SDSS for AgroWater Management

Breif Background

India's highly fragmented agricultural landscape poses challenges in accurate crop yield estimation. Traditional methods often fail to capture the variability across marginal and highly fragmented lands. In addition, Recognizing that single-date imagery is inadequate to represent the dynamic nature of crop growth.

Application Sectors

- Agriculturists,
- Irrigation department,
- Government agencies

TRL 3

Tech/Prod. Summary

Sustainable Spatial Decision Support System (SDSS) is an integrated model with geospatial analytics, crop modeling, and climate intelligence for Delineation of agricultural parcel boundary map, Classified crops for different seasons in an agricultural year for the delineated parcels, Crop growth/phenology, stress and conditioning related metrics for estimating the yield of a crop, and Optimum water requirement prediction of crops for different seasons

Tech/ Product Description

SDSS integrates VHR imagery-based field boundary delineation, time-series classification for crop identification, and crop simulation models for yield prediction under varying climatic conditions. The approach combines segmentation, classification, and yield estimation into a unified GIS-based plugin, utilizing data from Earth Observation satellites, meteorological fluxes, and field observations. This comprehensive model offers an efficient solution for reliable and scalable agricultural yield assessment across diverse regions

Market Potential

Contribute to the precision agriculture market with is expected to exceed $16 billion by 2028.

Value Proposition

- Data-Driven Decision Support for Farmers and Planners.
- Climate-Resilient and High-Precision Farming
- Time, Cost, and Resource Efficiency

Impact - SDG:

SDG 2 – Zero Hunger
SDG 6 – Clean Water and Sanitation

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