ABSTRACT

Water is the most basic need for humans, such as drinking, washing, and so forth. Water can also be a source of livelihood for humans, such as raising fish, maintaining aquatic plants, and so forth. But the lack of human consciousness to keep the water on earth causes water to become polluted. The cause of contaminated water is the culture of dumping waste into the river and disposal of waste into rivers or the sea. Water pollution is causing the death of some or all of the ecosystems in the water. In addition to the disappearance of ecosystems, waste pollution can also cause eutrophication that makes plants that grow on the surface of the water becomes very fast and causes the oxygen content in the water thins. The immediate effects of water contamination on humans are poisoning and skin diseases. Therefore, the utilization of Wireless Sensor Network (WSN) is needed for monitoring water pollution, whether water is feasible for consumption, suitable for use for fish farming or not. So people who rely heavily on river water can avoid polluted water so their health is not disturbed.

WSN application here use star topology by using sensor node, coordinator, and monitoring through smartphone application which can be accessed by user. The node sensor consists of a water pH sensor and a temperature sensor that can indicate if there is water pollution somewhere. The sensors are then connected to the microcontroller, and the received data is then forwarded to the coordinator which is then stored in the database and displayed in the application.

It is expected that the use of water pollution measurement sensors can be resolved, as they can be quickly identified before the water indicated by pollution is used by the community for their living needs. So there are no casualties or losses caused by polluted water.

Keyword: WSN, star topology, water pollution