GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 660
TO BE ANSWERED ON WEDNESDAY, 1ST DECEMBER, 2021

RAINFALL VARIANCE

660. SHRI PARTHIBANS.R.:
SHRI VIJAYAKUMAR (ALIAS) VIJAY VASANTH:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) the actual rainfall recorded between June and October, 2021 in each State/Union Territory;
(b) the details of intensity of rainfall recorded in different States during the above period;
(c) whether the Government has identified the areas which had variance in rainfall;
(d) if so, the details thereof, State-wise and the reasons for such variance; and
(e) the steps taken/proposed to be taken for effective use of this rainfall for productive purposes?

ANSWER
THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a)-(b) Details of the actual rainfall and the intensity of rainfall are given in Annexure-I.

(c)-(d) Yes Sir. India Meteorological Department (IMD) has carried out an analysis of observed monsoon rainfall variability and changes of 29 States & Union Territory at State and District levels based on the IMD's observational data of recent 30 years (1989- 2018) during the Southwest monsoon season from June to September (JJAS) and issued a report on 30 March 2020. The reports on observed rainfall variability and its trend for each State and Union Territory are available in IMD website (https://mausam.imd.gov.in/) under "PUBLICATIONS" as well as in IMD Pune website;

http://www.imdpune.gov.in/hydrology/rainfall%20variability%20page/rainfall%20trend.html

The **highlights of the report** are given below;

- Five states viz., Uttar Pradesh, Bihar, West Bengal, Meghalaya and Nagaland have shown significant decreasing trends in southwest monsoon rainfall during the recent 30 years period (1989-2018).
- The annual rainfall over these five states along with the states of Arunachal Pradesh and Himachal Pradesh also show significant decreasing trends.

- Other states do not show any significant changes in southwest monsoon rainfall during the same period.

- Considering district-wise rainfall, there are many districts in the country, which show significant changes in southwest monsoon and annual rainfall during the recent 30 years period (1989-2018). With regard to the frequency of heavy rainfall days, significant increasing trend is observed over Saurashtra & Kutch, Southeastern parts of Rajasthan, Northern parts of Tamil Nadu, Northern parts of Andhra Pradesh and adjoining areas of Southwest Odisha, many parts of Chhattisgarh, Southwest Madhya Pradesh, West Bengal, Manipur & Mizoram, Konkan & Goa and Uttarakhand.

(e) The rainfall variance information is used for the R&D activities within the ministry and also shared with other stakeholders for its effective use and planning.

Annexure-I

STATE-WISE RAINFALL (MM) DISTRIBUTION					
S. NO.	STATES	PERIOD: 01.06.2021TO31.10.2021 ACTUAL	NORMAL	% DEP.	CATEGORY
1	A & N ISLAND (UT)	2438.1	1936.2	26%	E
2.	ARUNACHAL PRADESH	1423.4	1911.5	-26%	D
3.	ASSAM	1271.8	1614.3	-21%	D
4.	MEGHALAYA	2460.9	3124.3	-21%	D
5.	NAGALAND	919.6	1261.8	-27%	D
6.	MANIPUR	635.1	1567.7	-59%	D
7.	MIZORAM	1393.7	1858.8	-25%	D
8.	TRIPURA	1349.6	1628.6	-17%	N
9.	SIKKIM	2097.0	1773.6	18%	N
10.	WEST BENGAL	1817.9	1537.3	18%	N
11.	ODISHA	1126.4	1255.5	-10%	N
12.	JHARKHAND	1160.4	1129.4	3%	N
13.	BIHAR	1234.5	1078.8	14%	N
14.	UTTAR PRADESH	838.3	821.2	2%	N
15.	UTTARAKHAND	1356.1	1212.2	12%	N
16.	HARYANA	601.1	448.4	34%	E
17.	CHANDIGARH (UT)	641.2	868.7	-26%	D
18.	DELHI	801.9	597.5	34%	E
19.	PUNJAB	473.0	476.2	-1%	N
20.	HIMACHAL PRADESH	748.2	791.0	-5%	N
21.	JAMMU & KASHMIR(UT)	502.3	601.7	-17%	N
22.	LADAKH(UT)	26.1	41.2	-37%	D
23.	RAJASTHAN	506.3	425.0	19%	N
24.	MADHYA PRADESH	997.9	972.3	3%	N
25.	GUJARAT	718.8	709.1	1%	N
26.	DADRA & NAGAR HAVELI (UT)	2785.1	2202.1	26%	E
27.	DAMAN & DIU (UT)	1886.1	1645.0	15%	N
28.	GOA	3396.1	3131.0	8%	N
29.	MAHARASHTRA	1281.7	1075.3	19%	N
30.	CHHATISGARH	1147.2	1201.5	-5%	N
31.	ANDHRA PRADESH	732.2	680.3	8%	N
32.	TELANGANA	1103.3	844.3	31%	E
33.	TAMILNADU	621.4	513.2	21%	E
34.	PUDUCHERRY (UT)	816.3	687.6	19%	N
35.	KARNATAKA	1054.7	971.8	9%	N
36.	KERALA	2309.0	2352.7	-2%	N
37.	LAKSHADWEEP (UT)	950.9	1155.4	-18%	N
COUNTRY AS A WHOLE		975.7	956.6	2%	

CATEGORYWISE DISTRIBUTION OF NO. OF STATES	
CATEGORY	PERIOD: 01.06.2021 TO 31.10.2021 NO. OF STATES/UTs
LARGE EXCESS	0
EXCESS	6
NORMAL	23
DEFICIENT	8
LARGE DEFICIENT	0
NO RAIN	0
NO DATA	0

CATEGORY	
LE	(LARGE EXCESS) (60% or more above LPA)
E	(EXCESS) (20% to 59% above LPA)
N	(NORMAL) (19% above or below LPA)
D	(DEFICIENT) (20% to 59% below LPA)
LD	(LARGE DEFICIENT) (60% to 99% below LPA)
NR	(NO RAIN) (-100%)
LPA	Long Period Average

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