GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 1788
TO BE ANSWERED ON 17.03.2022

Air quality of cities in the country

1788.   SHRI JOSE K. MANI:

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

(a)   whether Government has data regarding the change in air quality of cities under the National Clean Air Programme (NCAP) over the last three years;
(b)   if so, the details thereof;
(c)   whether Government has data regarding the number of air quality monitors established across the country over the last three years;
(d)   if so, the State-wise details thereof;
(e)   whether Government has any plans/proposals to reduce the air pollution in cities and improve their air quality; and
(f)   if so, the details of the action taken in this regard?

ANSWER

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

(a) & (b): Analysis of ambient air quality data of Particulate Matter of 132 Non-Attainment Cities (NACs) indicated that PM_{10} concentration has decreased in 107 cities in 2020-2021 as compared to 2018-2019, whereas 22 cities showed anincrease of PM_{10} concentration and 01 city showed no change in concentration. City-wise profiles of PM_{10} concentration for the years 2018-2019 to 2020-2021 is given at**Annexure I.**The ambient air quality data is not available in Vasai Virar and Faridabad for comparison.

(c)& (d):CPCB along with State Pollution Control Boards (SPCB) and Pollution Control Committees (PCC) are monitoring ambient air quality across the country with a network of 1213 monitoring stations (Manual+Continuous Ambient Air Quality Monitoring Stations (CAAQMs)) covering 465 cities. The data regarding the number of air quality monitors established during the last three years is given below:

Year	Number of monitoring stations	
	Manual stations	**CAAQMS**
2021-2022	880	333
2020-2021	818	279
2019-2020	793	228

The details of State / UT – wise ambient air quality monitoring stations are given at **Annexure II**.

(e) & (f): Government has launched National Clean Air Programme (NCAP) in 2019 as a national level strategy to reduce air pollution levels across the country. Several steps are undertaken in the NCAP which interalia includes the following:

- City Specific Clean Air Action Plans have been prepared and rolled out for implementation in 132 non-attainment and million-plus cities. These action plans focus on city specific short/ medium/ long term actions to control air pollution from sources such as vehicular emission, road dust, burning of biomass/ crop/ garbage/ Municipal Solid Waste, landfills, construction activities, industrial emission, etc.

- Under NCAP, Centre level Steering Committee, Monitoring Committee and Implementation Committee has been constituted and periodic review of the implementation progress is conducted.Also a State Level Steering Committee and Monitoring Committee Chaired by Chief Secretary and Principal Secretary, Environment Department respectively. City/ District level Implementation Committee chaired by Municipal Commissioner/ District Magistrate is constituted and periodically review the status of progress of implementation of actions under NCAP.

- Rs. 418.60 crore have been sanctioned to non-attainment cities under NCAP for initiating actions such as expansion of monitoring network, construction and demolition waste management facilities, non-motorised trans port infrastructure, green buffers, mechanical street sweepers, composting units etc.

- 15th Finance Commission (XV-FC) has identified 42 Urban Agglomerations (UA) with million plus population for performance based grants based on improvement in air quality for period FY 2020-21 to 2025-26 under Million-Plus Cities Challenge Fund (MPCCF). Funds to the tune of Rs. 12,139crore has been allocated for the said purpose. For 2021-22 funds to the tune of Rs. 2217 crore have been allocated. Rs. 4400 crore were disbursed during 2020-21 to these cities.

- PRANA a portal for monitoring implementation of NCAP has been launched.

Government has taken several steps for mitigation of air pollution which include introduction of BS-VI norms for fuel and vehicles since April, 2020; promotion of E-vehicles; expansion of network of Metro rails for public transport;promotion of cleaner fuel such as PNG; stringent emission norms for industries including coal based Thermal Power Plants (TPPs); zig-zag technology for brick kilns; Extended Producer Responsibility (EPR) for plastic and e-waste management; real time monitoring of major industrial sectors, etc. Sector wise measures are enclosed at **Annexure III.**

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Cities showing decreased concentration (107 cities) of PM$_{10}$ - 2018-2019 to 2020-2021

