

## Three years of the National Clean Air Programme: A status check

**New Delhi, January 10, 2021:** Three years since the National Clean Air Programme (NCAP) was implemented across India to reduce particulate matter levels in 132 cities by 20-30%, data shows there has been little or no progress on ground. An analysis of the government's air quality data shows that not only have most non-attainment cities reduced PM 2.5 and PM 10 levels only marginally but some have also recorded an increase.

### About NCAP and its targets

The union government launched the National Clean Air Program (NCAP) on 10th January 2019 to address air pollution in 102 cities, to which 20 more cities were added later in the year and 10 more subsequently. These [132](#) cities are called non-attainment cities as they did not meet the national ambient air quality standards (NAAQS) for the period of 2011-15 under the National Air Quality Monitoring Program (NAMP). The country's current annual safe limits for PM 2.5 and PM 10 are 40 micrograms/per cubic metre (ug/m<sup>3</sup>) and 60 micrograms/per cubic metre.

The NCAP has set a target of reducing key air pollutants PM10 and PM2.5 (ultra-fine particulate matter) by 20-30% in 2024 taking the pollution levels in 2017 as the base year to improve upon. The Ministry of Environment, Forests and Climate Change (MoEF&CC) and Central Pollution Control Board (CPCB) are leading the program at the national level. At the state level, State Pollution Control Boards (SPCBs) are mandated to develop the city action plans and monitor their implementation by identified departments and agencies.

### Three-year status check

An analysis of air quality monitoring data from the Continuous Ambient Air Quality Monitoring System (CAAQMS) shows that among the cities where PM 2.5 and PM 10 levels for 2019 and 2021 were available and monitors had an uptime of at least 50%, Varanasi, Uttar Pradesh recorded the highest reduction. Only 37 out of the 132 cities met the criteria.

Varanasi's annual PM 2.5 levels reduced 52% from 91 ug/m<sup>3</sup> in 2019 to 44 ug/m<sup>3</sup> in 2021 and its PM 10 levels reduced 54% from 202 ug/m<sup>3</sup> in 2019 to 93 ug/m<sup>3</sup> last year. In 2019, Varanasi had just one CAAQMS monitor which increased to four by 2021. The other cities that have already met its reduction target of at least 20% were Hubli, Karnataka where PM 2.5 and PM 10 reduced by 42% and 40% respectively and Talcher, Odisha which saw a PM 2.5 reduction of 20% and PM 10 reduction of 53%. Ahmedabad recorded a 26% decrease in PM 10 levels. On the other hand, Navi Mumbai's PM 2.5 levels increased from 39 ug/m<sup>3</sup> to 53 ug/m<sup>3</sup> and PM 10 levels increased from 96 ug/m<sup>3</sup> to 122 ug/m<sup>3</sup> from 2019 to 2021. Three years later, none of the analysed non-attainment cities have met the CPCB's PM 10 safe standard of 60 ug/m<sup>3</sup>. Data for more cities can be viewed [here](#).

The [NCAP Tracker](#) ranked the 10 most and least polluted cities in 2019 and tracked the performance of these based on PM 10 and PM 2.5 data available from CAAQMS. Considering only those cities where monitors recorded a minimum uptime of 50%, a total of 38, 46 and 58 cities were analysed and ranked in 2019, 2020 and 2021 respectively. Similarly, the Tracker also ranked non-attainment cities (which recorded at least 52 days of data each

year) based on NAMP data for the years 2017 to 2020. However, the number of monitored days for 2020 was not available and hence all cities have been considered.

While in the same city, CAAQMS and NAMP monitors are placed at different locations and hence, cities have been ranked separately.

## CAAQMS PM 2.5 Ranking

### Most Polluted

Ghaziabad, Uttar Pradesh with annual PM 2.5 levels above 100 remained at the top of the table in the most polluted cities except 2020 when Lucknow, Uttar Pradesh ranked first with an annual PM 2.5 level of 116. Most other cities like Noida, Delhi, Moradabad and Jodhpur saw only a marginal dip in PM 2.5 levels and remained in the top 10 polluted non-attainment cities throughout the year. Varanasi with its drastic dip in PM 2.5 levels went from the fifth rank in 2019 to the 37th in 2021. While four of the top 10 polluted cities were from Uttar Pradesh, West Bengal had three cities - Howrah, Asansol and Kolkata - on the list.

