

ABSTRACT

Tempe production in Indonesia often coexists with residential areas and produces liquid waste which can pollute the environment and impact local residents. Liquid waste that cannot be processed causes air pollution in the form of unpleasant odors and water pollution. Organic substances in tempeh production waste can trigger microbial growth in water, increase pH levels, and cause water turbidity. Environmental pollution in rivers can also be detrimental to human health, plants and river ecosystems if not addressed. Based on these problems, an efficient monitoring system is needed to monitor the level of turbidity and pH levels in waste. Therefore, a prototype monitoring system designed to measure these parameters uses pH and turbidity sensors connected to a microcontroller that can be connected to the internet. Microcontrollers will help in waste processing by monitoring pH and oxygen levels, so that it is easier for industrial players to neutralize waste so that it can be disposed of properly. By using this monitoring system, tempeh producers can better manage their waste, reduce pollution, and improve environmental health for everyone's benefit.

Keywords: *Microcontroller, Monitoring System, pH, Turbidity, Tempe*