No.	States / UTs	Cities	Average concentration (F.Y.) of PM$_{10}$ ($\mu g/m^3$)		
			2018-2019	2019-2020	2020-2021
1.	Andhra Pradesh	Anantpur	68	60	58
2.	Andhra Pradesh	Chittur	63	51	41
3.	Andhra Pradesh	Eluru	68	64	58
4.	Andhra Pradesh	Kadapa	61	48	50
5.	Andhra Pradesh	Kurnool	64	56	52
6.	Andhra Pradesh	Nellore	64	67	56
7.	Andhra Pradesh	Ongole	64	59	49
8.	Andhra Pradesh	Rajamahendravaram	77	61	69
9.	Andhra Pradesh	Srikakulam	71	66	66
10.	Andhra Pradesh	Visakhapatnam	108	68	63
11.	Andhra Pradesh	Vizhianagaram	66	57	56
12.	Assam	Nagaon	97	92	90
13.	Assam	Nalbari	91	75	57
14.	Assam	Silchar	48	45	43
15.	Assam	Sivasagar	68	55	48
16.	Bihar	Gaya	82	76	71
17.	Bihar	Patna	211	170	143
18.	Chandigarh	Chandigarh	98	92	90
19.	Chattisgarh	Durg Bhilainagar	78	75	56
20.	Chattisgarh	Korba	61	54	46
21.	Chattisgarh	Raipur	68	63	55
22.	Delhi	Delhi	226	192	193
23.	Gujarat	Ahmedabad	233	116	120
24.	Gujarat	Rajkot	182	113	94
25.	Gujarat	Surat	175	109	93
26.	Gujarat	Vadodara	199	108	95
27.	Himachal Pradesh	Baddi	179	133	123
28.	Himachal Pradesh	Kala Amb	102	95	64
29.	Himachal	Paonta Sahib	86	98	78

No.	States / UTs	Cities	Average concentration (F.Y.) of PM_{10} ($\mu g/m^3$)		
			2018-2019	2019-2020	2020-2021
	Pradesh				
30.	Himachal Pradesh	Parwanoo	61	60	44
31.	Himachal Pradesh	Sunder Nagar	82	69	63
32.	Haryana	Faridabad	-	-	229
33.	Jharkhand	Dhanbad	252	211	198
34.	Jharkhand	Jamshedpur	121	138	96
35.	Jharkhand	Ranchi	116	108	105
36.	Karnataka	Bengaluru	92	73	62
37.	Karnataka	Hubli-Dharwad	85	78	69
38.	Madhya Pradesh	Bhopal	134	141	114
39.	Madhya Pradesh	Dewas	107	91	93
40.	Madhya Pradesh	Gwalior	133	136	125
41.	Madhya Pradesh	Sagar	75	71	64
42.	Madhya Pradesh	Ujjain	113	90	104
43.	Maharashtra	Akola	71	66	54
44.	Maharashtra	Amravati	106	89	58
45.	Maharashtra	Aurangabad	77	76	65
46.	Maharashtra	Badlapur	148	88	67
47.	Maharashtra	Chandrapur	107	93	100
48.	Maharashtra	Greater Mumbai	132	106	98
49.	Maharashtra	Jalgaon	70	57	53
50.	Maharashtra	Jalna	101	95	86
51.	Maharashtra	Kolhapur	89	95	83
52.	Maharashtra	Latur	90	84	54
53.	Maharashtra	Nagpur	93	80	68
54.	Maharashtra	Nashik	73	57	51
55.	Maharashtra	Navi Mumbai	80	54	52
56.	Maharashtra	Pune	103	81	69
57.	Maharashtra	Sangli	80	70	71
58.	Maharashtra	Thane	118	79	105
59.	Maharashtra	Ulhasnagar	131	83	66
60.	Maharashtra	Vasai Virar	-	99	-
61.	Meghalaya	Byrnihat	155	97	127
62.	Nagaland	Dimapur	124	84	85
63.	Nagaland	Kohima	103	81	84
64.	Odisha	Angul	101	95	88
65.	Odisha	Balasore	86	86	78
66.	Odisha	Bhubneshwar	100	103	78
67.	Odisha	Cuttack	116	104	86

