data supporting the findings of this study are available within the article and from the publicly accessible sources cited therein.

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Declaration on the use of artificial intelligence

Claude (Anthropic) was used for language editing and for translation of the manuscript into English. The authors reviewed and verified all content, and take full responsibility for the final text. No generative tool was used for data analysis, for the interpretation of results, or for the generation of scholarly content. AI is not listed as an author.

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