

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
RAJYA SABHA  
UNSTARRED QUESTION No. 1759  
TO BE ANSWERED ON TUESDAY, JULY 09, 2019**

**IMPACT OF GLOBAL WARMING ON FARMERS**

**1759. SHRI .P.L. PUNIYA:**

**Will the Minister of EARTH SCIENCES be pleased to state:**

- (a) whether it is a fact that there has been a continuous increase in the events of heavy rainfall during South Western monsoon in the central part of India;**
- (b) whether it is also a fact that the incidents of heavy rainfall is the result of the continuous rise in global temperature, the details thereof; and**
- (c) the steps taken by Government to put a check on losses of farmers and for the creation of assets, in this regard , the details thereof?**

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

- (a& b) Yes Sir. Studies show that, in the changing climate scenario, central & northern India and Western Himalayas have become more prone to extreme rainfall events. Even though it cannot be termed as a direct cause, events like heavy rainfall in various parts of the country have a possible linkage with global warming, since climate model simulations brings out intensification of extreme precipitation in various parts of the world due to global warming. Also several scientific studies bring out the possible linkage of Climate Change with the sudden occurrence of rainfall extreme.**
- (c) Under National Monsoon Mission, MoES has implemented two state of the art dynamical prediction systems for short, medium & extended range forecasts and seasonal forecasts. All these initiatives have helped to improve the accuracy of forecast. An improved suite of prediction models has already been implemented operationally at India Meteorological Department (IMD) for enhanced short range forecast through assimilation of all available Indian and global satellite data in real time.**

**Since December 2016, IMD used Global Forecast System (GFS) operationally to generate forecast at 12 Km horizontal resolution in short to medium range upto 10 days. GFS assimilates conventional data as well data from satellite & weather radars for better predictions.**

**Additionally a 12 Km grid scale state of the art Global Ensemble Predictions system was commissioned on 1<sup>st</sup> June 2018 for generating operational forecast for 10 days. This system is in the process of further improvement for better accuracy of forecast.**

**The forecast issued by IMD are available to the public through website as well as through social media.**

**India Meteorological Department (IMD) runs an operational Agrometeorological Advisory Service (AAS) viz., Gramin Krishi Mausam Sewa (GKMS) scheme for the benefit of farming community in the country. Under the scheme, medium range weather forecast at district level is generated and issued and based on the forecast, Agromet Advisories are prepared and communicated to the farmers by the Agromet Field Units (AMFUs) located at State Agricultural Universities, institutes of ICAR and IIT etc., on every Tuesday and Friday to take decision on day-to-day agricultural operations. AAS rendered by IMD is a step towards weather-based crop and livestock management strategies and operations dedicated to enhancing crop production and food security besides reducing crop damage and loss due to unusual weather.**

**Agromet Advisories are communicated to the farming community through multichannel dissemination system like print and electronic media, Doordarshan, radio, internet etc. including SMS using mobile phones through Kisan Portal launched by Ministry of Agriculture and Farmers' Welfare and also through private companies under Public Private Partnership (PPP) mode. At present, 42 million farmers in the country receive the Agromet Advisories through SMS directly.**

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