

ABSTRACT

The Citarum River has become a polluted river due to various factors, both from the local's waste disposal or factory waste are dumped in the Citarum River peninsula. The Provincial Government responded to this by implementing the Citarum Harum project. Indonesian National Military Force officers are assigned to the project require a recapitulation of Citarum River water condition data every day for reference in evaluating contaminated locations. When collecting water samples, the officer needs to go down to the riverbank for collecting data samples manually. The collecting process could be also hampered by rainy weather. This research will be placed at the Citarum Harum Military Force Station Sector 6 (located at Dayeuhkolot, Bandung).

Some of the parameters that are needed to assess water quality are the pH level and total dissolved solids of the water. To obtain those parameter values, it is necessary to design a River Water Quality Monitoring System which will be installed on the Citarum riverbank at the Sector 6 monitoring area. The system consists of sensors that can acquire the required data values and a data transmission system to send data over a few distances from the river. After the data are acquired, the data will be transmitted to the military station to be recapitulated in a database.

It is hoped that this technology can help officers and researchers maintain the Citarum river ecosystem. After receiving the result, the technologies accuracy level of the are quite high with the %error value of 3.576 % that makes the % accuracy of the pH sensor is 94.4 %. Furthermore, the % error of the TDS sensor is 14.0264 %, so the % accuracy is 85.97%. The maximum distance between the Transmitter and Receiver is 67.92 meters.

Keywords: *Citarum River, Water Quality, Water pH, Monitoring Water Metal Levels, Data Transmission*