

# **DESIGN AND CONSTRUCTION OF AN AUTOMATIC FEEDING SYSTEM AND CONTROL OF WATER CONDITIONS FOR GURAMI POND BASED ON THE INTERNET OF THINGS**

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## **ABSTRACT**

*The development of the fishing industry and fish cultivation has made a significant contribution to meeting animal protein food needs throughout the world. One of the main challenges in fish farming is the high mortality rate, especially when the fish do not receive adequate feed. This condition can be caused by human error, inability to manage feeding times, or lack of monitoring of fish environmental conditions that affect their food needs. Based on the background described above, the main problem in this research is how to design an IoT-based automatic feeding system for gourami fish and control the conditions of gourami fish ponds to reduce mortality rates. The aim of this research is to determine the system's ability to maintain pond water quality and the ability to provide feed automatically. From the results of discussion and testing, accuracy and error results were obtained for each test condition. Ultrasonic sensor readings have an error of 0%, turbidity sensor readings also have an error of 0%. The feed filling test showed an accuracy of 80%, while the feeding test had an accuracy of 100%. For filling and draining fish ponds, the system is able to achieve accuracy of 80%.*

**Keywords:** *feeding, feeding, Ultrasonic, Turbidity, IoT*