

HYBRID SYSTEM OF PLTMh AND PLTS FOR AUTOMATIC WATERING OF SHALLOTS

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ABSTRACT

Shallots are one of the important agricultural commodities in Indonesia, with high economic value. The growth and yield of shallots are greatly influenced by factors such as temperature, humidity, and soil nutrient availability. In an effort to increase agricultural productivity, this study developed a hybrid system of Micro Hydro Power Plants (PLTMh) and Solar Power Plants (PLTS) for automatic watering of shallot plants. This system is designed to meet the energy needs in the watering process efficiently and on time. By utilizing renewable energy from PLTS and PLTMh, this system can operate watering automatically, using soil moisture sensors to monitor soil conditions. The implementation of this technology is not only expected to increase shallot yields, but also reduce dependence on conventional energy sources that are detrimental to the environment. This study aims to prove that this hybrid system can supply the power needed for automatic watering, as well as provide significant benefits for farmers in saving electricity usage and increasing efficiency in shallot cultivation.

Keywords: PLTS, PLTMH, Shallots