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(57) Abstract :

The present invention discloses a Smart Soil Moisture Sensor and Watering System for Smart Agriculture and method thereof. The system utilizes an innovative solution for intelligent watershed management, featuring three integral components: an input layer, a process layer, and an output layer. The input layer employs calibrated soil moisture sensors placed strategically across a field to monitor real-time water availability and measure soil moisture content. The process layer, powered by an AI algorithm, determines the optimal water source based on current conditions. It controls pump activation and deactivation based on the soil moisture content relative to a user-defined threshold, performs real-time critical situation detection and management, and carries out timer calculations for effective water flow control. The output layer operates on a server-client network. It can display outputs on a proprietary website for user monitoring and alert notifications, controlling pump signals, and sending warning messages during critical situations. This system offers an efficient solution for watershed management by reducing water wastage and improving water usage through real-time data and AI algorithms. Accompanied Drawing [FIGS. 1-3]

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