

IOT BASED SMART WATER QUALITY MANAGEMENT SYSTEM FOR PISCICULTURE

<https://www.youtube.com/watch?v=XeJsjTLBkEk>

Large-scale cultivation and intensive farming have resulted in the condition of aquaculture water quality and higher rate of the animal's diseases which can live in or near water. Therefore, water quality management technology is improving the quality of the fish farming ponds and increase. This project makes a use of water quality sensors such as Dissolved oxygen (DO), ph, temperature, salinity, turbidity, TDS (Total Dissolved Solids) into the fire base cloud service. In this we are using Arduino UNO to get the sensor data. In this raspberripi3 processor is used to up lode the sensors values into the firebase cloud. The breeding, rearing, and transplantation of fish by artificial means is called **pisciculture**, in other words, fish farming. It is the principal form of aquaculture, while other methods may fall under mariculture. It involves raising fish commercially in tanks or enclosures, usually for food.

This project makes a use of water quality sensors such as Dissolved oxygen (DO), ph, temperature, salinity, turbidity, TDS (Total Dissolved Solids). These sensors are fed input to the arduino UNO and arduino process this sensor data to the raspberripi3 processor then processor up lode these values into the firebase cloud.

Objectives:

- To develop an IoT-based water quality monitoring system for fish farming.
- To continuously monitor important water quality parameters.
- To measure dissolved oxygen (DO) in the pond water.
- To monitor pH, temperature, salinity, turbidity, and TDS values.

- To collect sensor data using an Arduino UNO.
- To transfer the processed sensor data to the Raspberry Pi 3.
- To upload the water quality parameters to Firebase Cloud for remote monitoring.
- To help maintain suitable water conditions for healthy fish growth.
- To provide real-time water quality information for effective aquaculture management.

The main blocks of this project are:

- Regulated power supply.
- PH sensor.
- DS18B20Temperature sensor.
- DO (Dissolved oxygen) sensor.
- Turbidity sensor
- Salinity
- TDS (Total Dissolved Solids)
- Arduino UNO.
- Raspberry pi3.

Block diagram of the project

