

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

RAJYA SABHA
UNSTARRED QUESTION NO. 3361
TO BE ANSWERED ON 31/03/2023

SPACE TECHNOLOGY IN AGRICULTURE SECTOR

3361. SHRI DHANANJAY BHIMRAO MAHADIK

Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

- (a) whether Government is using space technology in agriculture sector in the country;
- (b) if so, the details thereof and the areas identified by Government for this purpose;
- (c) whether Government has also launched a pilot project using space technology for better yield estimation and if so, the details thereof and the outcome of the project; and
- (d) the further steps being taken by Government for use of space technology in agriculture and allied sectors for the betterment of farmers?

ANSWER

MINISTER OF AGRICULTURE AND FARMERS WELFARE

(SHRI NARENDRA SINGH TOMAR)

(a) & (b): Yes, the government is using space technology in agriculture sector for Crop Production Forecasting under FASAL Scheme (Forecasting Agricultural output using Space, Agro-meteorology and Land based observations), for Drought Assessment under NADAMS project (National Agricultural Drought Assessment and Monitoring System) through Mahalanobis National Crop Forecast Centre (MNCFC). Currently, nine crops namely rice, wheat, tur, rabi pulses, rapeseed & mustard, rabi jowar, cotton, jute and sugarcane are covered under FASAL project. Space technology is also used for various operational applications under Pradhan Mantri Fasal Bima Yojana (PMFBY), such as Smart Sampling for Crop Cutting Experiments (CCEs), Yield & Area dispute resolution as and when received from department.

Further, the Indian Council of Agricultural Research (ICAR) is engaged in using space technology for effective monitoring, conservation and management of natural resources particularly crop, soil and water. The ICAR has prepared soil resource inventory of the entire country using ground survey. It is used for mapping of cropping system ground water quality and soil salinity. The ICAR institutes have been using space technology in resource assessment and criteria-based decision support system for effective planning and management for saving time and energy. GIS maps have been prepared for inland water bodies and suitable sites for seaweed farming, open-sea cage culture, brackish-water and cold-water aquaculture.

(c) & (d): The government has conducted few pilot studies using geospatial technology for yield estimation in 64 districts of 15 States for 9 crops, while these approaches were validated in Rabi 2019-20 in 15 blocks of 6 States. Further, during 2020-21, the pilot studies were scaled up to 100 districts spread over 9 states of the country, for paddy crop in Kharif 2020, which continued in Rabi 2020-21 for Rabi Rice and wheat crop.

Studies have been undertaken in ICAR on potential irrigated area mapping through remotely sensed high resolution data, forest cover trend and above ground biomass estimation using advanced statistical techniques based on remote sensing data. Methodology for estimating crop yield using space technology in the context of crop insurance has been developed. Methodology developed for estimating crop yield using space technology in combination with traditional methods (Crop-Cutting-Experiments-CCEs) under PMFBY is result in timely settlement of claims to benefit the farmers.
