**AUTOMATIC WATER SPRINKLING MACHINE USING SMART IRRIGATION SYSTEM**

Maintaining a healthy garden, backyard, or agricultural field requires consistent and efficient watering. While traditional garden sprinklers are commonly used for watering lawns, plants and crops often require manual watering, which can be labour-intensive, time-consuming, and inefficient.

Overwatering can lead to water wastage and root rot, whereas underwatering can cause plant stress and hinder growth. To address these challenges, a Smart Irrigation System with an Automatic Water Sprinkling Machine can be an innovative solution to optimize water usage and enhance plant health.

This system automates the watering process using sprinklers or a drip irrigation method, ensuring that plants receive the required amount of water based on real-time soil moisture levels. By integrating a Soil Moisture Sensor with a Microcontroller such as an Arduino, the system can continuously monitor soil conditions and activate a Water Pump only when necessary.

This prevents excessive watering while ensuring that the plants receive adequate hydration. The system can be further enhanced by incorporating temperature and humidity sensors, allowing adjustments based on weather conditions.