**IoT-Enabled Smart Agriculture: Architecture, Applications, and Challenges**

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Abstract:

The growth of the global population coupled with a decline in the natural resources, farmland, and the

increase in unpredictable environmental conditions leads to food security is becoming a major concern

for all nations worldwide. These problems are motivators that are driving the agricultural industry to

transition to smart agriculture with the application of the Internet of Things and big data solutions to

improve operational efficiency and productivity. The IoT integrates a series of existing state-of-the-art

solutions and technologies, such as wireless sensor networks, cognitive radio ad hoc networks, cloud

computing, big data, and end-user applications. To achieve this objective, we discuss the vision of IoT-

enabled smart agriculture ecosystems by evaluating their architecture. In addition, we discuss trends

and opportunities of IoT applications for smart agriculture and also indicate the open issues and

challenges of IoT application in smart agriculture.

**Smart Farming: IoT Based Smart Sensors Agriculture Stick for Live**

**Temperature and Moisture Monitoring using Arduino , Cloud Computing**

**& Solar Technology**

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ABSTRACT: Internet of Things (IoT) technology has brought revolution to each and every field of

common man’s life by making everything smart and intelligent. IoT refers to a network of things which

make a self-configuring network. The development of Intelligent Smart Farming IoT based devices is day

by day turning the face of agriculture production by not only enhancing it but also making it cost-

effective and reducing wastage.

The aim / objective of this paper is to propose a Novel Smart IoT based Agriculture

Stick assisting farmers in getting Live Data (Temperature, Soil Moisture) for efficient environment

monitoring which will enable them to do smart farming and increase their overall yield and quality of

products. The Agriculture stick being proposed via this paper is integrated with Arduino Technology,

Breadboard mixed with various sensors and live data feed can be obtained online fromThingsspeak.com.

The product being proposed is tested on Live Agriculture Fields giving high accuracy over 98% in feeds.