

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
STARRED QUESTION NO. *65
TO BE ANSWERED ON 14.12.2018

Air Pollution

*65. SHRI K.N. RAMACHANDRAN:
SHRI FEROZE VARUN GANDHI:

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

- (a) whether the level of pollution in the country is increasing more rapidly than that of other countries and the annual average of parameters of air pollution has reached/crossed the alarming level in major cities of the country including Delhi and Bengaluru causing major problems, if so, the details thereof, State and city-wise along with the reasons therefor and the reaction of the Government thereto;
- (b) whether as per the World Health Organization (WHO) report, fourteen of the most polluted twenty cities of the world are in India, if so, the details thereof and the reaction of the Government thereto;
- (c) whether the Government has conducted any study to verify WHO's claim and determine the major causes for higher pollution in the country including the National Capital Region, Delhi and if so, the details and the findings thereof;
- (d) whether the Government has launched/proposes to launch any new scheme/long term policy and employ modern techniques to make Delhi and other parts of the country pollution free and if so, the details thereof; and
- (e) the measures taken/being taken by the Government to check/control the increasing level of pollution and improve the air quality along with the funds provided for the purpose during each of the last three years and the current year, State/UT-wise?

ANSWER

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

(a) to (e): A Statement is laid on the Table of the House.

Statement referred to in reply to Lok Sabha Starred Question No. 65 due for reply on 14.12.2018 regarding 'Air Pollution' By Shri K.N. Ramachandran and Shri Feroze Varun Gandhi, Hon'ble Members of Lok Sabha

(a) Ambient air quality is being monitored at 731 locations covering 312 cities/towns in 29 States and 6 Union Territories across the country under National Air Quality Monitoring Programme (NAMP). The ambient air quality data for million plus cities including Delhi and Bengaluru is attached at **Annexure-I**. Analysis of data shows that SO₂ levels were within the National Ambient Air Quality Standard (NAAQS) in all 43 cities during 2015-17. With respect to NO₂, 14 cities showed an increasing trend, 14 cities showed a decreasing concentration, 14 cities showed a fluctuating trend and 1 city revealed steady concentration. With respect to PM₁₀, 14 cities showed an increasing trend, 8 cities showed a decreasing concentration, 21 cities showed a fluctuating trend. With respect to PM_{2.5}, trends are available for 15 cities and out of 15 cities, 05 cities showed an increasing trend, 04 cities showed a decreasing concentration, 06 cities showed a fluctuating trend.

(b) & (c) The World Health Organization (WHO) released the WHO Global Ambient Air Quality Database (update 2018) which consists of mainly annual means for PM₁₀ and/or PM_{2.5}, covering more than 4000 human settlements in 108 countries for the years 2008 to 2016. 14 cities of India namely Kanpur, Faridabad, Gaya, Varanasi, Patna, Delhi, Lucknow, Agra, Gurgaon, Muzaffarpur, Srinagar, Jaipur, Patiala & Jodhpur are included in the list of 20 cities which have recorded high levels of PM_{2.5}. These cities in WHO Database do not report pollution on all parameters.

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. Major air pollution sources include road dust suspension, vehicles, garbage burning, construction, DG sets, industries, etc. are. Details of these studies are given in **Annexure II**.

(d) The Central Government has notified a Comprehensive Action Plan (CAP) for prevention, control and mitigation of air pollution in Delhi and NCR. The Central Government has also finalized National Clean Air Programme (NCAP) under the Central Sector "Control of Pollution" Scheme as a long-term time bound national level strategy to tackle the increasing air pollution problem across the country in comprehensive manner. The overall objective is to augment and evolve effective ambient air quality monitoring network across the country besides ensuring comprehensive management plan for prevention, control and abatement of air pollution. The NCAP focuses on collaborative and participatory approach comprising all sources of pollution and coordination between relevant Central Ministries, State Governments, local bodies and other stakeholders. Hundred and two (102) non-attainment cities have been selected for formulation and implementation of city specific action plan under NCAP. In addition, NCAP has many peripheral components viz. Technical Assessment Cell, technology support, sharing of international best practices, awareness and capacity building, source apportionment studies, plantation drive, intensive inspection drive etc to support the time bound implementation of NCAP.