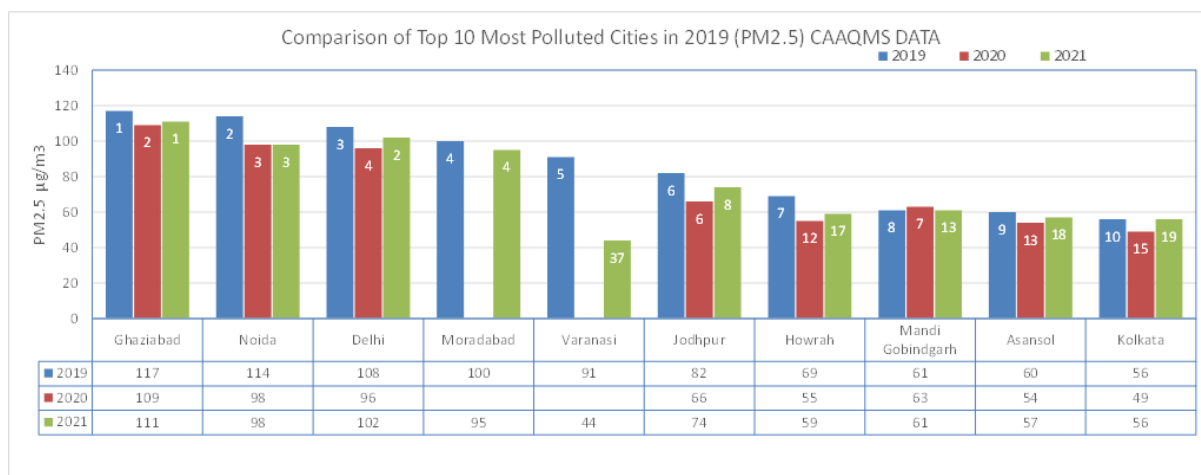


Image: Comparison of PM 2.5 levels for the top 10 polluted non-attainment cities

Data Source: Continuous Ambient Air Quality Monitoring System (CAAQMS). Compiled by Respirer Living Sciences

### Least polluted

Vijaywada in Andhra Pradesh was the least polluted among the non-attainment cities with a PM 2.5 annual average of 24  $\mu\text{g}/\text{m}^3$ . However, in 2020, monitors reported only 3% uptime and no data was not available for the city in 2021 and hence tracking its progress was not possible. Several cities from Maharashtra featured on the list in 2019, Mumbai, Navi Mumbai, Nashik and Chandrapur recorded an increase in PM 2.5 levels and slipped from the table in 2021. For instance, Mumbai PM 2.5 levels were up from 34  $\mu\text{g}/\text{m}^3$  in 2019 to 53  $\mu\text{g}/\text{m}^3$  in 2021, an increase of 38%. On the ranking table, Mumbai slipped from seven in 2019 to 15 in 2020 and 27 in 2021. Despite the Covid-19 resultant lockdown, the city's annual PM 2.5 levels were higher in 2020 as compared to 2019.

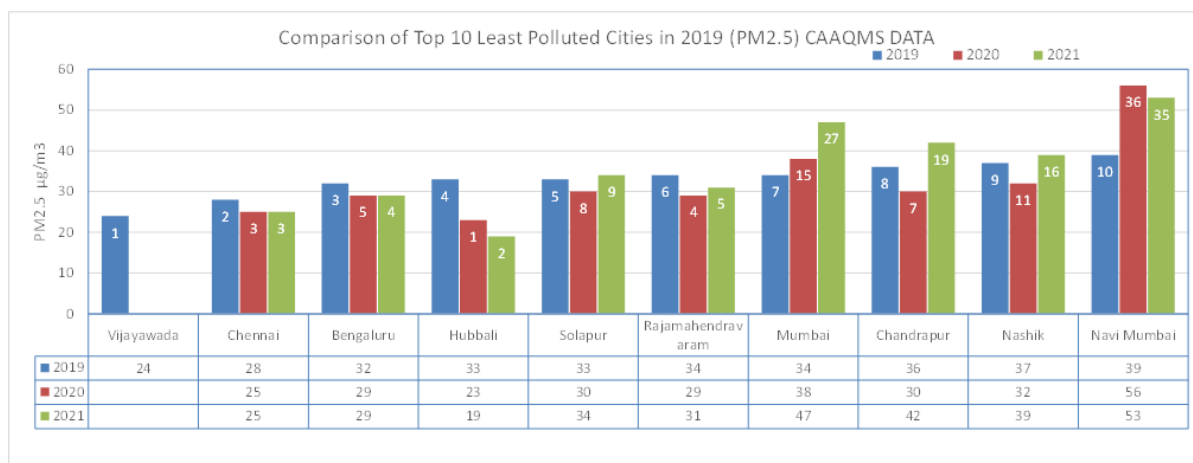


Image: Comparison of PM 2.5 levels for the 10 least polluted non-attainment cities

