## *ABSTRACT*

*Indonesia is an agrarian country where most of the population works as farmers, where in 2021 there are 88.43 percent of Indonesian citizens who work as farmers. Irrigation is a system of giving water to rice fields to make the soil fertile so that rice will grow well. Therefore we need a tool that can monitor the incoming water and the water level in the rice fields so that the production and quality of rice in Indonesia can be optimal. The development of the Internet of Things with the design of prototypes of LoRa-based water level and flow measurement tools can help farmers to monitor irrigation systems remotely. Water flow and water level sensors are used for data input. The data is then sent through Antares as a monitoring tool to get the output of water level and water flow. Data retrieval is carried out at one location with three different points, namely the first point, the results obtained at the first point get a minimum error value on the water level sensor of 1% and a maximum of 12%, Then for LoRa testing at the first point the average value is obtained. average RSSI of -115 dBm, SNR of -16.5 dB. The second point, the results obtained at the second point get a minimum error value on the water level sensor of 2% and a maximum of 38%. Then for the LoRa test at the second point, the average RSSI value is -114 dBm, SNR is -14.5 dB. The third point, the results obtained at the third point get a minimum error value on the water level sensor of 1% and a maximum of 26%. Then for the LoRa test at the third point, the average RSSI value is -11.8 dBm, SNR is -11 dB.*



***Keywords* :** *Irigation*, IoT, LoRa, *and Water Level*