GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION No. 2585
TO BE ANSWERED ON 23.03.2023

Pollution in Indian Cities

2585. SHRI ELAMARAM KAREEM:

Will the MINISTER OF ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a)   whether pollution levels in Indian cities, especially Delhi, are rising every year;
(b)   whether, as claimed by Air Quality Life Index, about 51 crore people living in north India are likely to lose 7.6 years of their life if current air pollution levels persist;
(c)   if so, details thereof and steps taken by Government to reduce the same;
(d)   whether about 44 per cent of world's increase in pollution has come from India since 2013;
(e)   if so, reasons for rise in pollution;
(f)   details regarding average annual particulate pollution in the country during last five years, year-wise; and
(g)   reasons for increase in particulate pollution?

ANSWER

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

(a):
Ministry of Environment, Forest and Climate Change (MoEF&CC) launched National Clean Air Programme (NCAP) in January, 2019 with an aim to improve air quality in 131 cities (non-attainment cities and Million Plus Cities in 24 States by engaging all stakeholders. The programme envisages to achieve reductions upto 40% or achievement of National Ambient Air Quality Standards for Particulate Matter10 (PM 10) concentrations by 2025-26 over baseline 2017-18. Of these 131 cities, 95 cities have shown improvement in air quality in FY 2021-22 compared to base levels of 2017 and 20 cities conforming to national ambient air quality standards. 41 cities out of 131 cities under NCAP are located in Indo-Gangetic plain (IGP). 29 cities of the 41 IGP cities have shown reduction upto 45 % in PM10 concentrations. PM10 concentrations for 131 non-attainment cities(including Delhi) are enclosed in **Annexure I**.

Status of Air Quality Index (AQI) in the NCT Delhi during the year 2016 to 2022 is enclosed at **Annexure II**.

(b) and (d):
Many studies by different Organisations/Institutes have been published from time to time, regarding the impact of air pollution on health. These studies are based on secondary data, models and extrapolation of findings from a small sample size to a larger population. However, there are no conclusive data available in the country to establish direct correlation of life expectancy/death/disease exclusively due to pollution.

(c) :
Initiatives taken by the Government to improve air quality are given at **Annexure III.**

(f) :
Details regarding annual average PM10 concentrations for 131 cities under NCAP including Delhi are enclosed at **Annexure I**.

(e) and (g):
Air pollution is contributed from both human-made and natural sources. Major sources of pollution inter-alia include vehicular emissions, road dust, bio-mass burning, opening dumping of construction and demolition waste and industrial pollution.

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States	Sl. No.	Cities	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Ambient Air Quality status of Non-Attainment Cities (131) under NCAP **(Integrated Annual Average Concentration of PM$_{10}$)**							
			Average concentration (F.Y.) of PM$_{10}$ (µg/m^3)	Average concentration (F.Y.) of PM$_{10}$ (µg/m^3)	Average concentration (F.Y.) of PM$_{10}$ (µg/m^3)	Average concentration (F.Y.) of PM$_{10}$ (µg/m^3)	Average concentration (F.Y.) of PM$_{10}$ (µg/m^3)
Andhra Pradesh	1	Anantpur	78	68	60	58	52
	2	Chittur	70	63	51	41	49
	3	Eluru	72	68	64	58	65
	4	Guntur	66	49	58	56	58
	5	Kadapa	75	61	48	50	54
	6	Kurnool	79	64	56	52	61
	7	Nellore	64	64	67	56	55
	8	Ongole	65	64	59	49	52
	9	Rajamahendravaram	85	77	61	69	68
	10	Srikakulam	69	71	66	66	75
	11	Vijayawada	91	64	57	56	67
	12	Visakhapatnam	76	108	97	104	98
	13	Vizhianagaram	72	66	68	63	71
Assam	14	Guwahati	103	109	113	114	103
	15	Nagaon	82	97	92	90	104
	16	Nalbari	87	91	75	57	99
	17	Silchar	49	48	45	43	45
	18	Sivasagar	73	68	55	48	47
Bihar	19	Patna	172	211	170	143	145
	20	Gaya	79	82	76	71	97
	21	Muzaffarpur	147	148	138	180	153
Chandigarh	22	Chandigarh	114	98	92	90	97
Chattisgarh	23	Korba	57	61	54	46	61
	24	Durg Bhilainagar	86	78	75	56	58
	25	Raipur	70	68	63	55	61
Delhi	26	Delhi	241	226	192	193	196
Gujarat	27	Ahmedabad	164	233	116	120	113
	28	Rajkot	150	182	113	94	116
	29	Surat	130	175	109	93	100
	30	Vadodara	133	199	108	95	121

