# AUTOMATIC IRRIGATION FOR MARGINAL FARMS

## PROBLEM STATEMENT

Inadequate or inconsistent irrigation due to manual monitoring can have devastating consequences. Crops may suffer from under-watering, leading to reduced yields, stunted growth, and even complete crop failure. Conversely, overwatering can damage crops, contribute to soil erosion, and waste precious water resources. Both scenarios impact farmer income, food security, and environmental sustainability.

## TEAM MEMBERS



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## SOLUTION

owered by Arduino and advanced sensors, our prototype analyzes key factors like humidity, soil moisture, and NPK levels. It then calculates precise watering needs and automatically delivers high-quality water, ensuring optimal hydration for healthy crop growth. All data and controls are conveniently accessible through a simple smartphone app, saving farmers money on water waste and labor costs. By empowering farmers with real-time data and automated irrigation, our prototype has the potential to boost crop yields, minimize water waste, and improve farm profitability. We envision this technology revolutionizing agricultural practices by promoting sustainable water management.