

SPACE TECHNOLOGY IN AGRICULTURE

Posted On: 01 AUG 2025 4:35PM by PIB Delhi

Ministry of Agriculture & Farmers' Welfare is using space technology for the various activities which include FASAL project (Forecasting Agricultural output using Space, Agro-meteorology and Land based observations), Drought Monitoring and providing technological support to Pradhan Mantri Fasal Bima Yojana (PMFBY).

Under FASAL project, crop production forecasting for major crops namely rice, wheat, tur, rapeseed & mustard, rabi, jowar, cotton, jute, sugarcane, soybean, lentil & gram are being carried out.

For the Drought Monitoring, Department has developed a Geoportal in collaboration with SAC (ISRO), Ahmedabad. The portal hosts data of multiple drought indicators related to rainfall, soil moisture, remote sensing-based crop condition, water storages, etc.

Space technology is also being used for various operational applications under PMFBY, such as Smart Sampling for Crop Cutting Experiments (CCEs), yield estimation & dispute resolution (area and yield).

Further, government has developed a Krishi Decision Support System (Krishi-DSS) which is a cloud based Geo-spatial platform that leverages space technology to empower various stakeholders in the agriculture sector. Krishi-DSS platform hosts a variety of datasets, including weather data, Satellite images, Soil layers, Water related data and field information. Krishi-DSS offers variety of modules/algorithms to support agricultural management and decision-making.

The Ministry of Agriculture & Farmers Welfare has conducted pilot studies using space technology for yield estimation by engaging various Government and Private Agencies between 2019-23. Various technologies viz., Satellite, Unmanned Aerial Vehicles (UAVs), Simulation models, and Artificial Intelligence/Machine Learning (AI/ML) techniques were used in the study to derive the yield estimates at Gram Panchayat (GP) level. Based on the finding of pilot studies, Technology based GP level yield estimation had been rolled out for paddy & wheat crop from kharif 2023 and soybean crop from kharif 2024 under the YESTECH (Yield Estimation System using Technology) initiative of PMFBY for the timely and transparent claim settlement to the farmers.

This information was given by Minister of State for Agriculture and Farmers Welfare, Shri Shri Ramnath Thakur in a written reply in Rajya Sabha today.

RC/ KSR/AR

(Release ID: 2151356)