



Overlapping coastal spatial laws in Semarang, Indonesia

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Abstract. Around many beach locations, regulations that oversee the good management of those locations are usually in the hands of more than one regulating institution and contradictions arise in their management. Coastal spatial planning is essential for the planned management of sandy beaches, regarding their nature conservation and implementing sustainable beach tourism to exploit natural marine resources properly. Several laws collide in national, regional and local governments and appear to be independent in implementing legislation and policies; this often happens to be a communication error for some governments. This review assesses the potential of spatial laws as the right approach in Semarang, Indonesia, to gestion these issues. Instead of strengthening cooperation between individuals, prioritizing new strategies might be better instead. Those methodologies are used to be another strategy for invigorating the Semarang regional government and other Indonesian legislatures. Therefore, of course, cross-sectoral cooperation is needed to transfer the management of coastal tourism to the Semarang city government. Hopefully this analysis can also be adapted to other problematic beaches throughout Indonesia and the world.

Key Words: beach tourism, legislation, management, policy.

Introduction. The coastal area of Semarang, Central Java, Indonesia, has become a management problem, especially in terms of policy (Wever et al 2012). This area is not yet popular among tourists, but it can be a natural environment attraction that benefits from brown sand, a seaport, river view and airport traffic (Addas 2021). Although a beautiful marine environment is present, this area is not a conservation area, and several overlapping legal issues are present (Hidayat & Agusliani 2020; Opa et al 2021).

The region supports tourism activities regarding its beaches, nautical activities, water sports and recreational fishing tours (Opa et al 2021; Solihin et al 2020). It has an average number of 400 visitors per day (Fithor et al 2019; Sunaryo et al 2018). The travel industry in the area is supposed to help the community financially develop, prevent destitution, fight unemployment and have the necessary means for government assistance (Patlis 2005). Marine tourism development is inseparable from the role of the community and local government as a regulator. The community's role can be manifested by providing marine tourism services, such as guided tours, fishing boat rentals etc. (Hartoko et al 2019). This kind of tourism activities attract younger tourists. Besides their natural display of sandy beaches and clear waters, Semarang city beaches have the advantage of being not far from the city centre (Nurhidayah & McIlgorm 2019).

Beach tourism in this area is very supportive because it relates to other succesful models of beach ecotourism in Indonesia, such as Indah Kapuk beach, Makassar Marina beach and Banten beaches (Fithor et al 2020, 2021).

Coastal spatial planning is essential for planned management (Abbasi-Moud et al 2021; Aspiany et al 2019; Sugianto et al 2019). This condition must be managed

properly, following regulatory policies. A successful arrangement can become the forerunner for coastal tourism and a source of regional income.

Material and Method. This research studied the beaches situation from Semarang city coastline, and took place between January 2020 and December 2020. The studied beaches were the Marina beach, a famous beach of Semarang, Tirang beach, Maron beach, Baruna beach and Cipta beach. These beaches all have the advantages of natural environments and are in close proximity of the city, but they are not optimally utilized (Fithor et al 2013; Fithor et al 2018; Fithor et al 2019). The locations from this study are presented in Figure 1.

Unmanaged beaches have the potential to benefit from new, better policies, that bring in spatial law concepts, where the natural attractions are valued through specific nature tourism practices, in addition to other types of tourism (Aspiany et al 2019). A spatial law concept in the area should clarify the management of the area, by clearly uniformizing the policies of the Indonesian Government, Central Java Government and Semarang City Government and conflicts of interest are avoided.

