

## ABSTRACT

Water quality became part of a very important and influential to the survival of shrimp. Because it is one of the living creatures that are very sensitive to changes in environmental conditions. Nonstandard pond environment may be one factor contributing to the decline in the quality of the crop. Thus the water quality is very important in order to keep the shrimp in standard conditions. To overcome these problems it needs to make a monitoring system parameters on an embankment. This system uses a network of Wireless Sensor Network ( WSN ) in pengirirman process parameter information related to the environmental conditions of the farm pond.

This system consists of two nodes, each sensor node has three sensors, namely: pH, temperature, and Dissolved Oxygen ( DO ). Sensor in Node 3 sends information about these parameters and shipped using WSN and network with json data format . Then , the sensor gateway will split character so that it can be identified for each of the major parameters. If the gateway indicates the temperature and pH parameters beyond the standard conditions , the system will provide notification to the officer . In addition , the gateway also will activate the paddle wheel when the parameters of oxygen under standard conditions .

Results shown are temperature , pH and concentration DO. The results of measurements of the system point to point 1 node has a maximum distance of 50 meters with a percentage packet loss of 30%. In the process of sending sensor node duration obtained with the ideal duration of packet loss values < 50 % are above 1 second. The maximum viewing distance range, this system is feasible and can still be used . Hope in the future, this system can be beneficial for Dinas Perikanan dan Kelautan , and the system can be developed again.

**Keywords** : Wireless Sensor Network (WSN) , Sensors gateway , Water quality