ABSTRACT

For a flooding detection system that will be implemented in a region with many watersheds (DAS) needed a technology that allows monitoring various points within the same time. Because it will be used at various points and runs continuously, the technology must have a smaller power consumption and easy to maintain and develop.

To overcome these problems, built a system that uses a wireless sensor network (WSN) to help monitor the state of a point on the watershed. The system was built utilizing ZigBee networks as data communication between the sensors (sensor nodes) are mounted on each tributary and then obtained data is sent to the server. Results of monitoring of each point will be sent to a coordinator in charge of sending sensor data to the server as a data monitoring.

This system can support flood monitoring sensing device that will be installed in an area with lots of DAS with minimum power consumption. The system is also built to be able to process the data that has been obtained by using fuzzy algorithms that can predict the coming flood. Additionally obtained topology is best for use in accordance morphology of the basin. The parameters were tested to get a good topology that delay, jitter, throughput and packet loss.

Keyword : wireless sensor network, zigbee, fuzzy