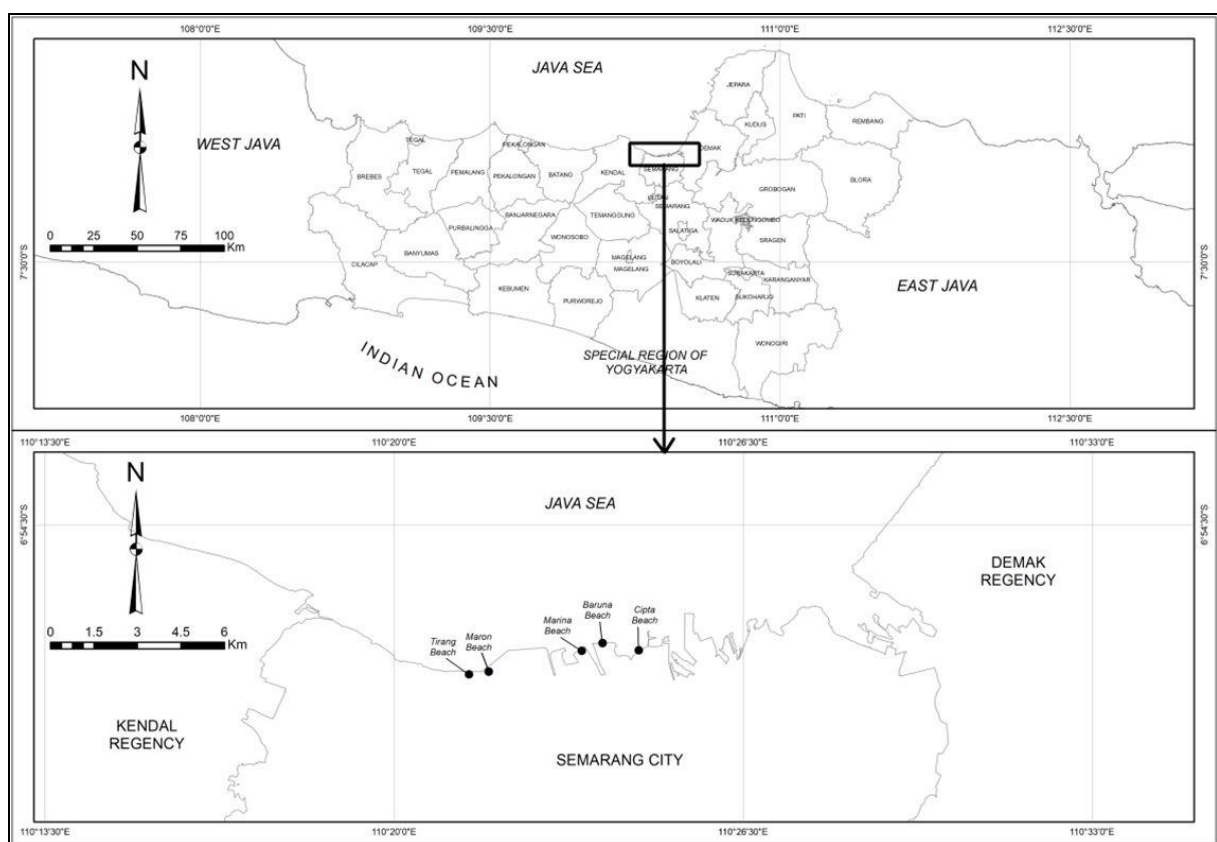


Fig 1. Research area location.

Data collection. Data collected includes the policies and the regulations regarding the studied locations. Although they regulate the same places, they are different and in the current legal environment, it is not clear which regulations apply (Adharani et al 2019; Nurhidayah & McIlgorm 2019).

Data analysis. Three regulations were analyzed and described that are in function regarding the beach locations from this study: Government Regulation No. 32 of 2019 concerning Marine Spatial Planning (Table 1), Central Java Provincial Government Regulation No. 13 about RZWP3K – Coastal Areas and Small Islands Zoning Plans 2018-2038 (Table 2) and Semarang City Regional Regulation No. 14 of 2011 concerning Semarang City Spatial Planning 2011-2031 (Aditya & Al-fatih 2020; Nurhidayah & McIlgorm 2019). We then proposed what spatial planning decisions should be considered

to benefit from spatial law planning sustainably, by analyzing the present spatial regulations and policies that rule the studied locations.

