

# SMART AQUA-FARM SYSTEM

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## **SMART AQUA-FARM SYSTEM**

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### **ABSTRACT**

Maintaining water quality is vital as it is the most important factor in determining the success and failure of an aquaculture farming. An unbalanced ecosystem can greatly increase some mortality rate of fish, mollusk, and shellfish. Manual water-quality monitoring is employed in order to assess the water quality of the pond and it includes conducting colorimetric test to make sure if the current water quality is sustainable. The test usually measures ammonia level, pH level, and dissolved oxygen level in the water. These tests are time consuming as it requires a water sample from the pond followed by series of tests and analysis. With advanced technology, a monitoring system can help regulate the data in real-time and can enable the farmers preserve the ideal habitat of the cultured species.

The data gathered through the device must alert the farmers when the data were not within tolerable range, and appropriate intervention must be done to maintain the ideal water quality parameters for the survival of the cultured species. This project study aimed to monitor the critical parameters found in the pond through the use of multiple sensors integrated in the device and give intervention when degradation of the quality occurs. This would help for the fast problem identification and solution implementation in order to preserve an ideal environment intended for the cultured samples.

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