

**Study of Potential Unconfined Groundwater in Karimunjawa Island,
Karimunjawa National Park., Jepara Regency**

ABSTRACT

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Karimunjawa Island classified as a very small island with width 20,8 km². With population growth and the number of tourist that keep increasing over the few past years, the demand for clear water also increasing in this island. The Objective of this study are (1) to find out hydrology condition (2) to find out potential unconfined groundwater (3) to find out the recommendation to utilize the groundwater, this study was conducted in Karimunjawa Island, Jepara District.

The method in this research were surveying and mapping, laboratory testing, and quantitative method. Surveying and mapping in this study is used to collect the necessary data of this study, this method used to obtain surface data of wells and also the coordinate and elevation of measurement location and other additional data and equipment. Laboratory test is used to find out the quality of unconfined groundwater and quantitative method is used to calculate the potential of unconfined groundwater and the demand for clean water.

Hydrology condition in Karimunjawa Island consist of two kinds of unconfined aquifer, those are unconfined aquifer on sandstone unit and on alluvium unit. Groundwater potency in research location is classified as a highly potential and the groundwater also has a good quality except on dissolved oxygen (DO). Based on the calculation, the number of groundwater recharge is 462.932 m³/year, the static resources is 8.242.352 m³ and the dynamic resources is 30.025 m³/day. The utilization of groundwater must be less than 46293 m³/year.

Keywords : Karimunjawa Island, Groundwater Potential, Quantitative Method,