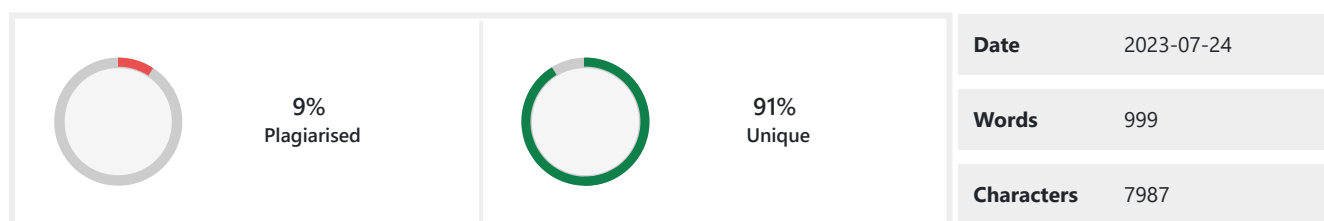


PLAGIARISM SCAN REPORT



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1.3 Objective

Aqua farmers can remotely monitor the water quality parameters such as ph, temperature, dissolved oxygen and turbidity

Automation of aerators based on dissolved oxygen level

Automation of water flow using flow control sensors and turbidity sensor

1.4 Goals

Increase the yield of fish production

Maintaining good fish health

Water wastage management

Aqua farmers friendly

1.5 Scope

The scope of aqua resource management in fish farming includes water quality management, disease control, sustainability practices, data analytics, automation, and regulatory compliance to enhance productivity, minimize environmental impact, and ensure the sustainable development of the industry.

1.6 Applications

1. Commercial Fish Farms: Aqua resource management is widely applied in commercial fish farming operations, including the production of various fish species for food consumption or ornamental purposes.

2. Educational and Training Facilities: Aqua resource management concepts and technologies are taught and implemented in educational institutions and training centers to train future aquaculturists and promote sustainable fish farming practices.

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3. Urban Aquaculture: Aqua resource management techniques can be utilized in urban aquaculture systems, such as rooftop or indoor fish farming, to maximize limited space and ensure efficient resource utilization.

1.7 Limitations

Depending on the type of fish the threshold values has to be adjusted.

Proper care has to be taken for hardware devices.

In remote areas or locations with limited internet connectivity.

High implementation costs and scalability issues.

Compatibility and integration difficulties.

Power consumption and battery life constraints.

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2. LITERATURE SURVEY

2.1 Collect Information

We have collected the information from the internet and various research papers about the water quality measures in aqua culture and how they define fish health. We restricted our survey with only Andhra Pradesh state as it is the top in fish production in India and researched about various fish species produced by Andhra Pradesh and applied average threshold values to the water quality parameters.

2.2 Study

Key Features:

- Automation of aerators.
- Maximize the fish production.
- User friendly interface
- Node Mcu with ESP8266 wifi module
- Real-Time Monitoring
- Remote Access and Control

2.3 Benefits

Improved Production Efficiency: Aqua resource management optimizes feeding schedules, water quality parameters, and environmental conditions, resulting in improved fish growth rates, feed conversion ratios, and overall productivity.

Enhanced Fish Health and Welfare: By continuously monitoring water quality and implementing appropriate measures, aqua resource management helps maintain optimal conditions for fish health, reducing the risk of diseases and promoting better fish welfare. Maintain the accuracy, integrity and consistency of the data.

Remote Monitoring and Control: Aqua resource management systems often provide

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remote access capabilities, allowing fish farmers to monitor the water conditions from anywhere. This flexibility improves convenience, enables timely response to alerts or issues, and facilitates better farm management. Security of data.

Knowledge Sharing and Collaboration: Aqua resource management encourages the exchange of knowledge, best practices, and collaboration among fish farmers, researchers, and industry stakeholders. This promotes innovation, continuous learning, and the advancement of fish farming practices. Ensure data accuracy.

Market Competitiveness: Implementing efficient aqua resource management practices enhances the quality, consistency, and traceability of fish products. This can improve market competitiveness and meet the demands of consumers seeking sustainably produced fresh water fishes.

2.4 Summary

Aqua resource management in fish farming involves the application of technologies and practices to optimize water quality, disease control, and overall resource utilization. It enables real-time monitoring, data analysis, automation, and remote access, leading to improved production efficiency, fish health, sustainability, and market competitiveness. By promoting responsible resource management and leveraging advanced tools, aqua resource management supports the growth of a sustainable and efficient fish farming industry.

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3. ANALYSIS

3.1 Existing system

Some of the existing technologies used in aquaculture include:

Environmental Monitoring Systems: These systems incorporate sensors to **continuously monitor water quality parameters such as temperature, pH, dissolved oxygen, and turbidity.** The collected data is analyzed to maintain optimal conditions for fish health and growth. Examples include the use of multi parameter probes, water quality monitoring stations, and automated data logging.

Automated Feeding Systems: These systems utilize sensors and feeding algorithms to automate the distribution of fish feed based on predetermined schedules or real-time monitoring of fish behavior and appetite. They ensure accurate and efficient feed

delivery, reducing waste and optimizing feed conversion ratios.

Recirculating Aquaculture Systems (RAS): RAS systems recirculate and treat water, allowing for better control of water quality parameters and reduced water usage compared to traditional flow-through systems. These systems often incorporate monitoring and automation technologies for water filtration, aeration, and waste management.

3.2 Disadvantages

Highly expensive

Less accurate.

Not user friendly.

Less efficient.

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3.3 Proposed System

The proposed system is made for fishermen to monitor the quality of water for a healthy environment for fish to live in. Healthy water is essential for aquatic animals. Water quality is decided by some factors like pH level, oxygen level, temperature etc. Some sensors have been integrated with the proposed system to collect the values of some parameters from the water. For this purpose, pH sensor, temperature sensor, oxygen and turbidity have been used. This system was created by connecting a pH sensor, a temperature sensor, and some other equipment.

3.4 Advantages

Farmers can accurately monitor and maintain optimal water quality levels, leading to higher yields and better quality fish.

Real-time monitoring: The system continuously monitors the water quality parameters and sends alerts to the farmers in real-time if there is any deviation from the desired conditions. This helps farmers to take corrective actions promptly and prevent any adverse effects on fish health.

Improved yield: By maintaining optimal water quality conditions, the system can help farmers achieve better yields and maximize their profits.

Environmentally friendly: The system helps to minimize the impact of aquaculture on the environment by preventing pollution and eutrophication

3.5 System Requirements

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