

Design of automatic water level control system using fuzzy logic

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ABSTRACT

With less rainwater that is absorbed into the ground, and the obstruction of water flow causes flooding. The floodgates on river dams are still using manual systems by utilizing human operators, in this case sometimes mistakes occur in decision making. The solution to this problem is to create an automatic sluice system, so that when the condition of the water discharge at the intake is excessive or insufficient, the sluice can open and close pursuant to the required automation of water flow. Measurement of water discharge using a water flow sensor, the results of the sensor readings will be forwarded to the actuator as a door actuator. In this study, the design of the floodgate control system on the dam was carried out through the fuzzy logic technique. The water level and flow sensor data are processed by fuzzy logic technique to control the opening of the floodgates and the condition of the weir. The benefit of this system is easy to monitor and control the floodgates on the weir, with proper control and supervision it will make the water flow evenly distributed, as well as provide early warning information to anticipate when river water overflows and has the potential to flood.

Kata Kunci: *smart teknologi, pertanian cerdas, fuzzy*