EVALUATION OF ENVIRONMENTAL INFRASTRUCTURE MANAGEMENT OF APARTMENT FOR LOW INCOME PEOPLE IN SURABAYA
(CASE STUDY: RUSUNAWA URIP SUMOHARJO)

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ABSTRACT

Rusunawa Urip Sumoharjo, the first apartment for low income people in Surabaya, is located in downtown of Surabaya. This apartment was developed on limited area which is closed to commercial area and surrounded by high density resident area. With land area ± 3,064 m², this apartment has population density ± 2,017 capita/ha. The main current problems are the contamination of drinking water in the apartment, as well as a lot of solid waste in the drainage due to ineffective management. The objectives of the research are to identify factors influencing quality of environmental infrastructure and to recommend ideal management system in engineering, society participation and environmental aspects.

Primary data for waste water analysis were waste water quality, drinking water quality and water quality from wells. These data were taken twice and tested at environmental quality laboratory of ITS Surabaya. Analyzed parameters were odor, turbidity, color, pH, TSS, BOD, oil and grease as well as detergent. Primary data for solid waste analysis were taken by measuring generation rate, composition and recovery factor of solid waste collected from 120 houses. These data were taken seven times within the period from January – April 2010. Secondary data collected in this research were as built drawing and site maps of the apartment as well as state and municipal regulations on sanitation.

Analysis results indicate that factors influencing the quality of environmental infrastructure are location of apartment, no treatment of grey water and inadequate solid waste handling system. The result of engineering aspect of waste water evaluation indicates that effluent of grey water does not satisfy quality standard. Based on the evaluation, one unit ABR with capacity 36,53 m³, is recommended to be build. The result of engineering aspect of solid waste evaluation shows that there is potential reduction of solid waste as much as 84.55%. Therefore, frequency of solid waste disposal can be reduced from ones a day to ones per 4 days. In addition, three communal solid waste containers with capacity 250 liter should be provided. One container is used for food waste and yard waste, and 2 containers are used for paper, glass, plastic, metal, etc. Communal composter for area 24,70 m² is also required. The result of analysis to participation of society show that participation of tenants in implementing 3R is about 50,12% while utilization of grey water output is about 40%. Therefore, the participation is necessary to be improved via program education and training. Analysis of environmental aspect indicates that well located ± 10 m from septic tank are contaminated. Therefore, planting trees surround the apartment is required.

Keyword : evaluation, environmental infrastructure management, apartment for low income people (rusunawa).
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