New/ innovative technologies are being employed for mitigation of air pollution. So far, three pilot projects have been initiated in Delhi under Environment Protection Charge (EPC) fund- (i) To assess the effectiveness of

“Pariyayatra” filtration units deployed in buses, (ii) Evaluation of Wind Augmentation Purifying Units (WAYUs) at traffic intersections for pollution abatement in Delhi and (iii) Control of dust emission at test sites to arrest construction/road dust using dust suppressant.

- (e) The measures taken/being taken by the Government to check/control the increasing level of pollution and improve the air quality *inter alia*, include notification of Graded Response Action Plan for different levels of air pollution in Delhi and NCR; 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 from 2017; leapfrogging from BS-IV to BS-VI fuel standards since 1st April, 2018 in NCT of Delhi and from by 1st April, 2020 in the rest of the country; notification of Construction and Demolition Waste Management Rules; banning of burning of biomass; notifications regarding ‘Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring EC’ and ‘Mandatory Implementation of Dust Mitigation Measures for all Construction and Demolition Activities’; notification of Construction and Demolition Waste Management Rules; 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, etc. State-wise details of funds released to various Monitoring Agencies during last three and current years for ambient air quality monitoring as operational and maintenance cost under National Air Quality Monitoring Programme (NAMP) is given at **Annexure-III**.

Annexures referred to in reply to Lok Sabha Starred Question No. 65 due for reply on 14.12.2018 regarding ‘Air Pollution’ By Shri K.N. Ramachandran and Shri Feroze Varun Gandhi, Hon'ble Members of Lok Sabha

Annexure I

Air quality status of million plus cities for 2015, 2016 and 2017

(Annual average in $\mu\text{g}/\text{m}^3$)

Sl. No.	State	Cities	2015				2016				2017			
			SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}
1.	Uttar Pradesh	Agra	4	22	186	-	5	22	198	-	4	19	185	124
2.	Gujarat	Ahmedabad	13	21	89	29	14	27	108	34	14	29	120	38
3.	Uttar Pradesh	Allahabad	4	26	250	-	4	37	196	-	4	40	140	
4.	Punjab	Amritsar	11	30	148	-	12	29	194	-	11	27	168	-
5.	Maharashtra	Aurangabad	13	40	83	-	14	39	92	-	10	33	83	-

Sl. No.	State	Cities	2015				2016				2017			
			SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}
6.	Karnataka	Bangaluru	6	20	119	54	3	31	103	51	2	31	92	46
7.	Madhya Pradesh	Bhopal	3	23	158	105	3	15	89	27	4	15	93	41
8.	Tamilnadu	Chennai	13	20	59	22	10	18	65	25	9	17	62	32
9.	Tamilnadu	Coimbatore	4	25	47	30	6	24	59	35	5	26	49	34
10.	Delhi	Delhi	5	65	220	95	7	66	278	118	7	68	241	106
11.	Jharkhand	Dhanbad	12	37	168	-	15	37	226	-	15	37	238	-
12.	Maharashtra	Dombivali/Ambernath	20	53	104	-	26	76	128	-	27	70	176	-
13.	Haryana	Faridabad	15	74	105	56	-	-	-	-	-	-	-	-
14.	Uttar Pradesh	Ghaziabad	23	37	260	-	15	28	235	-	22	34	280	-
15.	Madhya Pradesh	Gwalior	10	14	125	77	10	14	96	52	10	17	110	47
16.	West Bengal	Howrah	15	43	123	73	10	59	119	67	11	63	110	64
17.	Telangana	Hydrabad	4	23	93	-	4	27	100	49	6	28	108	54
18.	Madhya Pradesh	Indore	11	20	97	-	11	20	95	54	11	21	80	43
19.	Madhya Pradesh	Jabalpur	9	28	90	40	10	23	71	32	10	21	74	23
20.	Rajasthan	Jaipur	7	36	171	-	8	33	199	-	8	30	177	-
21.	Rajasthan	Jodhpur	6	24	152	-	6	23	168	-	6	21	180	-
22.	Uttar Pradesh	Kanpur	6	36	201	-	7	39	217	-	7	45	224	-
23.	West Bengal	Kolkata	7	56	105	55	4	49	113	70	6	41	120	71
24.	Rajasthan	Kota	6	34	134	-	7	30	109	-	8	28	130	-
25.	Uttar Pradesh	Lucknow	8	28	169	-	8	27	214	-	8	26	246	102
26.	Punjab	Ludhiana	11	27	139	-	11	25	139	-	10	28	162	-
27.	Tamilnadu	Madurai	13	25	64	32	15	24	76	38	14	23	67	30
28.	Uttar Pradesh	Meerut	6	39	144	-	7	55	157	-	7	52	153	-
29.	Maharashtra	Mumbai	4	25	106	26	6	30	119	20	3	18	151	40
30.	Maharashtra	Nagpur	10	25	90	-	16	26	118	-	9	27	102	-
31.	Maharashtra	Nashik	15	23	78	-	13	27	85	-	12	22	81	-
32.	Maharashtra	Navi Mumbai	18	42	125	-	19	46	118	-	22	45	105	-