No.	States / UTs	Cities	Average concentration (F.Y.) of PM_{10} ($\mu g/m^3$)		
			2018-2019	2019-2020	2020-2021
68.	Odisha	Kalinga Nagar	120	113	104
69.	Odisha	Rourkela	118	112	96
70.	Odisha	Talcher	113	122	98
71.	Punjab	Amritsar	124	109	113
72.	Punjab	Dera Baba Nanak	84	68	66
73.	Punjab	Khanna	104	113	101
74.	Rajasthan	Alwar	176	126	110
75.	Rajasthan	Jaipur	144	124	112
76.	Rajasthan	Jodhpur	218	167	155
77.	Rajasthan	Kota	144	102	100
78.	Rajasthan	Udaipur	141	136	109
79.	Tamil Nadu	Chennai	79	60	60
80.	Tamil Nadu	Madurai	85	66	57
81.	Tamil Nadu	Trichy	109	58	40
82.	Tamil Nadu	Tuticorin	98	84	84
83.	Telangana	Hyderabad	96	86	88
84.	Telangana	Patencheru	81	87	77
85.	Telangana	Sangareddy	82	87	77
86.	Uttar Pradesh	Agra	196	163	188
87.	Uttar Pradesh	Allahabad	225	219	184
88.	Uttar Pradesh	Anpara	176	169	142
89.	Uttar Pradesh	Bareily	221	185	193
90.	Uttar Pradesh	Firozabad	211	213	186
91.	Uttar Pradesh	Gajraula	228	217	168
92.	Uttar Pradesh	Ghaziabad	256	218	218
93.	Uttar Pradesh	Gorakpur	284	278	168
94.	Uttar Pradesh	Kanpur	217	200	169
95.	Uttar Pradesh	Khurja	202	226	194
96.	Uttar Pradesh	Lucknow	210	216	209
97.	Uttar Pradesh	Moradabad	218	243	206
98.	Uttar Pradesh	Noida	252	213	197
99.	Uttar Pradesh	Raebareli	140	161	98
100.	Uttar Pradesh	Varanasi	211	180	168
101.	Uttarakhand	Dehradun	192	166	144
102.	Uttarakhand	Rishikesh	133	136	77
103.	West Bengal	Asansol	123	124	114
104.	West Bengal	Barrackpore	107	108	75
105.	West Bengal	Durgapur	144	125	103
106.	West Bengal	Haldia	95	69	93
107.	West Bengal	Howrah	145	144	117
108.	West Bengal	Kolkata	128	101	99
109.	West Bengal	Rani Ganj	161	177	107

Cities showing increased concentration (22 cities) of PM$_{10}$ - 2018-2019 to 2020-2021

No.	States / UTs	Cities	Average concentration (F.Y.) of PM$_{10}$ ($\mu g/m^3$)		
			2018-2019	2019-2020	2020-2021
1.	Andhra Pradesh	Guntur	49	58	56
2.	Andhra Pradesh	Vijayawada	64	97	104
3.	Assam	Guwahati	109	113	114
4.	Bihar	Muzafarpur	148	138	180
5.	Himachal Pradesh	Damtal	62	52	65
6.	Himachal Pradesh	Nalagarh	78	113	90
7.	Jammu&Kashmir	Jammu	157	145	186
8.	Jammu&Kashmir	Srinagar	132	132	163
9.	Karnataka	Devanagere	50	66	72
10.	Karnataka	Gulburga / Kalaburgi	50	80	92
11.	Madhya Pradesh	Indore	85	91	96
12.	Madhya Pradesh	Jabalpur	95	111	106
13.	Maharashtra	Solapur	65	90	79
14.	Punjab	DeraBassi	100	100	105
15.	Punjab	Jalandhar	115	121	150
16.	Punjab	Ludhiana	123	115	129
17.	Punjab	NayaNangal	94	98	95
18.	Punjab	Patiala	98	107	102
19.	Telangana	Nalgonda	59	59	60
20.	Uttar Pradesh	Jhansi	94	102	99
21.	Uttar Pradesh	Meerut	178	203	200
22.	Uttarakhand	Kashipur	110	130	129

Cities showing no change in concentration (01 cities) of PM$_{10}$- 2018-2019 to 2020-2021

States / UTs	No.	Cities	Average concentration (F.Y.) of PM$_{10}$ ($\mu g/m^3$)		
			2018-2019	2019-2020	2020-2021
Punjab	1.	MandiGobindgarh	131	130	131

Note. Vasai Virar - data not available for F.Y. 2018-19 and F.Y 2020-21 ;

Faridabad- data not available for F.Y. 2018-19, 2019-2020.

