

“AQUANOVA”

A Smart Water Conservation & Irrigation System Pioneering Smart Water Solutions.



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INFO

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INTRODUCTION

Water scarcity is a global challenge— inefficient irrigation leads to water wastage.

Traditional irrigation methods lack automation and real-time monitoring.

A need for a smart, data-driven, and automated solution to optimize water usage in agriculture.

SOLUTION : AQUANOVA

A smart, IoT-based irrigation system that monitors, conserves, and optimizes water use using advanced sensors, real-time data analytics, and automated control.

Key Features:

✓ Automated Water Management

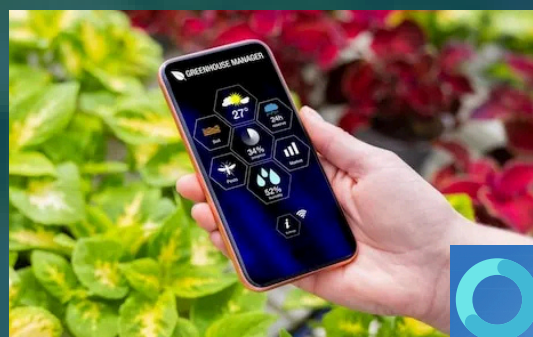
✓ Weather-Adaptive Irrigation

✓ Energy & Cost Efficient

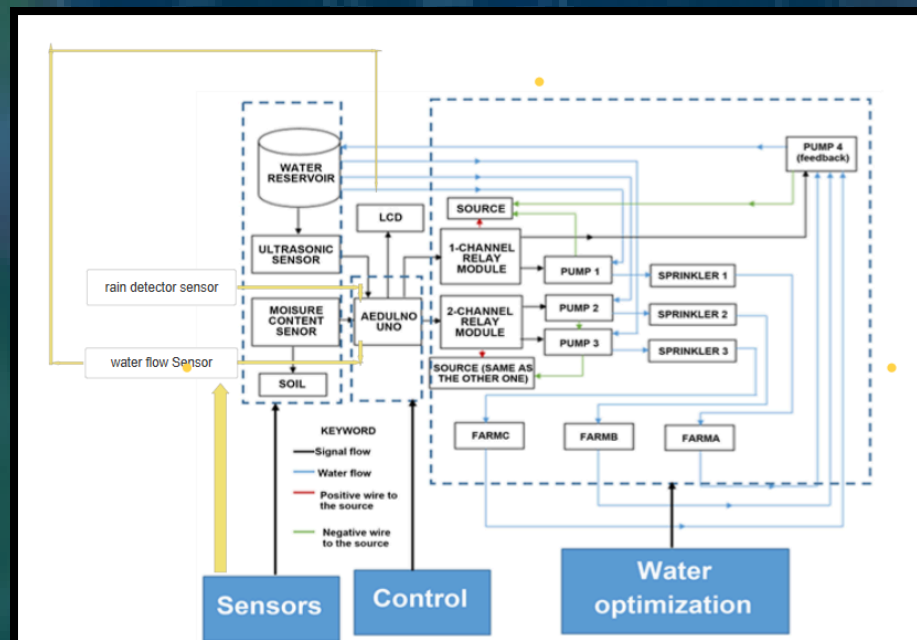
✓ Leakage Detection

✓ Remote Monitoring & Control

IoT Devices for Smart Water Management



WORKING PRINCIPLE



Step 1: Sensors collect real-time data.

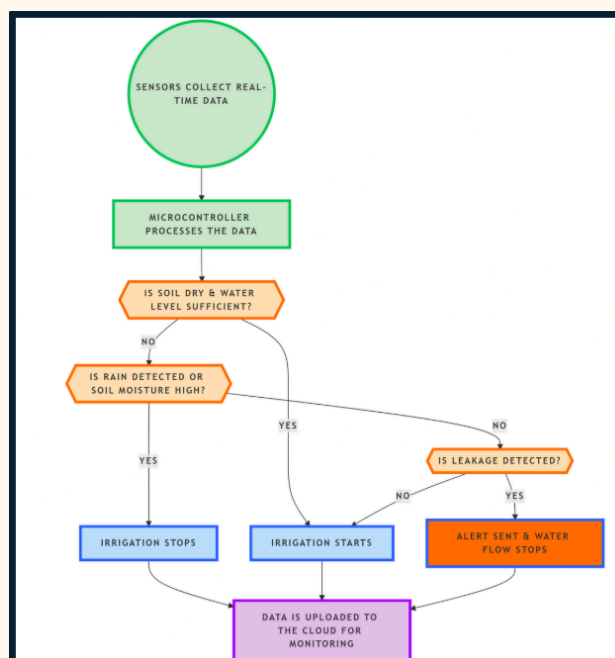
Step 2: Microcontroller processes the data and makes decisions.

Step 3: If soil is dry & water level is sufficient → Irrigation starts

Step 4: If rain is detected or soil moisture is high → Irrigation stops

Step 5: If leakage is detected → Alert sent & water flow stops

Step 6: Data is uploaded to the cloud for monitoring



RESULTS & IMPACT ANALYSIS

Water Conservation – Reduces water usage by 30-50% compared to traditional irrigation.

Energy Efficiency – Lowers energy consumption by operating pumps only when needed.

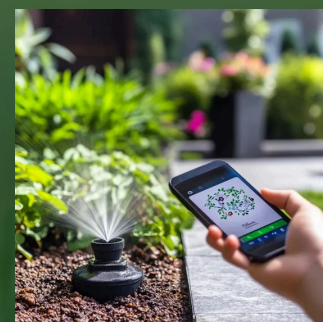
Increased Crop Yield – Ensures optimal irrigation, healthier crops, and better productivity.

Time & Cost Savings – Automation eliminates manual intervention, reducing labor costs.

Environmental Sustainability – Supports water-efficient farming & eco-friendly practices.

FUTURE SCOPE & ENHANCEMENTS

AI-based Predictive Analytics
Smart Fertigation System
Solar-Powered Pumps
Scalability to Smart Cities



CONCLUSION & KEY TAKEAWAYS

AquaNova offers an efficient, automated, and cost-effective irrigation solution which reduces water wastage and saves energy.

With IoT and AI integration, AquaNova has the potential to revolutionize water management.

ESTIMATED BUDGET - ₹7000

