

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION NO. 5484  
TO BE ANSWERED ON WEDNESDAY, 5<sup>TH</sup> APRIL, 2023**

**RISE IN GLOBAL TEMPERATURE**

5484. SHRI NARANBHAI KACHHADIYA:  
SHRI DILIP SAIKIA:  
SHRI DEVJI M. PATEL:  
SHRI Y. DEVENDRAPPA:  
SHRI RANJEETSINGH NAIK NIMBALKAR:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government is aware that a new study conducted by the scientists has revealed that a hotter earth means many more insects;
- (b) if so, the details of the diseases expected to be spread as a result of increase in population of such insects; and
- (c) the steps contemplated to decrease the hot temperature of the earth and to increase cold temperature for the protection of human beings?

**ANSWER**

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

- (a) Yes Sir. In a report by the Intergovernmental Panel for Climate Change (IPCC) indicated that the population of insects is expected to increase around the world due global warming/rise in temperature. Temperature regulates insects' physiology and metabolism. An increase in temperature increases physiological activity and, therefore, metabolic rates. Insects must eat more to survive and it's expected that insect herbivores will consume more and grow faster. This will lead to increases in the population growth rate of certain insects. Because they grow fast they'll reproduce more. Their numbers will multiply and this will ultimately lead to more crop damage.
- (b) Ministry of Earth Sciences (MoES) doesn't have any centralized data on the details of diseases expected to be spread as a result of increase in population of insects. However, India Meteorological Department (IMD) issues agro meteorological advisories through Gramin Krishi Mausam Sewa (GKMS) scheme for the benefit of farming community in the country. Presently agromet advisories are being prepared on every Tuesday and Friday for all the agriculturally important districts (~700) and around 3100 blocks by 130 Agromet Field Units (AMFUs) and 199 District Agromet Units (DAMUs). These advisories also include the information regarding pests and diseases which affect agriculture. Also Pest-Weather calendars are prepared for every crop which could be used as reference tools.

- (c) There has been a continuous global effort to control/arrest the global warming trends through various means. IMD under this ministry, issues forecast and warnings related to severe weather events including heat waves, in different spatial and temporal scales and share the same with public as well as disaster management authorities so as to initiate required mitigation measures.

As an initiative IMD is issuing Seasonal Outlook for temperatures for the months of April, May & June in the last week of March for planning purpose. This outlook brings out the expected scenario of heat waves also during the period. The seasonal outlook is followed by Extended Range Outlook issued on every Thursday for next two weeks. In addition to this, the forecast and the colour coded warnings for severe weather including heat wave warning are issued on daily basis for next five days with outlook for another two days.

As an adaptive measure, India Meteorological Department (IMD) in collaboration with local health departments have started heat action plan in many parts of the country since 2013 to forewarn people about the heat waves and also advising action to be taken during such occasions. Heat Action Plan, implemented in 23 States in collaboration with National Disaster Management Authority (NDMA), is a comprehensive early warning system and preparedness plan for extreme heat events. The Plan presents immediate as well as longer-term actions to increase preparedness, information-sharing, and response coordination to reduce the health impacts of extreme heat on vulnerable populations.

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