

ABSTRACT

The potential of fish resources in Indonesia is very abundant, including the potential of catfish. The increase in catfish according to the Ministry of Maritime Affairs and Fisheries in Indonesia, since 2015 - 2019 has increased by 9.23% per year. In general, fish farmers in Indonesia still treat fish with conventional methods which require a long time to determine the value of water turbidity, count fish and feed fish. The basic principle of optical wireless sensors is to utilize LDR which is very dependent on light intensity. The LED as a light source that is non cohort. If the LDR receives light from the LED or vice versa, the value is used for information.

In this final project, a Smart Fish Pond is designed using the principle of wireless optics using an LDR sensor and loadcell. The microcontroller used is Node MCU and ATmega2560-16AU to run commands. The outputs produced are fish counters, automatic fish feed availability, water turbidity in fish ponds using the LDR sensor and weighing fish feed using loadcell sensors.

The results of the tests that have been carried out on the Smart Fish Pond using the LDR sensor and loadcell have succeeded in achieving the desired parameters. This tool can count fish with 6% error percentage, detect water turbidity with 0.5% error percentage, feed availability with 0% error percentage and weigh feed weight with 0.16% error percentage. Thus the Smart Fish Pond tool can be implemented automatically.

Keyword: *Smart Fish Pond, Wireless Optic, LDR*