GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

LOK SABHA

UNSTARRED QUESTION NO. 1860

TO BE ANSWERED ON WEDNESDAY, FEBRUARY 11, 2026

FORECASTING OF CROP PRODUCTION BY ISRO

1860. SHRI P P CHAUDHARY:
SHRI VISHWESHWAR HEDGE KAGERI:
SMT. ANITA NAGARSINGH CHOUHAN:
DR. VINOD KUMAR BIND:
SHRI AVIMANYU SETHI:
SHRI PRATAP CHANDRA SARANGI:
SHRI SHASHANK MANI:
SHRI RAJIV PRATAP RUDY:
SHRI RAJKUMAR CHAHAR:

Will the PRIME MINISTER be pleased to state:

(a) whether the Indian Space Research Organisation (ISRO) has developed and operationalised satellite-based methodologies for forecasting crop acreage, yield and production;

(b) if so, the details thereof along with the major programmes and platforms used for this purpose including the use of remote sensing and geospatial analytics;

(c) the details of the crops and regions currently covered under such forecasting systems;

(d) the details of the frequency at which crop production estimates are generated during an agricultural season; and

(e) whether any crop production estimates have been generated for the State of Rajasthan, particularly for the cultivated land falling under Pali Lok Sabha Constituency and if so, the details thereof?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):

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(a) ISRO has developed satellite-based methodologies for crop acreage and production forecasting and are operationalized through Mahalanobis National Crop Forecast Centre (MNCFC) of Ministry of Agriculture & Farmers Welfare (MoA&FW).

(b) MNCFC, is regularly generating forecast of 11 field crops at district level for the whole country. Indian Remote sensing satellite data is used along with ground truth data for crop area estimation. This is done under the Forecasting Agricultural output using Space, Agro-meteorology and Land-based observations (FASAL) program of MoA&FW. Crop cutting experiments are done to develop & validate remote sensing based semi-physical crop yield models for production estimation. Space technology based crop yield estimation is also implemented by MoA &FW under the YESTECH (Yield Estimation System Based on Technology) initiative for PMFBY.

(c) The crops covered under the FASAL programme are rice, wheat, mustard, cotton, maize, soyabean, groundnut, rabi pulses, sugarcane, jute, arhar. These cover more than 90% of the major crop growing areas in a state.

(d) The single-time acreage and forecasts are provided for selected crops in every crop season namely Kharif and Rabi.

(e) For Rajasthan, Remote sensing based district wise acreage and production estimate for wheat and mustard are given. ISRO/DOS has not carried out any crop production estimation for Pali Lok Sabha Constituency.

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