Designing and Testing Catfish Media Appropriateness Controlling and Monitoring System based on Internet of Things Using fuzzy

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ABSTRACT

The Internet of Things is a current internet-based technology development having a concept to expand the benefits of objects connected to an internet connection continuously. It becomes factor that can affect water quality include temperature and turbidity. The water temperature for catfish seed cultivators ranges from 23˚C-30˚C. Water turbidity can be seen from the clarity of the water based on its color. The cloudy color of the water prevents the reflection of sunlight from entering the water. In the process of growing catfish seeds, sufficient sunlight is needed. In this study, the fuzzy method was used to measure the quality of water in catfish seed ponds, based on the three parameters used: temperature sensor, acidity sensor (pH), and turbidity sensor. The output of this research was a pump control that functions to replace or fill pool water. Pool water will be replaced when it has passed the turbidity range limit and filled when it exceeds the predetermined range of cold or hot temperatures. One of the uses of this technological development in the fisheries sector is the pond water monitoring system. In practice, catfish farmers still carry out their monitoring conventionally by visiting fish ponds. It has an effect on the time efficiency and work effectiveness of fish farming. In this study a tool was developed to monitor and control the quality of catfish pond water based on the Internet of Things. Data from these sensors is recorded by the Internet of Things and then processed into information according to user needs through internet intermediaries automatically. Furthermore, the data can be displayed on various platforms, one of which is a mobile model. The test results showed that the development of Internet of Things technology in this system helps cultivators to monitor water quality automatically. The developed automation system promises to increase success in catfish farming

Kata Kunci : *Internet of Things, catfish seeds, fuzzy method, pump, temperature sensor, turbidity sensor and pH sensor*