Quantatek Smart Systems

Project Report: Smart Sensor Deployment & Water Logging

Project Title: Smart Water Logging and Sensor Deployment for Sustainable Farming

Project Duration: January 2021 - December 2023

Location: Masvingo Rural Districts - Chivi, Buhera, Bikita

Overview:

Quantatek Smart Systems led a three-year deployment of smart agriculture infrastructure across four rural districts in Masvingo Province. The project included the installation of over 80 sensor units powered by solar systems, integrated through LoRaWAN mesh networks.

Objectives:

- Improve irrigation efficiency through real-time soil moisture monitoring.

- Train local farmers on smart device usage and basic maintenance.

- Demonstrate scalable, low-cost solar IoT solutions in off-grid communities.

Technical Summary:

- Devices Installed: Soil moisture sensors, temperature/humidity loggers, water level monitors

- Connectivity: LoRaWAN base nodes (3), mobile app sync gateways

- Power: 12V solar with backup Li-ion battery packs

- Calibration: Manual and mobile-based (vendor apps)

- Data Integration: CSV logging and dashboard prototyping

Quantatek Smart Systems

Project Report: Smart Sensor Deployment & Water Logging

Outcome:

- Over 100 farmers trained across districts

- 87% device uptime and over 12,000 data points logged monthly

- Reduced manual irrigation by 35% in test farms

Lead Technician: Prince Hore

Supported by: FieldEdge Academy (training), Local NGO (logistics), Masvingo Rural District Tech Fund (solar equipment)

For verification or support, contact:

support@quantatek.tech | +263 714 443 606