SmartAgroX

Optimizing Water Use in Agriculture

DEVELOPED BY: ADAPTX HUB @ ASIAN INSTITUTE OF TECHNOLOGY

Our official website

- Reduce irrigation frequency
- Increased yield per unit of water
- Conserve ground water by precise water application
- Gain resilience to erratic rainfall and rising temperatures
- Enhance capacity through hands-on training

ABOUT THE SOLUTION

OVERVIEW

SmartAgroX is an advanced decision-support platform that leverages remote sensing, GIS, and climate data to optimize irrigation, enhance water-use efficiency, and boost agricultural sustainability in climate-stressed regions. It empowers farmers, planners, and policymakers to make data-driven decisions, strengthen climate resilience, and improve food security through precision water management.

KEY CAPABILITIES

- ✅ Real-time satellite-based monitoring of crop water use
- ✅ Satellite-based crop water productivity assessments
- ✅ Climate risk mapping for agricultural planning
- ✅ Decision support for irrigation scheduling
- ✅ Integration with agriculture and water platforms
- ✅ Interactive dashboards & user-friendly interfaces
- ✅ AI-assisted yield forecasting
- ✅ Training modules on climate-resilient agriculture
- ✅ Full operations & maintenance (O&M) support
- ✅ Skilled workforce development & training modules
- ✅ Global interoperability with external platforms

OUTCOMES & IMPACT

SMARTER WATER USE

Optimize irrigation with ET-based scheduling, reducing water use and improving crop yields by enabling precise water application tailored to crop needs.

IMPROVED PRODUCTIVITY

Advanced modeling enables tailored practices that improve crop water productivity, especially in water-scarce regions by identifying climate resilience zones

CLIMATE ADAPTATION

Supports long-term climate resilience by integrating forecasts, historical data, and crop-specific climate models.

DATA-DRIVEN DECISION-MAKING

Provides actionable insights and analytics through interactive and customizable dashboards, ensuring effective use of climate and crop data in planning and policy.

CAPACITY BUILDING

Offers hands-on training to farmers and field officers trained in ET interpretation, efficient irrigation, and adaptive agricultural practices. During pilot deployments, over 200 personnel have successfully completed the training.

2 ZERO HUNGER   **13 CLIMATE ACTION**   **17 PARTNERSHIPS FOR THE GOALS**

SYSTEM VISUALIZATION

IDEAL FOR

- ◆ Agricultural & Irrigation Departments
- ◆ International Development Organizations
- ◆ Research & Academic Institutions
- ◆ Farmers' Cooperatives & Agribusinesses

SmartAgroX

Optimizing Water Use in Agriculture

System Visualization