Details of Ambient Air Quality Monitoring Stations in State / UT

Sl. No.	State / Union Territory	Number of stations					
		2019-2020		2020-2021		2021-2022	
		CAAQMS	NAMP	CAAQMS	NAMP	CAAQMS	NAMP
1.	Andaman & Nicobar (UT)	0	0	0	0	0	2
2.	Andhra Pradesh	6	72	6	72	6	72
3.	Arunachal Pradesh	0	2	1	2	1	2
4.	Assam	1	23	2	23	2	31
5.	Bihar	9	8	11	8	32	8
6.	Chandigarh (UT)	1	5	1	5	2	5
7.	Chattisgarh	0	13	0	13	2	17
8.	Dadra & Nagar Haveli and Daman & Diu (UT)	0	6	0	6	0	6
9.	Delhi (UT)	38	10	40	10	40	10
10.	Goa	0	18	0	18	0	18
11.	Gujarat	6	24	6	24	15	24
12.	Haryana	28	5	30	5	30	5
13.	Himachal Pradesh	0	25	0	25	0	25
14.	Jammu & Kashmir (UT)	0	7	1	7	1	29
15.	Jharkhand	1	10	1	10	1	10
16.	Karnataka	20	30	31	30	31	30
17.	Kerala	8	28	9	29	9	29
18.	Ladakh (UT)	0	0	0	0	0	0
19.	Lakshadweep (UT)	0	1	0	1	0	1
20.	Madhya Pradesh	16	39	16	42	16	42
21.	Maharashtra	22	80	41	80	41	80
22.	Manipur	0	1	0	1	0	1
23.	Meghalaya	1	10	1	10	1	10
24.	Mizoram	0	11	1	19	1	19
25.	Nagaland	0	4	1	9	1	9
26.	Odisha	2	38	2	38	2	38
27.	Pondicherry (UT)	0	6	1	6	1	6
28.	Punjab	8	47	8	47	8	47
29.	Rajasthan	10	39	10	39	10	39
30.	Sikkim	0	9	0	9	0	9
31.	Tamilnadu	5	31	11	31	11	55

Sl. No.	State / Union Territory	Number of stations					
		2019-2020		2020-2021		2021-2022	
		CAAQMS	NAMP	CAAQMS	NAMP	CAAQMS	NAMP
32.	Telangana	6	25	6	25	6	25
33.	Tripura	0	2	1	2	1	2
34.	Uttar Pradesh	26	77	27	82	48	84
35.	Uttarakhand	0	8	0	8	0	8
36.	West Bengal	14	79	14	82	14	82
	28 states + 8 UTs	**228**	**793**	**279**	**818**	**333**	**880**

Measures taken by the Government for Air Quality Management

Vehicular Pollution Control

- Leapfrogging from BS-IV to BS-VI norms for fuel and vehicles since April, 2020.
- 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.
- Introduction of cleaner/alternate fuels like CNG, LPG, ethanol blending in petrol.
- Faster Adoption and Manufacturing of Electric Vehicles (FAME) -2 scheme 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.

Industrial Pollution Control

- Stringent emission norms for Coal based Thermal Power Plants (TPPs).
- Pet coke and furnace oil have been banned as fuel in Delhi and NCR States.
- Shifting of industrial units to PNG.
- Installation of online continuous emission monitoring devices in highly polluting industries.
- Shifting of Brick kilns to zig-zag technology for reduction of pollution

Waste Management

- Notifications of 6 waste management rules covering solid waste, plastic waste, e-waste, bio-medical waste, C&D waste and hazardous 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.

Crop Residue Management

- 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 establishment of Custom Hiring Centres.
- Sustainable Alternative Towards Affordable Transportation (SATAT) has been launched as an initiative to set up Compressed Bio-Gas (CBG) production plants and make CBG available in the market for use in automotive fuels.

Monitoring of Ambient Air Quality

- Expansion of air quality monitoring network of manual as well as continuous monitoring stations under programmes such as National Air Monitoring Programme (NAMP).

- Initiation of pilot projects to assess alternate ambient monitoring technologies such as low-cost sensors and satellite-based monitoring.
- Implementation of Air Quality Early Warning System for Delhi, Kanpur and Lucknow. The system provides alerts for taking timely actions.

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