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GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION NO. 3139
TO BE ANSWERED ON 06.08.2021

Black Carbon in Indo-Gangetic Plains

3139. SHRIMATI HEMA MALINI:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) whether the Indo-Gangetic plain has abundance of carbon leading to serious implications for the regional climate and human health;
(b) if so, the details thereof;
(c) whether the government has taken cognizance of the matter and initiated necessary remedial steps in this regard; and
(d) if so, the details thereof ?

ANSWER
MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a) and (b) Black Carbon (BC) is mainly produced by anthropogenic activities as a result of the incomplete combustion of fossil fuels, biofuels and biomass. As per India's Third Biennial Update Report (February 2021), BC is one of the important light-absorbing aerosol species in the atmosphere which has the potential to affect the regional climate. The Indian Space Research Organization (ISRO) is operating a network of aerosol observatories under ISRO Geosphere Biosphere Programme. One of the important parameters being measured from this network is the black carbon mass concentration. The long-term measurements of BC over the Indian region from the aforesaid regional network of aerosol observatories clearly showed a decreasing trend (0.24 $\mu g\ m^{-3} year^{-1}$) in the past decade.

According to ISRO, the black carbon mass concentrations are generally high over Indo-Gangetic Plain, especially during the dry winter season and reduce to relatively low values during the summer monsoon season due to the vertical mixing associated with intense convection and removal by wide-spread monsoon rainfall. The high values during the winter are added by the confinement of aerosols in the lower atmosphere due to the shallow atmospheric boundary layer and the absence of major aerosol removal process.

(c) and (d) The Government has taken several measures to control BC emissions which *inter-alia* includes the following:

(i) *Pradhan Mantri Ujjwala Yojana* is promoting the use of cleaner household cooking fuels.

(ii) Leapfrogging from BS-IV to BS-VI norms for fuel and vehicles from 1st April, 2020.

(iii) Network of metro rails for public transport has been enhanced and more cities are covered.

(iv) Introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.), ethanol blending.

(v) A new initiative, "Sustainable Alternative Towards Affordable Transportation (SATAT), is launched to set up 5000 Compressed Bio-Gas (CBG) production plants and make CBG available in the market for use in automotive fuels.

(vi) Under Central Sector Scheme on 'Promotion of Agricultural Mechanization for in-situ management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi', agricultural machines and equipment for in-situ crop residue management are promoted with 50% subsidy to the individual farmers and 80% subsidy for the establishment of Custom Hiring Centres.

(vii) The Central Government launched National Clean Air Programme (NCAP) as a long-term, time-bound, national-level strategy to tackle the air pollution problem across the country in a comprehensive manner with targets to achieve 20 to 30 % reduction in particulate matter concentrations by 2024.

(viii) Central Pollution Control Board has identified 124 non-attainment cities, based on data for the period 2015-2019. Further, 8 additional million plus cities were identified as per the recommendations of the 15th finance commission for air quality improvement. States have been asked for ground implementation of an approved city action plan for 132 non-attainment and million plus cities with immediate effect based on the recommendations of the three-member committee constituted by the Hon'ble National Green Tribunal.

(ix) Faster Adoption and Manufacturing of Electric Vehicles (FAME) phase -2 scheme has been rolled out.

(x) Shifting of brick kilns to zig-zag technology for reduction of pollution. Industrial units shifting to piped natural gas.

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