Table 1

Government Regulation No. 32 of 2019 concerning Marine Spatial Planning

<i>No.</i>	<i>Beach name</i>	<i>Location</i>	<i>Policy zone</i>	<i>Sub-policy zone</i>	<i>Zone analysis</i>
1	Tirang Beach	Tugurejo, Tugu	Conservation Area	Coastal Conservation Area and small islands; Maritime Conservation Area; Marine Conservation Area; Other Conservation Areas.	Coastal Sanctuary - Water Tourism Park -
2	Maron Beach	Tambakharjo, West Semarang	General Use Area	Fishery Zone; Tourism Zone; Marine Industry Zone; Mining Zone; Energy Management Zone; Defense and Security Zone; Transport Zone.	Aquaculture Beach Tourism - - - -
3	Marina Beach	North Panggung, North Semarang	General Use Area	Fishery Zone; Tourism Zone; Marine Industry Zone; Mining Zone; Energy Management Zone; Defense and Security Zone; Transport Zone.	Beach Tourism Recreation Industry - - -
4	Baruna Beach	Kuningan, North Semarang	General Use Area	Fishery Zone; Tourism Zone; Marine Industry Zone; Mining Zone; Energy Management Zone; Defense and Security Zone; Transport Zone.	- - - - National Strategic Area Sea Port Area
5	Cipta Beach	Bandarharjo, North Semarang	General Use Area	Fishery Zone; Tourism Zone; Marine Industry Zone; Mining Zone; Energy Management Zone; Defense and Security Zone; Transport Zone.	- - - - National Strategic Area Sea Port Area

Table 2

Central Java Provincial Government Regulation No. 13 About RZWP3K - Coastal Areas and Small Islands Zoning Plans 2018-2038

<i>No.</i>	<i>Beach name</i>	<i>Location</i>	<i>Policy zone</i>	<i>Zone code</i>	<i>Analysis zone code</i>
1	Tirang Beach	Tugurejo, Tugu	Conservation Area	KK	KK-21, KK-22, KK-23, KK-24, KK-25
2	Maron Beach	Tambakharjo, West Semarang	Conservation Area National Strategic Area	KK KSN	KK-33 KSN-02
3	Marina Beach	North Panggung, North Semarang	National Strategic Area	KSN	KSN-02
4	Baruna Beach	Kuningan, North Semarang	General Use Area	KPU	KPU-PL (Sea Port) KPU-W (Tourism)
5	Cipta Beach	Bandarharjo, North Semarang	General Use Area	KPU	KPU-PL (Sea Port) KPU-W (Tourism)

Table 3

Semarang City Regional Regulation No. 14 of 2011 concerning Semarang City Spatial Planning 2011–2031

<i>No.</i>	<i>Beach name</i>	<i>Location</i>	<i>New condition</i>
1	Tirang Beach	Tugurejo, Tugu	Uninhabited area Aquaculture Zone
2	Maron Beach	Tambakharjo, West Semarang	Conflict reclamation area with Indo Persada Usahatama Company
3	Marina Beach	North Panggung, North Semarang	The tourist area is mixed with elite residential areas
4	Baruna Beach	Kuningan, North Semarang	Empty land area
5	Cipta Beach	Bandarharjo, North Semarang	Empty land area

Results and Discussion. Based on the analysis of the regulations, this study found a lack of planning regarding conservation areas. A new spatial law planning should consider the aspect of environment conservation more and have locals and tourist sustainably benefit from nature-oriented activities (Sudarmaji et al 2020). Coastal parks are a favourable way of achieving such an aim (Rakhmatulloh et al 2021). Such tourist attractions could represent a new magnet for tourists visiting the area and the city (Adharani et al 2019; Dirhamsyah 2006). Proper management of the coastal areas is imperious, especially that a considerable part of the high population of ASEAN countries, of around 633.1 millions in 2015, is dependent on the coastal and marine environment. Sustainable development requires a balance between exploitation and available natural resources (Pathak et al 2021). The city government of Semarang should concentrate its efforts on properly assessing the carrying capacity of the beaches in the region, for better spatial law planning (Solihin et al 2020) and to be able to sustainably manage these

locations. Careful research is needed before establishing a policy, and satellite imagery could be a proper method of evaluating the carrying capacity of the beaches and drawing a planning resolution (Hartoko et al 2019; Irsadi et al 2019).

