GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION No. 4397
TO BE ANSWERED ON 20.03.2020

India-UK Project on Air Pollution

4397.   SHRIMATI VANGA GEETHA VISWANATH:
        SHRI KOTHA PRABHAKAR REDDY:

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

(a)   whether scientists from India and the UK are working together on a project that will enable better understanding of air pollution in Delhi, particularly during the challenging winter months, as thick haze is caused by suspended particulate matter;
(b)   if so, the details thereof;
(c)   whether the Indian Institute of Technology (IIT) Delhi and a couple of UK universities, including Birmingham are collaborating for the purpose, if so, the details thereof; and
(d)   whether the Government has taken any steps to collect reliable data to tackle the issue of air pollution and if so, the details thereof?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI BABUL SUPRIYO)

(a) to (c):Scientists from India and UK are working together on a program titled "Atmospheric Pollution and Human Health in an Indian Megacity". The programme is supported by Natural Environment Research Council (NERC) UK, the Medical Research Council (MRC) UK, the Newton–Bhabha Fund, the Ministry of Earth Sciences (MoES) GoI and Department of Biotechnology (DBT) GoI. IIT Delhi and UK universities are also collaborating for this purpose. The details of the projects under the program are at **Annexure**.

(d) Under the Delhi Air Pollution: Health and Effects (DAPHNE) project, data was collected from six Air Speck-S (Static Sensors, deployed at 3 different IMD sites in Delhi) to understand the source of aerosols in Delhi. Particle size distribution of aerosols (PM1, PM2.5 and PM10) and their characterization corresponding to various sources has been done. Chemical speciation of aerosols and source apportionment analysis has also been conducted. Real time air quality data is monitored through continuous Ambient Air Quality monitoring stations and the data generated is used for the purpose of studies/research.

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Projects details under the program

1. **An Integrated Study of Air Pollutant Sources in the Delhi NCR**
   Lead UK PI: Professor William Bloss (University of Birmingham)
   Lead Indian PI: Prof MukeshKhare (IITD - Indian Institute of Technology - Delhi)
   UK Principal Investigating Partners: University of Birmingham, University of Surrey
   Indian Principal Investigating Partners: IIT Delhi, National Physical Laboratory (NPL)
   Other Project Partners: Central Road Research Institute (CRRI), University of Texas, INFN Italy, CAS-China, DRI Reno, Delhi Pollution Control Committee (DPCC)

2. **Megacity Delhi atmospheric emission quantification, assessment and impacts**
   Lead UK PI: Dr. EikoNemitz, Centre for Ecology and Hydrology (CEH)
   Lead Indian PI: Prof. Bhola Ram Gurjar (IIT Roorkee)
   UK Principal Investigating Partners: NERC, CEH, University of York, Lancaster University, University of Manchester

   Indian Principal Investigating Partners: IIT Roorkee, National Physical Laboratory (NPL), IIT Kanpur, NEERI Nagpur

   Other Project Partners: Physical Research Laboratory (PRL), Ricardo-India, Indira Delhi Technical University for Women (IGDTUW)

3. **Process analysis, observations and modelling - Integrated solutions for cleaner air for Delhi (PROMOTE)**
   Lead UK PI: Professor RanjeetSokhi (University of Hertfordshire)
   Lead Indian PI: Dr. GufranBeig (Indian Institute of Tropical Meteorology)
   UK Principal Investigating Partners: University of Hertfordshire, University of Manchester, University of Cambridge, University of Lancaster, University of Edinburgh, University of Leeds
   Indian Principal Investigating Partners: Indian Institute of Tropical Meteorology (IITM), Indian Institute of Technology (IIT Madras), National Atmospheric Research Laboratory (NARL), Integrated Research and Action for Development (IRADe)
   Other Project Partners: UK Met Office's Hadley Centre, National Oceanic and Atmospheric Administration (NOAA), Pacific Northwest National Laboratory (PNNL), US Environmental Protection Agency (USEPA), World Meteorological Organisation (WMO)

4. **Delhi Air Pollution: Health and Effects (DAPHNE)**
   Lead UK PI: Professor D K Arvind (University of Edinburgh)
   Lead Indian PI: Professor KalpanaBalakrishnan (Sri Ramachandra University)
   UK Principal Investigating Partners: University of Edinburgh, Informatics (UoE-I), University of Edinburgh, Cardiology (UoE-C), Imperial College, London (ICL), Institute of Occupational Medicine (IOM)
   Indian Principal Investigating Partners: Sri Ramachandra University, Chennai (SRU), Indian Institute of Technology Kanpur (IITK), Indian Institute of Technology Delhi (IITD), International Clinical Epidemiology Network, India (INCLEN), All India Institute of Medical Sciences (AIIMS), University College of Medical Sciences (UCMS)

5. **Clean Air for Delhi Through Interventions, Mitigations and Engagement (CADTIME)**

Lead UK PI: Dr Anil Namdeo (University of Newcastle)
Lead Indian PI: Dr Shiva Nagendra (Indian Institute of Technology Madras (IITM))
UK Principal Investigating Partners: Newcastle University (UNEW), University of the West of England (UWE)
Indian Principal Investigating Partners: Indian Institute of Technology Madras (IITM), Indian Institute of Technology Bombay (IITB), Central Road Research Institute (CRRI), National Environmental Engineering Research Institute (NEERI)

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