

**Pendekatan Metode *Fuzzy Tsukamoto* Pada Monitoring Kualitas Air Tambak
Kepiting Bakau Berbasis *Internet Of Things* (IoT) (Tsukamoto Fuzzy Method
Approach in Monitoring the Water Quality of Mangrove Crab Ponds Based on the
Internet of Things (IoT))**

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ABSTRACT

Water quality is very important for cultivating mud crabs, but shrimp farmers often face difficulties due to the lack of tools that can monitor water quality more specifically. The objective of this research is to create an Internet of Things (IoT)-based system that can monitor the water quality of shrimp ponds using Tsukamoto Fuzzy logic for water condition classification and linear regression algorithm methods to improve sensor accuracy. The tools used include the ESP32 Microcontroller, DS18B20 sensor to monitor temperature, pH-4502C sensor to monitor water acidity, and SEN0244 TDS sensor to monitor pond water salinity. For the TDS/salinity sensor, the dilution method is used to address the sensor's reading limitations. Berdasarkan perhitungan nilai akurasi perangkat IoT, peneliti memperoleh nilai akurasi perangkat IoT sebesar 99,73%.

Keywords: *Internet of Things (IoT), Dilution Method, Linear Regression, Fuzzy Tsukamoto, Water Monitoring, ESP32*