

# ***DESIGN AND CONSTRUCTION OF MICROHYDRO TURBINE WITH HEIGHT ADJUSTABLE TURBINE USING STEPPER MOTOR***

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## ***ABSTRACT***

*Micro-hydro is a term used for small-scale power plant installations that use hydropower as the driving force. The condition of water that can be used as an electricity-producing resource is that which has a certain flow capacity and water level, so in this study a turbine tool was made that can adjust the water level to the height of the turbine tongue using a stepper motor and ultrasonic distance sensor HC SR-04 based on a microcontroller, so that the turbine tongue is not too high and too low to the water surface to get a stable and effective voltage result to be passed through the charger controller to the battery. The results of testing the voltage against the water level on the turbine tongue to get a stable and effective voltage that does not exceed the height of the turbine tongue diameter get the results from 29 to 32 volts.*

***Keywords:*** *Microhydro, Microcontroller, Ultrasonic HC-SR04, Stepper Motor, Charger Controller*