

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION NO. 657
TO BE ANSWERED ON 20.07.2018

Rise in Pollution

657. SHRI KUNDARIYA MOHAN BHAI KALYANJI BHAI:

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

- (a) whether the Government has taken note of the observations made by the Supreme Court that the Health Schemes would not be able to achieve any success until pollution is controlled;
- (b) if so, the details thereof and the response of the Government thereto;
- (c) whether the Government has made any assessment regarding the causes of rising pollution in the country; and
- (d) if so, the details and the outcome thereof along with the action plan to curb pollution in the country?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(DR. MAHESH SHARMA)

- (a) & (b) Studies have shown that pollution is strongly associated with occurrence of respiratory diseases, cardiovascular diseases, stress and mental disorders. With regards to health, Ministry of Health and Family Welfare already has the National Mission on Climate Change and Human Health (NMCC&HH), National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) and National Mental Health Programme (NMHP) for immediate services to the clients.
- (c) Several studies have been conducted to identify major air pollution sources (mainly NO_x, PM₁₀ and PM_{2.5}) and their contributions to ambient air pollution levels in the country. Major sources of air pollution include road dust, vehicles, garbage burning, construction and demolition activities, DG sets, industries, etc. Details are given in **Annexure-I**.
- (d) The Ministry of Environment, Forest and Climate Change (MoEF&CC) has formulated National Clean Air Programme (NCAP) for abatement of air pollution in the country. The NCAP aspires to strengthen the ongoing government initiatives targeted towards prevention, control and mitigation of air pollution. It lays down a comprehensive framework for management of air quality in the country by augmentation of existing air quality monitoring network, introduction of rural monitoring stations and devising air quality management plans for non-attainment

cities based on detailed source apportionment (identification of pollution sources) studies for each city.

The Government has taken several steps to address air pollution which *inter alia*, include notification of National Ambient Air Quality Standards; setting up of monitoring network for assessment of ambient air quality; introduction of cleaner / alternate fuels like gaseous fuel (CNG, LPG etc.), ethanol blending, launching of National Air Quality index; universalization of BS-IV by 2017; leapfrogging from BS-IV to BS-VI fuel standards by 1st April, 2020; notification of Construction and Demolition Waste Management Rules; banning of burning of biomass; promotion of public transport network; streamlining the issuance of Pollution Under Control Certificate; issuance of directions under Section 18(1)(b) of Air (Prevention and Control of Pollution) Act, 1981 and under Section 5 of Environment (Protection) Act, 1986; installation of on-line continuous (24x7) monitoring devices by major industries; collection of Environmental Protection Charge on more than 2000 CC diesel vehicles; etc.

In reference to Water Pollution, Central Pollution Control Board (CPCB) is implementing a nationwide water quality monitoring under National Water Quality Monitoring Programme (NWMP) at 3500 locations including Surface and Ground water in association with State Pollution Control Boards (SPCBs) & Pollution control Committees (PCCs) to fulfill the mandate of Water (Prevention & Control of Pollution) Act, 1974. Based on long term assessment of water quality of Rivers carried out for the period 2008 – 2012, 302 polluted river stretches were identified on 275 rivers with respect to indicator of organic pollution i.e. Biochemical Oxygen Demand (BOD) in 29 States/UTs which was published in 2015. As per the aforesaid assessment, 650 towns were identified as polluting sources along the respective river stretches and out of which 35 are metropolitan cities. State-wise number of polluted river stretches and cities/towns located along the respective polluted river stretch is given in Annexure II.

Detail of studies conducted to identify major air pollution sources

1. Study: Air quality monitoring, emission inventory and source apportionment study for Indian cities
 Conducted by: CPCB, ARAI, IITs of Kanpur, Mumbai & Chennai and TERI
 Year of study: 2011
 Cities covered: Bangalore, Chennai, Delhi, Kanpur, Mumbai and Pune

Sources identified:

