GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 359
ANSWERED ON 28/11/2024

DEATHS DUE TO HEAT WAVES

359.   DR. SASMIT PATRA:

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

(a)   the number of deaths reported due to heatwaves this year, specifically in Odisha and other parts of the country;
(b)   the measures taken by Government to reduce the impact of heatwaves on labourers;
(c)   whether any discrepancies were reported in weather mapping at various observatories; and
(d)   whether the India Meteorological Department (IMD) is using new technologies to predict extreme weather events like heatwaves, cloudbursts, and severe cold conditions?

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

(a)   The latest details are given in Annexure-1 as per the National Crime Record Bureau (NCRB), Ministry of Home Affairs (MHA). No records are available for 2023-2024 at this time.

(b)   The following steps being taken by the India Meteorological Department (IMD) aimed at mitigating the impact of heatwaves on the general public, including labourers:

- The National Disaster Management Authority (NDMA), in collaboration with the India Meteorological Departmentand the local health departments, has started a Heat Action Plan (HAP) in 23 States in the country to forewarn about the heatwaves and also advise action to be taken during such occasions. NDMA has also developed guidelines to be followed to mitigate the impact of heatwaves on labourers.
- As an initiative regarding early warning services for heatwaves, IMD issues a Seasonal Outlook for temperatures & heatwaves for April, May & June in the last week of March for planning purposes. Further, IMD issues an extended-range forecast every Thursday, valid for the next 2 weeks, followed by a short to medium-range special forecast bulletin of heatwaves issued daily, valid for the next 7 days for the general public, disaster managers and other stakeholders twice daily.
- A dedicated sectoral heatwave bulletin is issued for Indian Railways and to the Election Commission of India for the constituencies going for voting during the election.

- IMD has launched the Heat Index which provides information about the combined impact of humidity and temperatures and is used as a guidance tool for human discomfort.
- IMD has collaborated to bring out awareness videos on heatwaves for the general public.
- Daily, real-time products, such as temperature, and heatwaves, are analysed and provided to all stakeholders, including NDMA, SDMA, Agriculture, Power, and Health Ministries, etc., for early action and to implement timely mitigation measures based on the GIS platform.

(c)   No.

(d)   Yes. IMD uses the latest tools and technologies to monitor and predict severe weather events. This includes sophisticated dynamical numerical weather prediction models at higher spatial and temporal resolution, multi-model ensemble methods, and AI/ML methodologies complemented with enhanced in-situ and remote sensing observational networks.

IMD has indigenously developed a Web-GIS-based Decision Support System (DSS) for heatwaves, heavy rainfall, thunderstorms, and cyclonic storms for analysis, visualisation, and decision-making for forecast and warning. It uses the latest dissemination tools, including Common Alert Protocol (CAP), mobile apps, websites, APIs, and other social media platforms, to provide efficient, effective, and timely early warning services.

State/UT wise deaths due to Heat/Sun Stroke during 2018-2022:

SL	State/UT	2018	2019	2020	2021	2022
1	Andhra Pradesh	97	128	50	22	47
2	Arunachal Pradesh	0	0	0	0	0
3	Assam	0	3	0	0	1
4	Bihar	64	215	53	57	78
5	Chhattisgarh	1	16	3	2	11
6	Goa	0	0	0	0	0
7	Gujarat	31	27	12	8	5
8	Haryana	56	46	23	14	27
9	Himachal Pradesh	0	0	0	1	0
10	Jharkhand	42	88	23	33	47
11	Karnataka	0	4	1	0	2
12	Kerala	1	3	0	0	0
13	Madhya Pradesh	15	33	7	2	27
14	Maharashtra	128	159	56	37	90
15	Manipur	0	0	0	0	0
16	Meghalaya	4	0	0	0	0
17	Mizoram	0	0	0	0	0
18	Nagaland	0	0	0	0	0
19	Odisha	40	84	13	15	38
20	Punjab	38	90	110	91	130
21	Rajasthan	43	54	23	1	12
22	Sikkim	0	1	0	0	0
23	Tamil Nadu	0	0	0	2	2
24	Telangana	107	156	98	43	62
25	Tripura	1	1	2	0	2
26	Uttar Pradesh	176	117	50	35	130
27	Uttarakhand	0	0	0	0	0
28	West Bengal	46	49	6	11	18
	TOTAL STATE(S)	**890**	**1274**	**530**	**374**	**729**
29	A & N Islands	0	0	0	0	0
30	Chandigarh	0	0	0	0	0
31	D&N Haveli and Daman&Diu @ +	0	0	0	0	0
32	Delhi UT	0	0	0	0	1
33	Jammu & Kashmir @ *	0	0	0	0	0
34	Ladakh @	-	-	0	0	0

35	Lakshadweep	0	0	0	0	0
36	Puducherry	0	0	0	0	0
	TOTAL UT(S)	**0**	**0**	**0**	**0**	**1**
	TOTAL (ALL INDIA)	**890**	**1274**	**530**	**374**	**730**

As per data provided by States/UTs
'+' Combined data of erstwhile D & N HAVELI AND DAMAN & DIU UT during 2018-2019
'*' Data of erstwhile JAMMU & KASHMIR State Including LADAKH during 2018-2019
'@' Data of newly created Union territory
Source: National Crime Record Bureau (NCRB), Ministry of Home Affairs (MHA)

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