GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
STARRED QUESTION NO. 155
TO BE ANSWERED ON 13.02.2023

Most Polluted Cities/Towns

*155.   SHRI HIBI EDEN:

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

(a)   whether the Government has identified the most polluted   cities/towns in the country;
(b)   whether the Government has any proposal to stop the increasing pollution level of those cities and towns;
(c)   whether Kochi's air quality turned worse during the last three years;
(d)   whether according to statistics of Air Quality Index (AQI), Vyttila, Kochi falls under the 'unhealthy' category;
(e)   whether a considerable reduction was detected in the AQI at the nine real-time air quality monitoring stations in six districts of Kerala following the lockdown in May 2021; and
(f)   if so, the details thereof along with the steps taken/proposed to   be taken in this regard?

ANSWER

MINISTER FOR ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI BHUPENDER YADAV)

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

***

STATEMENT REFERRED TO IN REPLY OF PARA (a) TO (f) OF STARRED QUESTION NO. 155 TO BE ANSWERED ON 13.02.2023 IN LOK SABHA RAISED BY SHRI HIBI EDEN TITLED "MOST POLLUTED CITIES/TOWNS"

(a)&(b): Ministry of Environment Forest & Climate Change (MoEF&CC) launched National Clean Air Programme (NCAP) in January, 2019 which is a long-term, time-bound national level strategy for prevention, control and abatement of air pollution. Under NCAP, it has been envisaged to achieve targets of 20 to 30% reduction in Particulate Matter concentrations by 2024 in 131 cities of 24 States with respect to base year 2017. Subsequently, the target has been revised to achieve up to 40% reduction or achieve National Ambient Air Quality Standards (NAAQS) in terms PM concentrations by 2025-26.

131 Cities include 123 non-attainment cities where air quality has exceeded National Ambient Air Quality Standards (NAAQS) for consecutively for five years, and 8 Million Plus population cities/ Urban Agglomerations. List of 131 cities covered under NCAP is enclosed at **Annexure-I.** Under NCAP, Cities are provided performance linked funds for implementing City Action Plans for taking measures to improve air quality as per the specified annual targets in respective cities.

(c) & (d): Ambient air quality data of Kochi city measured during the years 2019-2021for parameters of PM10, PM2.5, SO2, NO2 is found to be within the National Ambient Air Quality Standards. The air quality data of Kochi City measured during last three years (2019-2021) and Air Quality Index for the years 2021 and 2022 are provided at **Annexure II.**

(e)& (f): Air Quality Index (AQI) computed through six ambient air quality monitoring stations in cities Ernakulam, Eloor, Kannur, Kochi, Kollam and Kozhikode, during years 2020,2021 & 2022 is falling under Good, Satisfactory and Moderate categories (AQI<200). One day out of measured days in cities Kannur, Kochi and Kollam is found to be under Poor Category (AQI>200). Details of AQI data of six air quality monitoring stations of Kerala are provided at **Annexure III.**The steps taken by Government to improve the air quality are enclosed as **Annexure-IV**.

<div align="center">***</div>

List of 131 cities covered under National Clean Air Programme (NCAP)

S. No.	State	City
1.	Andhra Pradesh (13)	Anantapur*
2.		Chitoor
3.		Eluru
4.		Guntur
5.		Kadapa
6.		Kurnool
7.		Nellore
8.		Ongole
9.		Rajahmundry
10.		Srikakulam
11.		Vijaywada*
12.		Vishakhapatnam*
13.		Vizianagaram
14.	Assam (5)	Guwahati
15.		Nagaon
16.		Nalbari
17.		Sibsagar
18.		Silcher
19.	Bihar (3)	Gaya
20.		Muzzaffarpur
21.		Patna*
22.	Chandigarh (1)	Chandigarh
23.	Chhattisgarh (3)	*DurgBhillainagar
24.		Korba

25.		*Raipur
26.	Delhi (1)	Delhi
27.	Gujarat (4)	Ahmedabad*
28.		Surat*
29.		Vadodara*
30.		Rajkot*
31.	Himachal Pradesh (7)	Baddi
32.		Damtal
33		Kala Amb
34.		Nalagarh
35.		Paonta Sahib
36.		Parwanoo
37.		Sunder Nagar
38.	Jammu & Kashmir (2)	Jammu
39.		Srinagar
40.	Jharkhand (3)	Dhanbad*
41.		Jamshedpur*
42.		Ranchi*
43.	Karnataka (4)	Bangalore*
44.		Devangere
45.		Gulburga
46.		Hubli-Dharwad
47.	Madhya Pradesh (7)	Bhopal*
48.		Dewas
49.		Gwalior*
50.		Indore*
51.		Jabalpur*
52.		Sagar
53.		Ujjain