The legal umbrella on the priority scale becomes a vital tool in avoiding misunderstandings. Existing policies from the past few years need to be evaluated and improved according to the existing land's suitability. For the purpose of a better spatial planning of the beaches of Semarang, we compiled Table 4, which displays the suitable tourism activities in regard to the beaches condition. A clear spatial law planning of these beaches should make it easier for the locals to attract tourists by providing suitable tourism services in accordance with each location condition.

Table 4

Suitable planning propositions for the studied beaches

<i>No.</i>	<i>Beach name</i>	<i>Suitability</i>
1	Tirang Beach	Uninhabited area, aquaculture zone, suitable for sports, cultivation, tourism, fishing, and conservation.
2	Maron Beach	Uninhabited area, aquaculture zone, suitable for sports, cultivation, tourism, fishing, and conservation.
3	Marina Beach	The tourist area is mixed with elite residential areas, the coastal tourism development area is limited and already densely populated.
4	Baruna Beach	Empty land area, suitable to be developed for sustainable beach tourism and conservation.
5	Cipta Beach	Empty land area, suitable to be developed for sustainable beach tourism and conservation.

Conclusions. This study resulted in a new policy regarding the suitable tourism activities at the beaches of Semarang. According to our recommendations, a spatial law should eliminate the confusion generated by the existing overlapping coastal spatial laws that govern this region. The government of Semarang should implement this spatial reasoning. Good governance and regulatory engagement, it could be a model of success in managing its city beaches. An approach like this also benefits the natural environment because it values and conserves it. Hopefully, this analysis also can be adapted to other beaches, in other regions.

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References

- Abbasi-Moud Z., Vahdat-Nejad H., Sadri J., 2021 Tourism recommendation system based on semantic clustering and sentiment analysis. *Expert Systems with Applications*, 167, 114324.
- Addas A., 2021 Social evaluation of public open space services and their impact on well-being: A micro-scale assessment from a coastal university. *Sustainability*, 13(8):4372.
- Adharani Y., Nurlinda I., Nadia A., Yusuf S. Z., Sarah A. S., 2019 Jakarta Bay Reclamation: The challenge between policy, environmental and social impacts. *IOP Conference Series: Earth and Environmental Science*, 306 012025.
- Aditya Z. F., Al-fatih S., 2020 Indonesian constitutional rights: expressing and purposing opinions on the internet. *The International Journal of Human Rights*, 25(9):1395-1419.

