GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION No. 512
TO BE ANSWERED ON MONDAY, JULY 23, 2018

FORECAST OF MONSOON

512. SHRIMATI WANSUK SYIEM:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the India Meteorological Department has predicted that the south-west monsoon normally expected to cover the country by July 15 will now cover the entire country fourteen days before the anticipated date;

(b) whether the southwest monsoon that gives 70 per cent of rain to the country, is expected to be normal this year with bumper yields for the granaries and water levels in reservoirs; and

(c) if so, the details thereof?

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

(a) No Sir.India Meteorological Department (IMD) had not predicted that the southwest monsoon will cover entire country by 15th July. It may be mentioned that 15th July is the normal date of monsoon covering entire country. However, IMD had predicted monsoon will set in over Kerala on 29th May and actually monsoon set in over Kerala on 29th May.

(b)-(c) Yes sir. As per the latest IMD press release on forecast update issued on 30th May 2018, the seasonal rainfall over the country as whole is expected to be normal. The summary of the IMD forecast is given below. The details of the forecast are given in the attached press release (Annexure-I).

- **Rainfall over the country as a whole for the 2018 southwest monsoon season (June to September) is most likely to be NORMAL (96% to 104% of long period average (LPA)).**
- **Quantitatively, monsoon season (June to September) rainfall for the country as a whole is likely to be 97% of the LPA with a model error of ±4%.**
- **Region wise, the season rainfall is likely to be 100% of LPA over North-West India, 99% of LPA over Central India, 95% of LPA over South Peninsula and 93% of LPA over North-East India all with a model error of ± 8 %.**
- **The monthly rainfall over the country as whole is likely to be 101% of its LPA during July and 94% of LPA during August both with a model error of ± 9 %**

Annexure-I

PRESS RELEASE
New Delhi, 30th May 2018

भारत सरकार
Government of India
पृथ्वी विज्ञान मंत्रालय (एम. ओ. ई. एस.)
Ministry of Earth Sciences (MoES)
भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

2nd Stage Long Range Forecast for the 2018 Southwest Monsoon Rainfall

HIGHLIGHTS

- Rainfall over the country as a whole for the 2018 southwest monsoon season (June to September) is most likely to be **NORMAL** (96% to 104% of long period average (LPA)).
- Quantitatively, monsoon season (June to September) rainfall for the country as a whole is likely to be **97%** of the LPA with a model error of **±4%**.
- Region wise, the season rainfall is likely to be **100%** of LPA over North-West India, **99%** of LPA over Central India, **95%** of LPA over South Peninsula and **93%** of LPA over North-East India all with a model error of **± 8 %**.
- The monthly rainfall over the country as whole is likely to be **101%** of its LPA during July and **94%** of LPA during August both with a model error of **± 9 %**.

1. Background

India Meteorological Department (IMD) had issued the first stage operational long range forecasts for the 2018 southwest monsoon season (June-September) rainfall over the country as a whole on 16th April. IMD has now prepared the 2nd Stage Long Range forecast of the seasonal rainfall over the country as a whole, forecasts for the monthly rainfall for July & August over the country as a whole, and forecasts for the seasonal rainfall for the 4 broad geographical regions of India (Northwest India, Northeast India, Central India and South Peninsula). The 2nd stage forecasts for the southwest monsoon season (June-September) rainfall over the country as a whole was prepared using a 6-parameter Statistical Ensemble Forecasting System (SEFS) and the operational Monsoon Mission Climate Forecast System (MMCFS).

2. Sea Surface Temperature Conditions in the Pacific & Indian Oceans

The moderate La Nina conditions developed in the equatorial Pacific in later part of the last year weakened to weak La Nina conditions early this year and currently have turned to neutral ENSO conditions. The MMCFS & other global climate models indicate conditions over the Pacific likely to continue to be Neutral during most part of the monsoon season and turn to weak El Nino conditions after the monsoon season.

At present, the warm neutral Indian Ocean Dipole (IOD) conditions are prevailing over the Indian Ocean. The MMCFS and other global climate models indicate weak negative IOD conditions are likely to develop during the middle of the monsoon season and continue to persist till the early part of the post-monsoon season.

3. Monsoon Mission Coupled Forecasting System (MMCFS)

The latest experimental forecast based on the MMCFS suggests that the monsoon season rainfall during the 2018 monsoon season (June to September) averaged over the country as a whole is likely to be 102% ± 4% of LPA.

4. The Operational Second Stage Forecasts for the 2018 Southwest Monsoon Rainfall

i) Season (June-September) Rainfall over the country as a whole

Quantitatively, the season rainfall for the country as a whole is likely to be 97% of the long period average (LPA) with a model error of ±4%. The LPA rainfall over the country as a whole for the period 1951-2000 is 89 cm.

The 5 category probability forecasts for the Season (June to September) rainfall over the country as a whole is given below.

Category	Rainfall Range (% of LPA)	Forecast Probability (%)	Climatological Probability (%)
Deficient	< 90	**13**	16
Below Normal	90 - 96	**28**	17
Normal	96 -104	**43**	33
Above Normal	104 -110	**13**	16
Excess	> 110	**3**	17

ii) Season (June-September) Rainfall over the Broad Geographical Regions

The season rainfall is likely to be 100% of LPA over North-West India, 99% of LPA over Central India, 95% of LPA over South Peninsula, and 93% of LPA over North-East India all with a model error of ± 8 %.

iii) Monthly (July & August) Rainfall over the country as a whole

The monthly rainfall over the country as a whole is likely to be 101% of its LPA during July and 94% of LPA during August both with a model error of ± 9 %.