

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 2463
TO BE ANSWERED ON WEDNESDAY, 16TH MARCH, 2022**

DEATHS DUE TO LIGHTNING STRIKES

2463. SHRIMATI KANIMOZHI KARUNANIDHI:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the State-wise details of deaths caused due to lightning strikes in the last five years, especially in Tamil Nadu;
- (b) the reasons for the government to not notify lightning as a natural calamity despite the increase of deaths and damage caused by it;
- (c) the details of the lightning arrestors/ detectors installed in rural areas in the State of Tamil Nadu, at present ;
- (d) whether warnings are communicated in the regional language on the Damini app; and if so the details of the number of downloads of the app; and
- (e) whether the Government has taken any effective steps to ensure last mile dissemination of lightning related warnings and information to mitigate damage, if so, the details thereof and if not, the reasons therefor?

ANSWER

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

- (a) The State-wise details of deaths due to lightning strikes in the last five years including the State of Tamil Nadu is given in Annexure-I.
- (b) Presently the notified list of disasters eligible for National Disaster Response Fund (NDRF)/State Disaster Response Fund (SDRF) assistance, includes 12 disasters namely cyclone, drought, earthquake, fire, flood, tsunami, hailstorm, landslide, avalanche, cloud burst, pest attack and frost & cold wave. The issue of inclusion of more calamities in the existing notified list of calamities, was considered by the 15th Finance Commission. The Commission in para 8.143 of its report had observed that the list of notified disasters eligible for funding from State Disaster Response Mitigation Fund (SDRMF) and National Disaster Response Mitigation Fund (NDRMF) covers the needs of the State to large extent and thus did not find much merit in the request to expand its scope. However, a State Government can use up to 10% of the annual funds allocation of the SDRF, subject to fulfilment of certain prescribed conditions and norms, for providing immediate relief to the victims of natural disasters that they consider to be 'disasters' within local context in the State and which are not included in the centrally notified list of natural disasters.

- (c) Indian Institute of Tropical Meteorology (IITM) an autonomous institution under the Ministry of Earth Sciences (MoES) has installed a lightning location network over India with 83 sensors spread over the country. As each sensor has a coverage of about 200 sq km, occurrence of lightning can be detected with utmost accuracy. IITM has installed five lightning detectors in Tamil Nadu and Pondicherry.

1. Thiruvarur 2. Vellore 3. Coimbatore 4. Madurai 5. Pondicherry

Lightning warning are being sent via Mobile App DAMINI-Lightning Alert. There are more than 5 lakhs downloads of Damini app all over India.

- (d) IITM is working on the update of the DAMINI App to provide warning in all major Indian languages including Tamil.
- (e) India Meteorological Department (IMD) issues forecasts and warning for thunderstorms and related weather phenomena to reduce deaths associated with them. For monitoring thunderstorms, IMD has an advanced observational system. This includes a dense network of Doppler Weather Radars, multi-channel INSAT 3D satellite series as well as the data from ground based Lightning Detector Network of Indian Institute of Tropical Meteorology (IITM) and Indian Air Force (IAF). In addition to this, various numerical model products that cater specifically to forecasts/nowcasts of thunderstorms and lightning over the Indian region have been developed with the support from sister organisations under MoES.

Based upon the guidance from observations and model products, forecasts and warnings are provided for thunderstorm and associated severe weather elements. These forecasts and warnings are given in sub-divisional scale for a period five days where as from Regional/State Meteorological Centres, it is given in district level for the same period. In addition to this, nowcast warnings are issued by the Regional Meteorological Centres (RMCs) and State Met. Centres (SMCs) on the development of thunderstorm and associated weather phenomena every three hours for 1084 stations and 739 districts across the country. These nowcasts are disseminated by various means like SMS/WhatsApp/email etc. to the users for their benefit. In the recent past, these warnings are provided with possible impacts and guidelines to the public which were finalized in collaboration with National Disaster Management Authority (NDMA).

