

IoT Applications for Sustainable Agriculture: A Holistic Review

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Abstract: *The integration of Internet of Things (IoT) technologies in agriculture has enabled data-driven and sustainable farming practices. IoT devices, such as sensors, actuators, and cloud-based monitoring systems, provide real-time information on soil health, weather conditions, and crop growth, allowing farmers to optimize resource usage, increase productivity, and reduce environmental impact. This paper reviews recent developments in IoT-based sustainable agriculture, analyzes existing solutions, highlights challenges in implementation, and discusses future research directions for scalable and cost-effective adoption.*

Keywords: IoT, Sustainable Agriculture, Precision Farming, Smart Farming, Sensors, Data Analytics

