

ABSTRACT

FEASIBILITY STUDY ON MICRO POWER PLANT HYDRO (MHP) IN RIVER VILLAGE TALANG SEMARANG PAMPANGAN DISTRICT SEKINCAU LAMPUNG BARAT LAMPUNG PROVINCE

by

YOHANES BARTHOLOMEUS SIAGIAN

Electrical energy is a main source of energy that is needed in our country Indonesia. But in rural areas, especially in the province of Lampung still many residents who have not felt the main energy source. Therefore necessary to determine the source of the potential for electrical energy source for life in the countryside. One of them is a source of electrical energy that can be obtained from the potential energy of water. On this occasion, the author tries to do research by utilizing the water flow in the river Talang Semarang as a utilization of the potential energy of water in order to obtain electrical energy. Micro hydro power plant (MHP) is a renewable energy that can transform water into potential energy into electrical energy by utilizing the river water flow rate and height of falling water (head). Head and water discharge will serve water to drive turbines that will turn a generator as the purpose of generating electricity. Research procedures used in calculating the amount of water discharge is using floating objects. To determine Head gross, the method used is the method of nylon thread. From the research and treatment of water discharge data obtained an average of 93 L / s and the effective head of 11 m. The power that can be generated at 7.02 kW turbine. Then to determine the type of turbine used is the type of crossflow turbine. For dimensions of the turbine based on primary data or data retrieval directly ie, the turbine shaft diameter 25.66 mm, 195.1 mm diameter runner, blade length 387 mm, blade thickness 1 mm and the number of blades 20.

Keywords: Water discharge, Head, micro hydro power plant.