GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
STARRED QUESTION No.*329
TO BE ANSWERED ON MONDAY MARCH 26, 2018

MECHANISM TO PREDICT WEATHER CHANGE AND DISASTERS

***329. SHRI VIVEK GUPTA:**

Will the Minister of EARTH SCIENCES be pleased to state:

(a) **whether the Ministry has a special weather forecasting and knowledge dissemination mechanism for farmers, if so, the details thereof, if not, the reasons therefor;**

(b) **whether the Ministry has conducted a study to analyse traditional methods of disaster forecasting, preparedness, climate variability, if so, the details thereof, if not, the reasons therefor; and**

(c) **the number of instances in the last three years where the Ministry managed to prevent crop losses occurring due to natural disasters or weather changes by predicting and informing the farmers about the same, if so, the details thereof and if not, the reasons therefor?**

ANSWER
MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES
(Dr. HARSH VARDHAN)

(a) to (c) **A statement is laid on the Table of the House.**

STATEMENT REFERRED TO IN REPLY TO PARTS (a) to (c) OF THE RAJYA SABHA STARRED QUESTION NO. *329 REGARDING 'MECHANISM TO PREDICT WEATHER CHANGE AND DISASTERS' FOR ANSWER ON 26th MARCH, 2018.

(a) **Yes Sir. India Meteorological Department (IMD), Ministry of Earth Sciences (MoES) under the scheme "Gramin Krishi Mausam Seva (GKMS)" prepares and issues weather forecast at different spatial and temporal scales to farmers along with the corresponding agro-meteorological advisories. Advisories are communicated to the farming community through multimedia communication channels including SMS service under Public Private Partnership mode. At present, 22.7 million farmers in the country receive the Agro-meteorological Advisories through SMS directly.**

(b) **IMD follows the state-of-the-art weather and climate prediction models and scientific based tools for predicting disasters and climate variability. Every year, IMD conducts detailed exercise in connection with preparedness for disasters by meeting concerned state and central government officials and sharing with them the forecast details.**

(c) **IMD monitors weather including weather aberrations and issues alerts and warnings to the farmers from time to time under GKMS scheme. These Agrometeorological advisories help farmers in day to day farming operations and taking decisions to save crops due to severe weather events like heavy rainfall, hailstorms, long dry spells, occurrence of fog etc. There are many instances where IMD's forecast and warnings helped farmers to reduce crop losses. During last three years, extended dry spells in 2015 in Karnataka, Rayalaseema, Telangana, Madhya Maharashtra, Marathwada, Vidarbha and Gujarat, the 2016 floods in Assam, cyclone VARDAH in Tamil Nadu and hailstorm in Maharashtra, the 2017 floods in West Bengal, Assam, Bihar and also hailstorms in Maharashtra, Punjab, Jammu & Kashmir and Jharkhand in February 2018 were predicted in advance and could help farmers to save the crop loss. List of extreme events occurred along with the corresponding agrometeorological advisories during last three years is given as supplementary information and placedin Annexure I.**

Annexure-I

Extreme events & Weather anomalies along with Agrometeorological Advisories during last three years

Period	Event	State	Advisory
February 2018	Hailstorm	Maharashtra, Punjab, Jharkhand and J and K	• Harvest rabi crops as early as possible and keep in safer places. • Use of hailnets and hailcaps wherever feasible
February 2017	Dry weather / above normal temperatures	Maharashtra, Karnataka, Gujarat and Uttar Pradesh	• Application of irrigation. • Shade arrangement wherever feasible. • Mulching to conserve soil moisture
Monsoon 2017	Floods	Assam, West Bengal, Bihar	• Sowing of alternate short duration varieties of rice. • Drainage facilities • Community nursery
February 2016	Hailstorm	Maharashtra	• Harvest *rabi* crops as early as possible and keep in safer places. • Use of hailnets and hailcaps wherever feasible
Monsoon 2016	Floods	Assam	• Sowing of alternate short duration varieties of rice. • Drainage facilities • Community nursery
December 2016	Cyclone "VARDAH"	Tamil Nadu	• Harvesting of matured crops • Arrange for drainage facilities. • Keep the animals and birds in safe cages.
Monsoon 2015	Dry conditions / Deficient rainfall	North Interior Karnataka, Telangana, Rayalaseema, Maharashtra, Gujarat	• Adoption of drought tolerant short duration varieties • Sowing of fodder crops on preference. • Select short duration, drought resistant crops and varieties. • Sowing of crops in wider rows to overcome moisture stress.