

Evaluation of Maritime Resources Potential of Yogyakarta Special Region

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ABSTRACT

In this modern era, Indonesia has declared itself and continues to process its way to becoming a country that acts as a world maritime axis. To support the realization of Indonesia's vision as a world maritime axis and improve the level of community life from maritime activities, monitoring and evaluating potential maritime resources are needed. The Special Region of Yogyakarta is a provincial-level region in Indonesia that has maritime resource potential. This potential needs to be appropriately inventoried as in other provinces. This study aims to evaluate the potential of maritime resources and analyze the relationship between these potential resources and the characteristics of the coastal and marine physical environment in the Special Region of Yogyakarta. This study provides alternative information on maritime resources in the Special Region of Yogyakarta and adds to the data on potential maritime resources in Indonesia. This study also offers new insights into the potential characteristics of maritime resources in a small tropical region with complex physical environment characteristics geologically and geomorphologically. To answer the various problems in the study, a descriptive-exploratory research design was used with a geographic approach, namely a complex regional approach. The subject of this research is the sea and coastal areas of the Yogyakarta Special Region, while the object of research is the potential of maritime resources in the region. Data was collected through observation, remote sensing image interpretation, literature study, and documentation. The data obtained were then analyzed using scoring, GIS, statistical, and descriptive analysis. GIS analysis was conducted using buffering and average nearest neighbor techniques to determine the radius and pattern of distribution of certain types of resources. The GIS analysis process was carried out with ArcGIS software. Statistical analysis with independent sample t-test and ANOVA was used to test variations and differences between locations, supported by data presentation with boxplots. All stages of statistical analysis were carried out with Jupyter Notebook, SPSS, and Ms Excel.

The results showed that the DIY maritime region has great potential in terms of its fisheries, tourism, and energy potential. Fish production is very high, averaging 4,901.03 tons/year. DIY's marine resources are economically very high, with a total economic value of up to IDR 715,085 billion. However, the number of fishermen from 2019-2022 continues to decline drastically. The tourism sector also has enormous potential. The number of tourists from 2020 to 2022 shows an increasing trend. Renewable energy potential from DIY maritime areas can contribute 11.86% of DIY communities' overall electrical energy needs. Renewable energy potential in the DIY maritime region also has other contributions, significantly reducing CO2 emissions by 11.62%. Further research is highly recommended to examine community motivation in utilizing maritime resources.

Kata Kunci: Maritime, energy, tourism, fisheries, Yogyakarta