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

LOK SABHA UNSTARRED QUESTION NO. 342 TO BE ANSWERED ON THE 30TH NOVEMBER, 2021

National Crop Forecast Centre for Yield Estimation

342. SHRI JAYADEV GALLA:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि एवं किसान कल्याण मंत्री be pleased to state:

(a) the details of the pilot projects undertaken under the Mahalanobis National Crop Forecast Centre to develop yield estimation at Gram Panchayat level and the status of projects thereof;

(b) whether the Government aims to undertake any scheme to assess accurate crop yield/loss at insurance unit for quick claims under Pradhan Mantri Fasal Bima Yojana;

(c) if so, the details thereof;

(d) whether any data has been collected after the approval of the DGCA for flying of drone to collect the data in the 100 pilot districts for paddy and wheat crops; and

(e) if so, the details thereof?

ANSWER

MINISTER OF AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण मंत्री (SHRI NARENDRA SINGH TOMAR)

(a) : The Government of India plans to migrate towards technology based yield estimation from the conventional Crop Cutting Experiment (CCE) based yield estimation approach. Towards this, few pilot studies have been initiated by taking various Government and Private Agencies On-board. During Kharif 2019, pilot studies were conducted through 12 agencies in 64 districts of 15 States for 9 crops envisaging innovative technologies such as High Resolution Satellite data (Optical and microwave), Unmanned Aerial Vehicle (UAV), Advanced multi-parameter crop models, Mobile Applications for Field Data Collection, Artificial intelligence/ Machine learning approach, Sensor Networks, Internet of Things, Field based digital photographs, Hand held instruments and Scientifically designed Sampling Plans. These approaches were validated in Rabi 2019-20 in 15 blocks of 6 States.

The pilot studies were scaled up to 100 districts with the help of 07 agencies for Paddy crop in Kharif - 2020, and for Paddy and Wheat in Rabi season of 2020-21 in 100 districts of 13 states. The agencies have submitted the technical reports to Mahalanobis National Crop Forecast Centre (MNCFC).

Further, the Expression of Interest for Yield estimation of Non-Cereals (other than paddy and wheat) has been initiated. Total 20 agencies/organisations (10 Government and 10 Private) have been identified. Tentative time period for this study is Rabi 2021-22 and Kharif 2022.

(b) & (c) : Towards assessing accurate crop yield/loss at insurance unit, the Government has taken an initiative to develop a protocol for Crop Yield estimation at Gram Panchayat level by using Innovative Technologies. For this, various Technology agencies (Government & private both national and international) have been deployed, which have showcased the various yield estimation approaches such as Multi-linear regression, machine learning, advanced simulation modelling, light-use efficiency models, Food and Agriculture Organization Evapo-transpiration (FAO-ET) Model, Least Absolute Shrinkage and Selection Operator (LASSO), and Machine Learning that involve advanced analytic tools, like Google Earth Engine, Python, Internet of Things (IoT). In this regard, the agencies have submitted the final work report, the applicability and feasibility of which, will be worked out by the Technical Experts Committee.

(d) & (e): During Kharif 2020, approval of Directorate General of Civil Aviation (DGCA) has been sought for flying the UAVs in 100 pilot study districts including drone based imaging in 37 districts for paddy crop.