State	No.	City					
Haryana	31	Faridabad	-	-	-	229	209
Himachal Pradesh	32	Baddi	174	179	133	123	132
	33	Damtal	55	62	52	65	64
	34	Kala Amb	118	102	95	64	114
	35	Nalagarh	146	78	113	90	84
	36	Paonta Sahib	84	86	98	78	90
	37	Parwanoo	66	61	60	44	35
	38	Sunder Nagar	78	82	69	63	47
Jammu&Kashmir	39	Jammu	157	157	145	186	170
	40	Srinagar	-	132	132	163	111
Jharkhand	41	Dhanbad	315	252	211	198	235
	42	Jamshedpur	135	121	138	96	110
	43	Ranchi	141	116	108	105	110
Karnataka	44	Bengaluru	92	92	73	62	67
	45	Devangere	74	50	66	72	57
	46	Gulburga / Kalaburgi	55	50	80	92	84
	47	Hubli-Dharwad	79	85	78	69	68
Madhya Pradesh	48	Bhopal	112	134	141	114	116
	49	Dewas	83	107	91	93	81
	50	Gwalior	126	133	136	125	109
	51	Indore	82	85	91	96	103
	52	Jabalpur	101	95	111	106	115
	53	Sagar	73	75	71	64	79
	54	Ujjain	93	113	90	104	114
Maharashtra	55	Aurangabad	75	77	76	65	86
	56	Akola	111	71	66	54	64
	57	Amravati	102	106	89	58	66
	58	Badlapur	160	148	88	67	94
	59	Chandrapur	118	107	93	100	104
	60	Greater Mumbai	161	132	106	98	106
	61	Jalgaon	70	70	57	53	59
	62	Jalna	99	101	95	86	93
	63	Kolhapur	89	89	95	83	81
	64	Latur	82	90	84	54	57
	65	Nagpur	100	93	80	68	68
	66	Nashik	82	73	57	51	59
	67	Navi Mumbai	88	80	54	52	97
	68	Pune	102	103	81	69	85

	69	Sangli	87	80	70	71	60
	70	Solapur	81	65	90	79	60
	71	Thane	138	118	79	105	130
	72	Ulhasnagar	153	131	83	66	77
	73	Vasai virar	-	-	99	43	174
Meghalaya	74	Byrnihat	175	155	97	127	181
Nagaland	75	Dimapur	142	124	84	85	84
	76	Kohima	127	103	81	84	69
Odisha	77	Angul	97	101	95	88	97
	78	Balasore	84	86	86	78	74
	79	Bhubneshwar	85	100	103	78	95
	80	Cuttack	93	116	104	86	90
	81	Kalinga Nagar	109	120	113	104	114
	82	Rourkela	99	118	112	96	106
	83	Talcher	113	113	122	98	81
Punjab	84	Amritsar	189	124	109	113	118
	85	Dera Baba Nanak	79	84	68	66	71
	86	Dera Bassi	88	100	100	105	98
	87	Jalandhar	178	115	121	150	130
	88	Khanna	142	104	113	101	106
	89	Ludhiana	168	123	115	129	150
	90	Mandi Gobindgarh	148	131	130	131	122
	91	Naya Nangal	87	94	98	95	70
	92	Patiala	106	98	107	102	109
Rajasthan	93	Jaipur	172	144	124	112	126
	94	Alwar	152	176	126	110	112
	95	Jodhpur	189	218	167	155	161
	96	Kota	139	144	102	100	112
	97	Udaipur	127	141	136	109	122
Tamil Nadu	98	Chennai	66	79	60	60	57
	99	Madurai	72	85	66	57	53
	100	Trichy	88	109	58	40	45
	101	Tuticorin	123	98	84	84	67
Telangana	102	Hyderabad	110	96	86	88	88
	103	Nalgonda	59	59	59	60	70
	104	Patencheru	74	81	87	77	76
	105	Sangareddy	85	82	87	77	83
Uttar	106	Agra	202	196	163	188	146

