

Bengawan UV 2023 Outreach Activities : Camera Vision-Based Catfish Farm for Optimizing Local Businesses.

Catfish farming is a type of commodity that has the largest cultivation output in Indonesia. In the period of 2017 - 2021 catfish production showed a passable performance with an average production increase of 4.13%. Based on data from the Directorate General of Aquaculture of the Ministry of Marine Affairs and Fisheries, catfish production in 2021 reached 1,253,114 tons and is targeted to increase to 1,592,554 tons in 2022. Catfish production in Central Java in 2021 reached 164,608.29 tons, supported by Boyolali Regency which produces more than 15% of catfish production. It shows that catfish farming is a very profitable opportunity to fulfill the domestic export and consumption market.

This year the Bengawan UV RoboBoat Team continued and applied our research to our partner last year, the Karya Mina Utama Group. The Karya Mina Utama group is a catfish production village in Tegalrejo village, Boyolali regency. In the current condition, the catfish farming system in the Karya Mina Utama Group still uses the traditional method. So, it still experiences some problems. These problems include uncontrolled pond water quality causing catfish growth to be disturbed, predatory pest attacks, and a decrease in the quality of catfish production.

The use of technology in catfish farming will be very profitable if it is carried out intensively. Based on these problems, Bengawan UV RoboBoat Team applied the use of technology that had previously been researched to participate in competitions to our partners. The use of technology in the form of Camera Vision aims to be able to monitor catfish farming ponds which are functioned for monitoring from pest attacks. Pest expulsion is also carried out automatically from the Sound System. This sound system serves to make a sound to repel pests. This system is considered more efficient when the farmer is not in the cultivation pond and when there are pests that are threatening the catfish farming process. In addition, there are also other sensors to complete the needs of monitoring the quality of water in ponds which aims to prevent catfish deaths due to poor water quality. So that diseases or adverse effects of existing water quality can be minimized and water quality can improve.

The use of this technology is hoped to be applied to all ponds owned by members of the cultivation group so that the cultivation process can run smoothly and water quality and pest threats can be controlled and also can improve the economy of the catfish village community. That can support the economy of Indonesia's local businesses. For more information and also documentation of this research, please visit our website page on outreach activities <https://buvroboboat.uns.ac.id/outreach-activities-2023.html> or watch our video of this year outreach activities on our youtube channel <https://youtu.be/zjQgs5hS5vc>