Collaborative approach for coastal and marine spatial planning in Bangka Belitung Island Province

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Abstract. Amendments to Law no. 27 of 2007 became Law no. 1 of 2014 concerning the Management of Coastal Areas and Small Islands has an impact on the coastal and marine spatial planning process in every region, including Bangka Belitung. This planning process requires stakeholder collaboration to carry out broader cross-sectoral coordination. Apart from being composed of more than 80% of the water area, the struggle for access and conflicts over the use of marine space also take place in a vertical and horizontal level. The dilemma of authority between levels of government and law enforcement authorities, as well as between local governments, communities, and state corporations, is a form of hierarchical conflict. Conflicts between governments at the street bureaucracy (Village) level and their citizens, or friction between pro and contra groups against marine mining are examples of horizontal conflicts. The complexity of this problem has demanded the government to be presented in a more powerful and most decisive position in the management of the coastal and marine areas of Bangka Belitung so that it does not drag on. Therefore, the government needs to formulate comprehensive resource optimization options in the coastal and marine zones. This study aims to map how a collaborative approach in coastal and marine spatial planning through Regional Regulation (Perda) Number 3 of 2020 concerning the Zoning Plan for Coastal Areas and Small Islands of the Bangka Belitung Islands Province. At least 3 dominant actors are involved and collaborate, namely the government, fishermen, and investors.

1. Introduction

Bangka Belitung is an archipelagic province that has a very wide coastal area. Almost 80% of this area is in the form of oceans, while the land area is not more than 20% [1]. The consequence of this condition is the extent of the coastal and marine areas owned. Meanwhile, the deep coastal areas have become market-driven with high economic value, thus encouraging all parties to exploit marine and coastal resources in a large enough scale and intensity, while the maintenance of the regulation is still overlapping, it drives the conflict and competition among user [2,3,4]. This condition is not only experienced by Bangka Belitung as part of Indonesia but globally exist for the last few decades. The next thing to do is to organize marine space, starting from the coastal area to the open sea [5,6,7,8].

In Bangka Belitung, structuring coastal and marine areas is realized through Regional Regulation (Perda) Number 3 of 2020 concerning the Zoning Plan for Coastal Areas and Small Islands of the Bangka Belitung Islands Province (RZWP3K). This local regulation is designed dynamically since there are considerable challenges in the application of its preparation. The trigger is the authority shift between the provincial government and district/city governments in its deregulation. The complexities of actors and interests should be accommodated and it drives the mainstream issue of the integration maintenance of coastal and marine areas. According to Ehler and Douvere, at least 5 meanings of integration
management in coastal and marine areas. **First**, facilitation of economic sectors operating on the sea's surface, in the column, or at its bottom. **Second**, The economic, environmental, and geographical sectors are all impacted by the integration of numerous government departments. **Third**, the integration of multiple parameters. **Fourth**, environmental considerations are taken into account when allocating space for human activities. **Fifth**, integration of several kinds of use allocation [7].

Integration is a socio-economic process based on the ideas of experts in various fields over geographical links, comparable to comprehensive planning [9]. This circumstance necessitates coordination among parties. However, due to the powerlessness of planners in coordinating sectors connected to, this is not a simple process [10]. The following essay aims to go more into the Bangka Belitung Island Province's collaborative approach to marine spatial planning.

2. **Method**
This paper is the result of qualitative research with an exploratory model. The main focus in this discussion is not based on tentative hypotheses. An in-depth exploration of the marine and coastal spatial planning process that has been realized through local regulations, involving various actors. Data collection techniques used are in-depth interviews and documentation. Interviews were conducted with actors involved in marine and coastal spatial planning, either directly or indirectly. Documentation is carried out by tracing written documents (local regulations that have been ratified), and unwritten documents (photos or videos during the process). Data analysis was carried out through the stages of data collection, data display, data reduction, and drawing conclusions.

3. **Results and Discussion**

3.1. **Deregulation And Shift Of Authority In The Management Of Coastal And Marine Areas.**
Empirically, the maintenance of the development of resource in coastal and marine areas need to be improved. The management seriously should be optimized and sustainable. This problem only can be solved by shifting the planning and realizing the development of the areas not only focus on sectoral aspect but also the distribution. Therefore, in the framework of the management of the coastal and marine area, the government amended the regulation, regulation number 27 the year 2007 into regulation number 1 the year 2014 concerning the Management of The coastal and Marine Area. The regulation number 1 the year 2014 roles the local government should draw up the Management Planning of the coastal and marine area according to their authority.

