THE DECREASE OF WATER QUALITY IN LAKE RAWA PENING, THE CITY OF SEMARANG

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ABSTRACT
Lake Rawa Pening is one of the tourism objects in Central Java, Indonesia. The major role of Rawa Pening is as a source of irrigation but it is also being used as a tourism object. The overuse of the lake has been causing many problems including the decrease of its major function. As a result, this caused environmental degradation as an impact of the overabundance of Eichhornia crassipes live in Rawa Pening, both settlement and industrial wastes, and the other pollutants from agricultural areas which are also contributing the decrease of water quality. This study aims at assessing the water quality of Rawa Pening by which the standard water is being used for irrigation in the city of Semarang. The water sample is collected in water sources, the population area of aquatic plants (Eichhornia crassipes), the inlet of water which carries pollutant from agricultural areas, settlements, and industries, and its outlets. Physical assessment of water making on- site includes temperature, color, odor, turbidity, sediment, drift diagram, and oil dirt. Meanwhile the sample analysis is tested in laboratory in order to detect the chemical elements such as pH, TDS (Total Dissolved Solids), RSC (Residual Sodium Carbonate), %Na, NO3, Na, Ca, Mg, SO4, PO4, HCO3, K, CO3, Fe, Cl, Zn, Cd and Cr. In case of irrigation, the SAR and RSC are in the safe limit to irrigate agricultural plants. In addition, the salinity and Natrium classifications belong to CIS1 meaning the water of Rawa Pening can be used for irrigating any kind of plants and soils.

KEYWORDS: environmental degradation, water pollution, water quality, Rawa Pening

INTRODUCTION
Water is definitely needed for living. Meanwhile its quality and quantity depend much on the environment in which human activities has been causing the decrease of ecosystem productivity. In addition, the utilization of land for being agricultural and settlement areas, by which the natural water bodies are changed, has decreased its quality and quantity. Therefore, the quality and quantity must meet the requirements of water quality standards for consumption (PP No. 82, 2001).

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