

ABSTRACT

Catfish is a freshwater fish that has a flat shape and has a slippery body. Catfish has become one of the most popular freshwater fish in Indonesia. It is proven that catfish production always increases from year to year. In its growth, the growth of catfish can be influenced by several factors such as temperature and other water quality in the pond. These factors can affect the growth process of catfish so that the resulting production is not optimal. In addition, many fish breeders have aquaculture ponds in open areas with direct sunlight. Therefore, the use of PV is very suitable to help farmers in supplying resources to be more practical. Modernization of fish farming is expected to be able to assist fish farmers in increasing fish production. The application of this system is one way to help farmers increase the level of fish production. The system was tested on a 1m × 1m pond. The test results that have been obtained are in the form of accuracy and error values of thermal sensor are $\pm 0.72167^{\circ}\text{C}$ and 2.55%. In the power supply system, PV is able to provide energy of 604.7138 Wh for loads that require energy of 466,283 Wh in one day. The growth rate of catfish obtained in this system was 1.9610% with a survival rate of 90.625%.

Keyword : Catfish, temperature, IoT, PV, survival rate, growth rate, control and monitoring.