

**STUDY OF THE POTENTIAL FOR MICRO-HYDRO POWER
PLANTS FOR BAMBOO FOREST TOURIST ATTRACTIONS IN
LUMAJANG DISTRICT**

Supervisor: Dedy Eko Rahmanto, STP., MSi

Nyoman Dwi Harianto

Study Program of Renewable Energy Engineering
Department of Engineering

ABSTRACT

The potential for hydro energy in Indonesia is around 75.67 GW, the majority of which is micro hydro. One area that has microhydro energy potential is the Mujur River which originates from the bamboo forest tourism in Sumbermujur Village, Kab. Lumajang. This research aims to analyze the potential discharge and head in the Mujur River, and analyze the potential power of micro-hydro power plants in the Mujur River, as well as the type of water turbine that suits the head and discharge in the Mujur River. The method used in this research is to make direct observations at the research location to determine the height of the fall using a clear hose filled with water, and the water flow of the Mujur River using a current meter. Based on the results of measurements and calculations, it is known that the average water discharge of the Mujur River in the dry season is 0.2253 m³/s, while the discharge in the rainy season is 0.2439 m³/s with an effective head obtained of 6.11 m. The potential power of MHP in the Mujur River flow during the dry season is 6,539 kW and the potential power during the rainy season is 7,192 kW. The ideal turbine for micro-hydro in the Mujur River is the Crossflow turbine.

Keywords: Micro-hydro, Power potential, Mujur River.