The information is transmitted through the IMD website (https://mausam.imd.gov.in/imd_latest/contents/districtwisewarnings.php) and (https://mausam.imd.gov.in/imd_latest/contents/stationwise-nowcast-warning.php), mobile app based alerts (MEGHDOOT, MAUSAM), SMS, email and whatsapp messages in local language. The alerts of the IMD website are interactive in nature.

Also, National Disaster Management authority (NDMA) has taken effective steps for mitigation action in the concerned issues. NDMA has issued Guidelines for Action Plan on Thunderstorm & Lightning/ Squall and Strong wind in 2018-2019 and sent to all State Governments/ UTs and uploaded on the website of NDMA.

Further NDMA has taken initiatives as following:

- NDMA issued specific advisories Do's and Don'ts on Thunderstorm and Lightning to State Governments/ UTs for taking necessary action.
- NDMA Reviewed the preparedness & mitigation measures on Thunderstorm and Lightning through Video Conferencing (VC) with most affected States.
- Develop a protocol for early warning dissemination on Thunderstorm and Lightning,
- NDMA produced IEC materials like TVCs, Pocket Books containing do's and don'ts, audio-visuals on thunderstorm and lightning.
- Special panel discussion (TV Debate) on 'AapdakaSaamna' show on Doordarshan.
- Doordarshan and All India Radio - NDMA has run campaign through TV (Doordarshan) and Radio (All India Radio) for awareness generation among masses on 'Thunderstorm & Lightning' during **April 2021** in the States prone to the disaster including North Eastern States and West Bengal.
- Social Media campaign on thunderstorm and lightning begin from **February onwards**. Do's and don'ts are being shared on NDMA's social media platforms and videos are being continuously posted on twitter and facebook.

Annexure-I

State/UT wise number of accidental deaths due to Lightning during 2016-2020						
SN	State/UT	2016	2017	2018	2019	2020
1	Andhra Pradesh	53	77	74	109	93
2	Arunachal Pradesh	0	0	0	0	0
3	Assam	92	30	36	28	14
4	Bihar	282	263	177	400	436
5	Chhattisgarh	211	270	213	212	246
6	Goa	0	0	0	2	0
7	Gujarat	29	54	13	64	78
8	Haryana	12	3	6	11	3
9	Himachal Pradesh	2	3	8	1	5
10	Jharkhand	542	150	235	334	336
11	Karnataka	77	121	126	99	75
12	Kerala	17	19	25	15	8
13	Madhya Pradesh	639	452	381	400	429
14	Maharashtra	230	284	149	189	182
15	Manipur	0	0	1	0	0
16	Meghalaya	12	15	5	7	8
17	Mizoram	1	1	1	1	0
18	Nagaland	0	0	0	0	1
19	Odisha	376	446	299	271	275
20	Punjab	8	1	4	7	8
21	Rajasthan	108	121	43	88	48
22	Sikkim	1	1	0	0	0
23	Tamil Nadu	38	74	82	57	64
24	Telangana	74	79	68	96	64
25	Tripura	12	17	10	10	5
26	Uttar Pradesh	384	217	220	321	304
27	Uttarakhand	1	7	2	2	10
28	West Bengal	110	176	179	147	170
	TOTAL STATE(S)	3311	2881	2357	2871	2862
29	A & N Islands	0	1	0	1	0
30	Chandigarh	0	0	0	2	0
31	D&N Haveli and Daman&Diu @ +	0	2	0	1	0
32	Delhi UT	2	0	0	0	0
33	Jammu & Kashmir @ *	2	1	0	1	0
34	Ladakh @					0
35	Lakshadweep	0	0	0	0	0
36	Puducherry	0	0	0	0	0

	TOTAL UT(S)	4	4	0	5	0
	TOTAL (ALL INDIA)	3315	2885	2357	2876	2862
As per data provided by states/UTs						
'+' Combined data of erstwhile D & N HAVELI AND DAMAN & DIU UT during 2016-2019						
'*' Data of erstwhile JAMMU & KASHMIR State Including LADAKH during 2016-2019						
'@' Data of newly created Union territory						

The above data was provided by National Crimes Record Bureau (NCRB).