54.		Akola
55.		Amravati
56.		Aurangabad*
57.		Badlapur*
58.		Chandrapur
59.		Jalgaon
60.		Jalna
61.		Kolhapur
62.		Latur
63.	Maharashtra (19)	Mumbai*
64.		Nagpur*
65.		Nashik*
66.		Navi Mumbai*
67.		Pune (Hadapsar&Mohammadwadi)*
68.		Sangli
69.		Solapur
70.		Thane*
71.		Vasai Virar*
72.		Ulhasnagar*
73.	Meghalaya (1)	Byrnihat
74.	Nagaland (2)	Dimapur
75.		Kohima
76.		Angul
77.		Balasore
78.	Orissa (7)	Bhubneshwar
79.		Cuttack
80.		Kalinga Nagar
81.		Rourkela

82.		Talcher
83.	Punjab (9)	Amritsar*
84.		Dera Baba Nanak
85.		DeraBassi
86.		Gobindgarh
87.		Jalandhar
88.		Khanna
89.		Ludhiana*
90.		NayaNangal
91.		Patiala
92.	Rajasthan (5)	Alwar
93.		Jaipur*
94.		Jodhpur*
95.		Kota*
96.		Udaipur
97.	Tamil Nadu (4)	Trichy*
98.		Tuticorin
99.		Chennai*
100.		Madurai*
101.	Telangana (4)	Hyderabad*
102.		Nalgonda
103.		Patencheruvu*
104.		Sangareddy
105.	Uttar Pradesh (17)	Agra*
106.		Allahabad*
107.		Anpara
108.		Bareily
109.		Firozabad
110.		Gajraula

111.		Ghaziabad*
112.		Gorakhpur
113.		Jhansi
114.		Kanpur*
115.		Khurja
116.		Lucknow*
117.		Moradabad
118.		Noida
119.		Raebareli
120.		Varanasi*
121.		Meerut*
122.	Uttarakhand (3)	Dehradun
123.		Kashipur
124.		Rishikesh
125.	West Bengal (6)	Asansol*
126.		Barrackpore*
127.		Durgapur
128.		Haldia
129.		Howrah*
130.		Kolkata*
131.	Haryana (1)	Faridabad*

* Cities funded under 15th Finance Commission air quality performance grant.

Ambient air quality data of Kochi city, Kerala during 2019, 2020 and 2021

Years	Annual average concentration in µg/m³			
	SO_2	NO_2	PM_{10}	$PM_{2.5}$
2019	3	14	46	32
2020	9	11	53	29
2021	6	11	53	30
National Ambient Air Quality Standard	50	40	60	40

Number of days in different category of Air Quality Index in Kochi during 2021 and 2022

Months	Good	Satisfactory	Moderate	Poor	Very Poor	Severe	Total days
	(0–50)	(51–100)	(101–200)	(201–300)	(301–400)	(>401)	
2021	139	91	26	2	0	0	258
2022	31	122	115	23	0	0	291

Number of days in different category of Air Quality Index in Kerala during April-June for the year 2020,2021 & 2022 (following lockdown period of May 2021)

Monthly Comparison of Number of Days in different category of AQI: Kerala									
Year→	2020			2021			2022		
City : Ernakulam; Station : Kacheripady									
AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good				5	22	18	18	16	22
Satisfactory	24	19	10	14	2	7	10	8	3
Moderate		9	14	1					
Poor									
Very poor									
Severe									
City : Eloor; Station : Udyogamandal									
AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good	14	7	14	27	19				
Satisfactory	16	19	9	3	11	27	29	13	29
Moderate		1	3						
Poor									
Very poor									
Severe									
City : Kannur; Station : Thavakkara									
AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good	5	20	26		1	4	4	1	
Satisfactory	14	8		17	17	14	21	27	27
Moderate				12	11	5	1	1	
Poor				1					
Very poor									
Severe									
City : Kochi; Station : Vyttila									
AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good	16				14	13	2	1	11
Satisfactory	10	29	29	21	3	7	14	19	15
Moderate				1			7	8	2
Poor								1	
Very poor									
Severe									
City : Kollam; Station : Polayathode									
AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good	8	10	9		11	4			2
Satisfactory	6	13	16	18	14	24	25	26	28