Pradesh	107	Allahabad	169	225	219	184	119
	108	Ghaziabad	285	256	218	218	216
	109	Kanpur	227	217	200	169	170
	110	Lucknow	253	210	216	209	148
	111	Meerut	159	178	203	200	186
	112	Varanasi	230	211	180	168	114
	113	Anpara	175	176	169	142	154
	114	Bareily	207	221	185	193	175
	115	Firozabad	247	211	213	186	137
	116	Gajraula	204	228	217	168	155
	117	Gorakpur	150	284	278	168	122
	118	Jhansi	109	94	102	99	128
	119	Khurja	195	202	226	194	173
	120	Moradabad	222	218	243	206	155
	121	Noida	229	252	213	197	203
	122	Raebareli	145	140	161	98	112
Uttarakhand	123	Dehradun	250	192	166	144	146
	124	Kashipur	99	110	130	129	119
	125	Rishikesh	129	133	136	77	117
West Bengal	126	Asansol	147	123	124	114	112
	127	Barrackpore	86	107	108	75	85
	128	Durgapur	150	144	125	103	168
	129	Haldia	92	95	69	93	94
	130	Howrah	139	145	144	117	125
	131	Kolkata	147	128	101	99	105

Details of Air Quality Index of Delhi during 2016-2022

Delhi								
Category of AQI	**AQI**	**No. of days in different category of AQI**						
		2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Good	**(0–50)**	0	2	0	2	5	1	3
Satisfactory	**(51–100)**	25	45	53	59	95	72	65
Moderate	**(101–200)**	83	105	106	121	127	124	95
Poor	**(201–300)**	120	115	113	103	75	80	130
Very Poor	**(301–400)**	101	89	73	56	49	64	66
Severe	**(>401)**	25	9	20	24	15	24	6
Total Number of Days		**354**	**365**	**365**	**365**	**366**	**365**	**365**

I.   Initiatives of the Government to improve air quality

Government has taken several initiatives to improve air quality. The following actions were initiated by the Union Government:

A. Vehicular Emission
- **Leapfrogging from BS-IV to BS-VI** norms for fuel and vehicles since April, 2018 in NCT of Delhi and from 1st April, 2020 for rest of the country.
- Network of **metro rails for public transport** are enhanced and more cities are covered.
- Development of Expressway and Highways are also reducing the fuel consumption and pollution.
- **Eastern Peripheral Expressway & Western Peripheral Expressway** has been operationalized to divert non destined traffic from Delhi.
- **Ban on 10-year-old diesel vehicles** and 15-year-old vehicles in Delhi NCR.
- Environment protection charges (EPC) have been imposed on diesel vehicles with engine capacity of 2000cc and above in Delhi NCR.
- Introduction of cleaner/alternate fuels like CNG, LPG, ethanol blending in petrol.
- **Faster Adoption and Manufacturing of Electric Vehicles (FAME) -**2 schemes has been rolled out.
- Permit requirement for electric vehicles has been exempted.
- Promotion of public transport and improvements in roads and building of more bridges to ease congestion on roads.

B. Industrial Emission
- Ban on use of pet coke and furnace oil in NCR, use of pet coke in processes in cement plants, lime kilns and calcium carbide manufacturing units.
- Stringent emission norms for Coal based Thermal Power Plants (TPPs).
- Shifting of industrial units to PNG/cleaner fuel in Delhi
- Installation of online continuous emission monitoring devices in highly polluting industries.
- Shifting of brick kilns in Delhi- NCR to zig-zag technology for reduction of pollution

C. Air Pollution due to dust and burning of waste
- Notification of 7 waste management rules covering solid waste, plastic waste, e-waste, bio-medical waste, C&D waste, hazardous waste and battery waste.
- Setting up infrastructure such as waste processing plants.
- Extended Producer Responsibility (EPR) for plastic and e-waste management.
- Ban on burning of biomass/garbage.

D. Monitoring of Ambient Air Quality
- Expansion of air quality monitoring network of manual as well as continuous monitoring stations under programmes such as the National Air Monitoring Programme (NAMP).
- Initiation of pilot projects to assess alternate ambient monitoring technologies such as low-cost sensors and satellite-based monitoring.
- Public Grievances and Response System (PGRS) is developed under NCAP
- Emergency Response System (ERS) has been prepared in NCAP cities.

- Air quality monitoring cell has been constituted across the country in NCAP Cities.
- Implementation of Air Quality Early Warning System for Delhi, Kanpur and Lucknow. The system provides alerts for taking timely actions.
- Public Complaints regarding air pollution issues in Delhi NCR are taken through 'Sameer App', 'Emails' (Aircomplaints.cpcb@gov.in) and 'Social Media Networks' (Facebook and Twitter).
- At present, Ambient air quality monitoring network of the country presently consists of 1340 stations (Manual + CAAQM Stations), covering 489 cities in 28 States and 7 Union Territories (UT). The manual network consists of 910 stations in 389 cities covering 28 States and 7 UTs and CAAQMS network have 430 stations in 227 cities covering 27 States and 4 UTs.

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