

Potential Micro Hydro at Irrigation Canal in the Gorontalo Province and Modeling Setling Basin for Reduction of Sedimentation Effect

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Abstract : Along irrigation canals in certain areas falling water level height is have potential for micro hydro power plant (MHP), which generally MHP potential valley away from society consumer of electricity and needed a long conductor cable, so that with the MHP Irrigation is ideal are typical with an Open Flume type turbines. This study is divided into two phases research phase of the potential power that exist in irrigation channels at the Gorontalo Province and stages solution sedimentation effects. The total power generated in the irrigation channel of the results of this study at 781.83 Kw, it is quite significant for the 1737 rural households on average consumes 450 watt per household. In the field of observation, sedimentation lifting effect on the quality of electric power, at which time the turbid sediment concentrations occur significant voltage fluctuations causing damage to some household electrical appliances such as electronic equipment and lighting. This problem is solution by modeling the sedimentation tub (setling basin) to reduce sedimentation thus also can reduce the regulation load control equipment which can minimize the cost of investment and maintenance.

Keywords : irrigation canals, microhydro powerplant, sedimentation, Gorontalo Province

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