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The managing plan for abrasion in coastal area of Garut Regency

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Abstract

The area of Garut is located in the southern part of West Java and directly connects to the Indian Ocean. Due to large coastal area of about 73.25 kms, it is susceptible to the impacts of abrasion due to strong waves, high tides, and human activities. This research aims to contrive a managing plan for abrasion control in coastal area of Garut Regency during September to November 2012 that includes, compiling recorded documents of the existing condition to predict the changes of coastal pattern as well as determining priorities for sustainable coastal developments by establishing intersectional programs in order to optimize the operational projects in coastal areas. To support the research, the data are divided into, first, primary data that include physical and social facts and Figures of socio-economic, oceanographic, and meteorological conditions. The second ones, the secondary data, consist of scientific-driven environmental and geographical information, such as visual map of Indonesia, Landsat TM images, (GLOVIS), basic map from the local government, sea level rise (TOPEX/POSEIDON JASON1, JASON2), sea wave, and wind (BMKG), and legal materials, such as policies and regulations, as well as institutions. Analysis on the data is conducted to determine the biological conditions of the waters, to identify changes in sea surface and in coastal lines, and to formulate an abrasion modelling. The results show that abrasion and accretion occur in different levels and indicates that ecosystem plays an important role in controlling the abrasion, particularly in the areas where the mangrove ecosystem is located. The impacts from abrasion are more due to natural factors than human activities. Therefore, it is suggested that an integrated management in the form synchronization programs with related institutions is initiated and developed a series of schemes that become priorities for the local development.

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