- Aspiany, Anggoro S., Purwanti F., Gunawan B. I., 2019 Evaluating ecotourism development in Bontang: Water quality, compatibility, and carrying capacity. *IOP Conference Series: Earth and Environmental Science*, 370 012049.
- Dirhamsyah D., 2006 Indonesian legislative framework for coastal resources management: A critical review and recommendation. *Ocean and Coastal Management*, 49(1-2), 68-92.
- Fithor A., Indarjo A., Ario R., 2013 [Study of tourism suitability and seawater quality for beach recreation ecotourism at Maron Beach, Semarang City]. *Diponegoro Journal of Marine Research*, 2(4), 31-35 [in Indonesian].
- Fithor A., Sutrisno J., Indarjo A., 2018 [SWOT analysis: Mangrove ecosystem management strategies in Maron Beach tourism area, Semarang city]. *Jurnal Harpodon Borneo*, 11(1), 32-38 [in Indonesian].
- Fithor A., Sutrisno J., Indarjo A., 2019 Mangrove ecosystem management strategy in Maron Beach Semarang. *Ilmu Kelautan: Indonesian Journal of Marine Sciences*, 23(4), 156-162.
- Fithor A., Prayitno S. B., Purwanti F., Indarjo A., 2020 Tourism suitability , and carrying capacity: prospect ecotourism (Case Study in Marina Beach Semarang). *E3S Web of Conferences*, 03010(202).
- Fithor A., Prayitno S. B., Purwanti F., Indarjo A., 2021 Evaluation and application of new-Semarang coastal resources management. 29(3):1475-1486.
- Hartoko A., Febrianto A., Pamungkas A., Fachruddin I., Helmi M., Hariyadi, 2019 The myth and legend of Sadai and Gaspar strait Bangka Belitung (Banca-Billiton) and oceanographic conditions. *International Journal of GEOMATE*, 17(62), 212-218.
- Hidayat A. S., Agusliani E., 2020 Beach tourism, whether benefit or disaster for coastal fishermen of Tanah Laut regency, South Kalimantan Province. *AAFL Bioflux*, 13(3):1383-1393.
- Irsadi A., Anggoro S., Soeprobawati T. R., Helmi M., Khair A. S. E., 2019 Shoreline and mangrove analysis along Semarang-Demak, Indonesia for sustainable environmental management. *Jurnal Pendidikan IPA Indonesia*, 8(1):1-11.
- Nurhidayah L., McIlgorm A., 2019 Coastal adaptation laws and the social justice of policies to address sea level rise: An Indonesian insight. *Ocean and Coastal Management*, 171:11-18.
- Opa E. T., Kepel R. C., Lasabuda R., Kusen J. D., Paruntu C. P., Djamaluddin R., Mantiri D. M. H., 2021 Ecological suitability of mangrove tourism in Mantehage island as the outermost small island in north Sulawesi, Indonesia. *AAFL Bioflux*, 14(1):120-129.
- Pathak A., van Beynen P. E., Akiwumi F. A., Lindeman K. C., 2021 Impacts of climate change on the tourism sector of a Small Island Developing State: A case study for the Bahamas. *Environmental Development*, 37(March):100556.
- Patlis J. M., 2005 The role of law and legal institutions in determining the sustainability of integrated coastal management projects in Indonesia. *Ocean and Coastal Management*, 48(3):450-467.
- Rakhmatulloh A. R., Intan D., Dewi K., Mutiara D., 2021 The built environment and its impact on transit based transportation users walking activity in Semarang, Indonesia. *Pertanika Journal of Science and Technology*, 29(2):771-789.
- Solihin L., Kusumastanto T., Fauzi A., Yulianda F., 2020 Institutional arrangement of conservation areas for sustainable marine tourism in Gili Matra water tourism park, Indonesia. *AAFL Bioflux*, 13(6):3542-3555.
- Sudarmaji A., Saporso, Supriyo H., Widodo A., 2020 Simple parallel probe as soil moisture sensor for sandy land in tropical-coastal areas. *Pertanika Journal of Science and Technology* 28(3):829-838.
- Sugianto D. N., Purwanto, Handoyo G., Oktaviani A., Kunarso, Zainuri M., Indarjo A., 2019 Determination of submerged breakwater location for coastal protection in Panjang Island waters jepara. *Advances in Science, Technology and Engineering Systems*, 4(5):346-351.
- Sunaryo S., Ambariyanto A., Sugianto D. N., Helmi M., Kaimuddin A. H., Indarjo A., 2018 Risk analysis of coastal disaster of Semarang City, Indonesia. *E3S Web of Conferences*, 31:1-5.

Wever L., Glaser M., Gorris P., Ferrol-Schulte D., 2012 Decentralization and participation in integrated coastal management: Policy lessons from Brazil and Indonesia. *Ocean and Coastal Management*, 66:63–72.

*** Central Java Provincial Government Regulation No. 13 About RZWP3K - Coastal Areas and Small Islands Zoning Plans 2018-2038.

*** Government Regulation No. 32 of 2019 concerning Marine Spatial Planning. *State Gazette of The Republic of Indonesia* number 6345.

*** Semarang City Regional Regulation Number 14 of 2011 concerning Semarang City Spatial Planning 2011–2031.

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