Sl. No.	State	Cities	2015				2016				2017			
			SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}
33.	Bihar	Patna	4	41	204	-	4	32	212	-	5	39	156	-
34.	Maharashtra	PimpriChinchwad	23	52	102	-	32	71	105	-	23	61	82	-
35.	Maharashtra	Pune	23	62	99	-	28	78	107	-	21	65	102	-
36.	Chattisgarh	Raipur	13	36	188	-	12	31	148	-	10	27	103	-
37.	Gujarat	Rajkot	13	19	83	30	13	21	92	32	16	22	106	37
38.	Jharkhand	Ranchi	19	36	220	-	20	37	196	-	19	37	142	-
39.	Jammu & Kashmir	Shrinagar	@	@	@	@	@	@	@	@	@	@	@	@
40.	Gujarat	Surat	14	20	89	31	13	22	92	31	16	26	106	36
41.	Maharashtra	Thane	28	58	117	-	18	60	122	-	18	47	125	-
42.	Gujarat	Vadodara	14	20	87	33	14	23	92	30	16	23	108	36
43.	Uttar Pradesh	Varanasi	19	33	145	-	11	32	256	-	10	38	244	-
44.	Maharashtra	Vasai-virar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
45.	Andhra Pradesh	Vijaywada	6	37	110	-	6	44	102	-	6	29	99	-
46.	Andhra Pradesh	Vishakhapatnam	9	19	61	-	8	18	77	-	9	17	73	-

NB. NA- no monitoring station in the city, @ -monitoring station sanctioned but not yet operational, '-' data not received, National Ambient Air Quality Standard (NAAQS) for Residential, Industrial, Rural and others Areas (Annual average) for SO₂ = 50 µg/m³, NO₂ = 40 µg/m³, PM₁₀ = 60 µg/m³ & PM_{2.5} = 40 µg/m³ and SO₂ = 20 µg/m³, NO₂ = 30 µg/m³, PM₁₀ = 60 µg/m³ and PM_{2.5} = 40 µg/m³ for Ecologically sensitive area. The data furnished in the table for year 2017 is as available on date.

Details of Studies Conducted for Identification of Air Pollution Sources

1. Study: Air quality monitoring, emission inventory and source apportionment study for Indian cities

Conducted by: CPCB, ARAI, NEERI, IITs of Kanpur, Mumbai & Chennai and TERI

Year of publication: 2010

Cities covered: Bangalore, Chennai, Delhi, Kanpur, Mumbai and Pune

Sources identified:

Source	% contribution (PM ₁₀)
Vehicles	8.7 – 20.5
Road dust	14.5 – 29.0
Construction	22 – 23.1
Industries	6.3 – 9.3
Garbage burning	10.5 – 24.4
Domestic	2.7 – 9.4
DG sets	6.8 – 12.3

