ABSTRACT

Water has enormous benefits in everyday life, the quality and quantity must be maintained guaranteed. In Indonesia, Bandung, many people keep a supply of clean water in water tanks. This habit arises due to their dependence on groundwater. However, some people have also been connected to the government's water pipe network, but they still need a clean water tank for the prevention of dirty water. The tank requires regular maintenance to ensure that the stored water remains clean. When the tank is rarely cleaned, algae will appear, and clog the water pipes. The process of monitoring water conditions manually has several drawbacks, such as requiring expert staff, taking longer, having a greater possibility of error, and not being able to show and tidy up the documentation.

In this Final Project, a water turbidity warning system for multi-tank and IoT-based scheduling systems will be created for cleaning water turbidity. The system can be installed in a house tower to be applied at several points or water towers and can transmit data in real-time either alternately or simultaneously. The sensor detects the turbidity of the water, and the microprocessor control unit node is in charge of processing the sensor reading data to calibrate and classify the level of turbidity. The value and level of water turbidity is sent to whatsapp. Information from whatsapp contains the level of turbidity including: clean, turbid and dirty. For the clean value it is set from 0-5 NTU, for the turbid value it is set at 6-10 NTU and for dirty it is set at 11-25 NTU.

The results of the multi reservoir testing showed that the turbidity level was around 6 to 9 NTU, which means the water quality in the reservoir was classified as turbid and had to be cleaned. Testing the turbidity sensor on water turbidity also found that the sensor had read the water turbidity level in accordance with Ministry of Health standards. The results of testing the power supply from the solar cell also showed that the solar cell could send power to the ESP8266 and the turbidity sensor well, and sending notifications from the sensor to WhatsApp was also good depending on internet conditions.

Keywords*:* alert, water, internet of things, turbidity