In Bangka Belitung, this marine spatial planning was realized by Regional Regulation (Perda) Number 3 on the Zoning Plan for Coastal Areas and Small Islands (RZWP3K) which was issued in the year 2020. The Law's spatial planning hierarchy is the foundation for this RZWP3K regulation. The goal is to utilize and maintain marine space in a way that is healthy and productive for the environment [11,12,6], so that it remains sustainable [1].

3.2. **Bangka Belitung Island Province Uses a Collaborative Approach to Coastal and Marine Spatial Planning**
As the biggest island, Bangka Belitung has 4,259,119.30 hectares of coastal and marine area that needs to be maintained. It is not as simple as pie. The dimension of the problems is complex. Therefore, drawing up the regulation needs much time before it is legalized. Based on the finding of the research, at least 3 main reasons why this problem can not be avoided. **First**, the difficulty to determine the marine zoning boundaries in Bangka Belitung because there is not sufficient and consistent spatial data, the multidimensional nature of the marine environment, and the lack of accurate, complete, and up-to-date information on marine resources. In addition, the confusion of issues, discourses, and polemics reconstructed in the community, as well as a stagnating communication process between interested parties have also become the main triggers for tin mining conflicts in coastal areas, thus hampering the process of drafting and determining RZWP3K. **Second**, zoning is closely related to the political environment, the politics of control and ownership of natural resources, and trade in derivative products. In this case, politics is related to market power which is difficult to resist. **Third**, the tug of war of interest
by sea users, especially groups of miners (tin) and fishermen. This tug of war of interest is certainly a very difficult obstacle in the drawing process.

**Table 1.** Bangka Belitung Island Province's Regional Regulation RZWP3K on Marine Spatial Allocation [13]

| No. | Zone of Use | Zone | Zone Area (in Ha) | Percentage |
|-----|-------------|------|-------------------|------------|
| 1   | (1) Mining Zone | 477,030,288 Ha | 11.20 % |
|     | (2) Port Zone   | 49,832.62 Ha   | 1.17 %  |
|     | (3) Tourism Zone| 138,327.1 Ha   | 3.25 %  |
|     | (4) Aquaculture Zone | 185,697,588.8 Ha | 4.36 % |
|     | (5) Industrial Zone | 2,981.3 Ha | 0.07 %  |
|     | (6) Capture Fisheries Zone | 2,591,247,999.6 Ha | 60.83 % |
| 2   | Zone of Conservation | 627,794,140 Ha | 14.74 % |
| 3   | Zone of the Sea | | |
|     | (1) Marine Biota Migration | 189,104 Ha | 4.44 % |
|     | (2) Submarine Pipe / Cable | - | - |
|     | (3) Shipping Lane | - | - |
| 4   | National Strategic Interest Zones | - | - |
|     | Total | 4,259,119.3 Ha | 100 % |

A collaborative approach is an answer to this challenge. This type of management is similar to Peters' model of participatory governance, which allows the public to participate in decision-making while also lowering hierarchical barriers. Stakeholder participation at all stages of the planning, implementation, monitoring, and evaluation process to decrease user disputes and increase compatibility across different uses. This emphasis is on the necessity to combine many viewpoints, such as social, economic, and environmental, in order to promote harmony between human activity and the environment [10].

To coordinate activity across local governments and offer channels for resource sharing, commitment, and confidence, collaborative action is unavoidable. They must, however, be able to perceive reciprocal benefits and set low transaction costs for negotiating, monitoring, and enforcing agreements in order for cooperation to be more practicable. Conversation, trust-building, dedication to the process, shared understanding, and reaching a mid-point outcome are all part of the collaborative management cycle, according to Ansell and Gash [14].

**Figure 1.** Collaborative Management Cycle [14]
4. Conclusion
The vastness of the sea area and the complexity of the problems that exist during the process of ruling the coastal and marine areas in Bangka Belitung have demanded a collaborative approach that must be taken in the process of drafting the RZWP3K. This collaborative approach begins with a clear and non-overlapping regulatory framework so that all interests can be properly accommodated.

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