2. Comprehensive Study on Air Pollution and Green House Gases (GHGs) in Delhi

Conducted by: IIT Kanpur

Year of publication: 2016

Cities covered – Delhi

Sources identified -

Source	Average for six monitoring locations			
	% contribution (PM ₁₀)		% contribution (PM _{2.5})	
	Winter	Summer	Winter	Summer
Vehicles	19.7	6.4	25.1	8.5
Secondary particulates	24.6	10.15	29.9	14.9
Biomass burning	16.7	6.8	25.8	12.2
Industries	0.65	1.05	0.8	1.2
Coal and Fly Ash	12.3	37.2	4.8	25.95
Construction material	3.1	4.1	1.5	3.0
Soli and road dust	14.4	26.5	4.3	27.1

Solid Waste burning	8.75	7.75	7.75	7.2
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3. Source Apportionment of PM_{2.5} & PM₁₀ of Delhi NCR for Identification of Major Sources
 Conducted by: TERI, ARAI
 Year of publication: 2018
 Cities covered – Delhi- NCR

Source	Average for nine monitoring locations			
	% contribution (PM ₁₀)		% contribution (PM _{2.5})	
	Winter	Summer	Winter	Summer
Dust and Construction	31	42	15	34
Secondary particulates	23	15	26	17
Vehicles	18	15	23	18
Biomass	14	12	22	15
Industries	10	12	10	11
Others	4	4	4	5

Annexure III**Details of Payment Released to Various Monitoring Agencies under National
Air Quality Monitoring Programme (NAMP)**

SI No.	Name of Monitoring Agency	Funds released under NAMP for operation & maintenance in different financial years (Amount in Rs.)			
		2015-16	2016-17	2017-18	2018-19 till Nov 2018
1.	Andhra Pradesh SPCB	-	-	27555500	-
2.	Arunachal Pradesh SPCB	-	-	4109334	858667
3.	Assam SPCB	-	-	35912000	-
4.	Bihar SPCB	-	-	2216665	-
5.	Chandigarh PCC	-	4113833	3253333	-
6.	Chattisgarh ECB	1526250	-	4465333	-
7.	Dadra & Nagar Haveli PCC and Daman & Diu PCC	-	-	3492333	-
8.	Goa SPCB	7789333	-	24410667	-
9.	Himachal Pradesh SEP & PCB	10128333	-	29309334	-
10.	Jammu & Kashmir SPCB	-	-	4528000	-
11.	Jharkhand SPCB	-	-	14893167	-
12.	Karnataka SPCB	6749583	-	21134667	-
13.	Kerala SPCB	-	-	22320000	-
14.	Madhya Pradesh SPCB	-	7984417	13566666	-
15.	Maharashtra SPCB	-	16316919	30544001	-
16.	Meghalaya SPCB	7845833	-	14485333	3541333
17.	Mizoram SPCB	5413333	4253333	7346667	3093333
18.	Nagaland SPCB	-	3658667	3061333	1344000

19.	Odisha SPCB	-	5872500	17080001	-
20.	Punjab SPCB	-	-	20361083	-
21.	Puducherry	-	5110333	3432000	-
22.	Rajasthan SPCB	4218750	-	13434667	-
23.	Sikkim SPCB	-	-	6149334	-
24.	Tamil Nadu SPCB	-	-	16813333	-
25.	Telangana SPCB	-	-	17985000	-
26.	Tripura SPCB	-	-	896000	-
27.	Uttar Pradesh SPCB	7263333	-	31390667	-
28.	Uttarakhand EP&PCB	4085833	-	14544000	-
29.	West Bengal SPCB	-	-	19439917	-
30.	NEERI	13612000	22288000	21600000	-
31.	IIT Kanpur	-	-	8040177	-
	Total	6,86,32,581	6,95,98,002	45,77,70,512	88,37,333

Note:- SPCB – State Pollution Control Board, SEP&PCB – State Environment Protection & Pollution Control Board, EP& PCB – Environment Protection & Pollution Control Board, PCC – Pollution Control Committee. NEERI is at present monitoring in 6 cities in 5 different states/Union territories namely Delhi, Maharashtra, West Bengal, Tamil Nadu and Andhra Pradesh.