Bangalore:	PM ₁₀ : transport (42%), road dust suspension (20%), construction (14%), industry (14%), DG set (7%), domestic (3%) NOx: transport (68%), DG set (23%), industry (8%), domestic (1%)
Chennai:	PM ₁₀ : transport (10.9%), industry (2.6%) road dust suspension (70%), construction (12%), open burning (2.5%) NOx: transport (39%), industrial (49%), domestic (4.5%), restaurant (6.1%), Line sources such as vehicles, area sources such as paved road dust from minor roads, domestic households, emissions from restaurants, construction activities, small scale DG sets, biomass burning, re-suspension of road dust, combustion sources including vehicles, refuse burning & DG sets, point sources like industry stacks, DG sets
Delhi:	The air quality sustainability goal of Delhi aims at addressing mainly two pollutants such as PM ₁₀ and NOx PM ₁₀ : road dust suspension (52%), industry (22%), transport (7%), domestic (6.25%) NOx: transport (18.32%), industry (78.4%), domestic (0.30%), DG set (1.63%) Major sources are Industries (particularly power plants), DG sets, Bakeries and Crematoria, Dust sources like wind-blown natural dust, road dust resuspension, construction dust, large scale construction/ demolition and movement of construction material and particles generated from all combustion sources including vehicles
Kanpur:	PM ₁₀ : industrial (26%), industry area source (7%), vehicles (20%), domestic fuel burning (19%) paved and unpaved road (14%), garbage burning (5%) and rest others. NOx: vehicles (48%), industrial point and area sources (42%), DG sets (5%) and domestic sources and rest others (4%).
Mumbai:	PM ₁₀ : road dust suspension (30%), industry (23%), transport (6%), Open burning (10.84%), Construction (8.54%), Hotels & Bakeries (9%), domestic (2.11%) NOx: industrial (47.5%), transport (36.64%), domestic (12.64%), DG set (0.15%) Vehicular source, Industrial source, Area Sources like open refuse burning and landfill site burning, road dust from paved and unpaved roads, large scale construction and demolition, bakeries and crematoria emissions
Pune:	PM ₁₀ : Road dust (61%), Line sources (Mobile – 18%) with more than 40% contribution is from 2, 3 wheelers and cars. Most of these vehicles are gasoline or LPG fueled vehicles. The high contribution from these vehicles is due to high number of vehicles, Industrial contribution (1.25%), Construction and brick kilns (4.5%), domestic and slum fuel usage (including solid fuel burning) (7.5%) and hotels and bakeries (3%). NOx: vehicles (95%), industries (2%), Domestic and commercial fuel burning for cooking (3%).

2. Comprehensive Study on Air Pollution and Green House Gases (GHGs) in Delhi
 Conducted by: IIT Kanpur
 Year of study: 2016
 Cities covered – Delhi

Sources identified -

Delhi:	PM ₁₀ : road dust (56%), concrete batching (10%), industrial point sources (10%) and vehicles (9%); PM _{2.5} : road dust (38%), vehicles (20%), domestic fuel burning (12%) and industrial point sources (11%). NOx: industrial point source (largely from power plants - 52%), vehicular emissions (36%), DG sets (6%), aircraft emission (2%). Particulate pollution is the main concern in the city where levels of PM ₁₀ and PM _{2.5} are 4-7 times
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higher than the national air quality standards in summer and winter months. The chemical composition of PM₁₀ and PM_{2.5} carries the signature of sources and their harmful contents. The chemical composition is variable depending on the size fraction of particles and the season.

The reason of PM₁₀ and PM_{2.5} concentrations in ambient air quality are different in summer and winter. During winter sources (% contribution given in parenthesis for PM₁₀ - PM_{2.5} to the ambient air levels) include: secondary particles (25 - 30%), vehicles (20 - 25%), biomass burning (17 - 26%), MSW burning (9 - 8%) and to a lesser extent soil and road dust. The summer sources (% contribution given in parenthesis for PM₁₀ - PM_{2.5} to the ambient air level) include: coal and fly ash (37 - 26%), soil and road dust (26 - 27%), secondary particles (10 - 15%), biomass burning (7 - 12%), vehicles (6 - 9%) and MSW burning (8 - 7%).

Annexure II

State-wise no. of polluted river stretches and cities/towns located along polluted river stretch

Name of State/UT	Cities/Towns along Polluted River Stretches	Number of Polluted River Stretches
Andhra Pradesh	8	06
Assam	49	28
Bihar	8	05
Chhattisgarh	12	05
Daman & Diu	2	01
Delhi	1	01
Goa	9	08
Gujarat	38	20
Haryana	7	02
Himachal Pradesh	14	08
Jammu and Kashmir	18	09
Jharkhand	16	08
Karnataka	24	15
Kerala	22	13
Madhya Pradesh	37	21
Maharashtra	161	49
Manipur	17	12
Meghalaya	12	10
Nagaland	4	03
Odisha	20	12
Punjab	5	02
Rajasthan	20	08
Sikkim	11	05
Tamil Nadu	23	07
Telangana	18	07
Tripura	4	02
Uttar Pradesh	37	13
Uttarakhand	6	05
West Bengal	47	17
Total	650	302

