

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 434
TO BE ANSWERED ON WEDNESDAY, 27TH NOVEMBER, 2024**

ALARMING RATE OF HEAT WAVES IN THE COUNTRY

434. SHRI AMAR SHARADRAO KALE:
SHRI NILESH DNYANDEV LANKE:
SHRI MOHITE PATIL DHAIRYASHEEL RAJSINH:
SHRI BHASKAR MURLIDHAR BHAGARE:
DR. AMOL RAMSING KOLHE:
SHRI BAJRANG MANOHAR SONWANE:
SMT. SUPRIYA SULE:
PROF. VARSHA EKNATH GAIKWAD:
SHRI SANJAY DINA PATIL:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government is aware of the alarming rate of heat waves in the recent years and if so, the details of the steps taken to reduce the causes of heat waves in the upcoming years, if not, the reasons therefor;
- (b) whether heat waves have impacted economy in the last climate year and if so, the steps taken/being taken by the Government to prevent life and economic loss due to heat waves in the upcoming years and if not, the reasons therefor;
- (c) whether Maharashtra State has submitted Heat Action Plan to the Union Government, if so, the details thereof;
- (d) the manner in which Government collaborate with local authorities and relevant stakeholders to implement heat wave preparedness and response plans;
- (e) the details of financial resources Government has allocated for mitigating the impacts of heat waves; and
- (f) whether the Government coordinates with meteorological departments and climate experts to enhance early warning systems for heat waves and improve preparedness across different regions of the country?

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

- (a) Yes. Due to climate change, annual temperature is increasing globally, and the impact of the same is reflected in the rising frequency and intensity of heatwaves in various parts of the globe, including India. Intergovernmental Panel on Climate Change (IPCC)-Sixth Assessment Report also reflects the same (https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf). In general, there is an increasing trend in the frequency of heatwaves in the heat core zone covering northern plains and central India, as per the analysis done by the India Meteorological Department (IMD). Recently, IMD published a monograph on heatwaves that provides comprehensive information on heatwaves over India (<https://mausam.imd.gov.in/responsive/met2.php>).

Various initiatives have been undertaken by the Government of India with the help of States to reduce the causes of heatwaves in the coming years. National Action Plan on Climate Change (NAPCC) and State Action Plan on Climate Change (SAPCC) is one of the major initiatives in this direction. Additionally, India has taken a proactive role in fostering international collaborations through initiatives such as the International Solar Alliance and the Coalition for Disaster-Resilient Infrastructure. India is committed to pursuing low-carbon strategies for development and is actively pursuing them, as per national circumstances.

IMD, in coordination with various research centers across the country, has been taking multiple steps to improve monitoring and early warning systems, which helped minimize loss of life and property during extreme weather events, including heat waves. Heat Action Plans (HAPs) in 23 States that are prone to heatwave conditions were jointly implemented by the National Disaster Management Authority (NDMA) in collaboration with the State Governments.

- (b) Heatwaves adversely affected crop output in the previous year, especially certain vegetables in various regions, which put pressure on food inflation. The Government took timely steps to bring relief to the commonman. These, inter alia, include strengthening of buffer stock of essential food items and periodic open market releases, subsidised retail sale of items like rice, wheat flour, and pulses in specified outlets, easing imports of essential food items through rationalisation of duties, prevention of hoarding through imposition/revision and monitoring of stock limits. The Pradhan Mantri Garib Kalyan Anna Yojana largely protects the vulnerable sections from price pressures in food grains.
- (c) Maharashtra State is one of the 23 States where Heat Action Plans (HAPs) have already been implemented.
- (d) The heatwave forecast and warning information are provided to all the stakeholders, including ministries of the Union Government, State Governments, and local Government bodies. IMD issues various outlooks/forecasts/warnings for the Public and disaster management authorities to prepare for extreme weather events, including heatwaves. While issuing the alert, a suitable color code is used to highlight the impact of the severe weather expected and signal disaster management about the course of action to be taken regarding an impending disaster weather event. IMD issues the necessary warnings and advisories well in advance for preparedness. A series of National and State-level heatwave preparedness meetings are conducted much before the start of the summer season, with regular review meetings from time to time during the season.
- (e) The Ministry of Earth Sciences (MoES) uniformly implements the central sector schemes throughout the country, and IMD provides weather and climate-related forecasts and warnings, including warnings about heatwaves.
- (f) Yes. IMD collaborates with research centers to improve early warning services in a coordinated manner. It also regularly engages different stakeholders and experts, including disaster management authorities at National, State, and local Government departments, to improve its product outreach.

Regular consultation and coordination with other Government agencies and climate experts are maintained through heatwave preparedness meetings and workshops. The seasonal and monthly outlooks provide an opportunity to assess the preparedness of different stakeholders, and an extended range followed by short to medium-range forecast anticipates on-ground action.