Monthly Comparison of Number of Days in different category of AQI: Kerala								
Year→	**2020**			**2021**			**2022**	
Moderate	1			10	1	2		3	
Poor				1					
Very poor									
Severe									

City :   Kozhikode; Station :   Palayam

AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good	23	29	28		20	17	3		
Satisfactory	7	2		28	6	8	24	28	27
Moderate									
Poor									
Very poor									
Severe									

City :Thiruvananthapuram ; Station :   Kariavattom

AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good	4	23	14	14			20	9	
Satisfactory	23	7	5	15	20	30	9	9	11
Moderate									
Poor									
Very poor									
Severe									

City :Thiruvananthapuram ; Station :   Plammoodu

AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good	25	25	21	17	29	24	24	27	28
Satisfactory	4		4	10		3	6	4	
Moderate				2					
Poor									
Very poor									
Severe									

City :   Thrissur; Station :   Corporation Ground

AQI Category	Apr	May	June	Apr	May	June	Apr	May	June
Good					3	4		13	9
Satisfactory				26	15	25	17	1	1
Moderate				2					
Poor									
Very poor									
Severe									

Measures taken by the Government for Air Quality Management

i. Vehicular Emissions:

- 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 Expressways 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 all diesel vehicles older than 10 years and all petrol vehicles older than 15 years, in Delhi and NCR. (Hon'ble SC order dated 29.10.2018).
- 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.
- 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.
- RFID (radio-frequency identity) system implemented by South Delhi Municipal Corporation (SDMC) for collection of toll and Environment Compensation Charges from commercial vehicles entering Delhi.
- Introduction of BS VI compliant vehicles across the country since April, 2020.
- 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.
- Department of Heavy Industry is providing subsidy on e-vehicles under Faster Adoption and Manufacture of (Hybrid &) Electric Vehicles in India (FAME -II India) scheme.

ii. Industrial Emissions:

- Notification regarding SO2 and NOx emission standards have been issued for Thermal Power Plants
- Ban on use of pet coke and furnace oil as fuel in NCR States since October 24, 2017 and ban on use of imported pet coke in the country since July 26, 2018,

with exception for use in permitted processes (processes in cement plants, lime kilns and calcium carbide manufacturing units).

- Shifting of industrial units to PNG.
- Installation of online continuous emission monitoring devices in highly polluting industries.
- Brick kilns shift to zig-zag technology or vertical shaft or use Piped Natural Gas as fuel in brick making to reduce pollution.
- System and Procedure for Emission Compliance Testing of Retro-fit Emission
- Control Devices (RECD) for Diesel Power Generating Set Engines up to Gross Mechanical Power 800 kW developed.
- Development of low carbon strategies across sectors such as phasing out older coal based power plants, compliance of standards, City Gas Distribution (CGD) network, emphasis on improved power reliability in urban areas, etc.

iii. Air Pollution due to dust and burning of waste:

- Notification of seven 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.
- Bio-mining of three dumpsites at Bhalswa, Okhla and Ghazipur is being carried out.
- 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 Centers. In 2022, the Scheme has been merged with Sub-Mission on Agricultural Mechanization (SMAM) and SMAM has been merged with RashtriyaKrishiVikasYojana (RKVY).
- The Commission for Air Quality Management in NCR and Adjoining Areas (CAQM) on 17.09.2021 directed the coal-based Thermal Power plants situated up to a radius of 300 Km of Delhi to co-fire biomass based Pellets, Torrefied Pellets/Briquettes (with focus on paddy straw) with Coal (up to 5-10%).

iv. 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 satellite-based monitoring.

vi. Other Steps:

- 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.
- 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).
- Introduction of green crackers with low emission and noise levels. Green Crackers have 30% potential reduction of PM and gaseous emissions compared to conventional firework.
- Ministry is promoting people's participation and awareness building among citizens for environmental conservation through Green Good Deeds that focus on promotion of cycling, saving water and electricity, growing trees, proper maintenance of vehicles, following of lane discipline and reducing congestion on roads by car-pooling etc.
- Extension of UjawalaYojana to ensure shifting to cleaner fuel.
- Swacch Bharat Mission and Waste Management initiatives.
- The Commission for Air Quality Management in NCR and Adjoining Areas (CAQM) has come out with a policy to curb air pollution in NCR, along with a standard list of approved fuels for NCR for industrial and other applications.

***