Data Source: Continuous Ambient Air Quality Monitoring System (CAAQMS). Compiled by Respires Living Sciences

## CAAQMS PM 10 Ranking

### Most polluted

Eight cities - Ghaziabad, Delhi, Noida, Varanasi, Moradabad, Jodhpur, Mandi Gobindgarh and Howrah - out of the 10 most polluted for PM 10 also featured on the most polluted for PM 2.5 as well. Of the 10 cities, four are from Uttar Pradesh. Like for PM 2.5, Ghaziabad was on the top of the list of most polluted cities for PM 10 levels as well. The city only saw a marginal reduction in PM 10 levels from 243 ug/m<sup>3</sup> to 238 ug/m<sup>3</sup>. Once again, Varanasi's dip in PM 10 levels resulted in it improving its ranking. Despite the reduction, the PM 10 levels continue to remain way above the CPCB permissible limit of 60 ug/m<sup>3</sup>. Similarly, Talcher saw its PM 10 levels dip from 178 ug/m<sup>3</sup> in 2019 to 84 ug/m<sup>3</sup> in 2021.

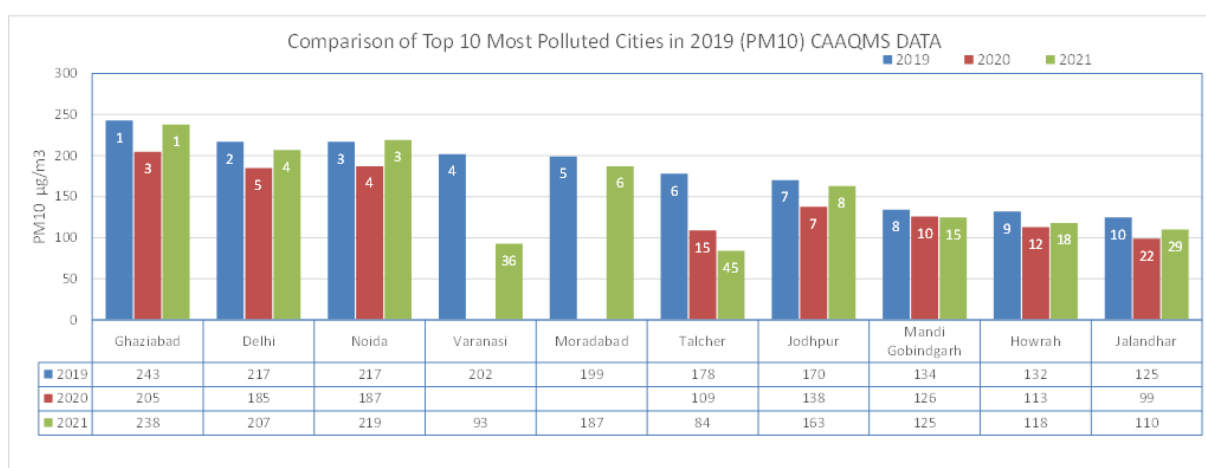


Image: Comparison of PM 10 levels for the 10 most polluted non-attainment cities

Data Source: Continuous Ambient Air Quality Monitoring System (CAAQMS). Compiled by Respires Living Sciences

### Least polluted

While Chennai, Tamil Nadu was the least polluted in terms of PM 10 in 2019, an increase of levels from 55 ug/m<sup>3</sup> to 58 ug/m<sup>3</sup>, it did not hold on to its spot in 2021. The other city which saw a drastic dip in ranking (from 7 to 26) was Mumbai where PM 10 increased from 82 ug/m<sup>3</sup> in 2019 to 104 ug/m<sup>3</sup>. With a PM 10 reduction from 89 ug/m<sup>3</sup> in 2019 to 53 ug/m<sup>3</sup> in 2021, Hubballi improved its ranking from 10 to 2.

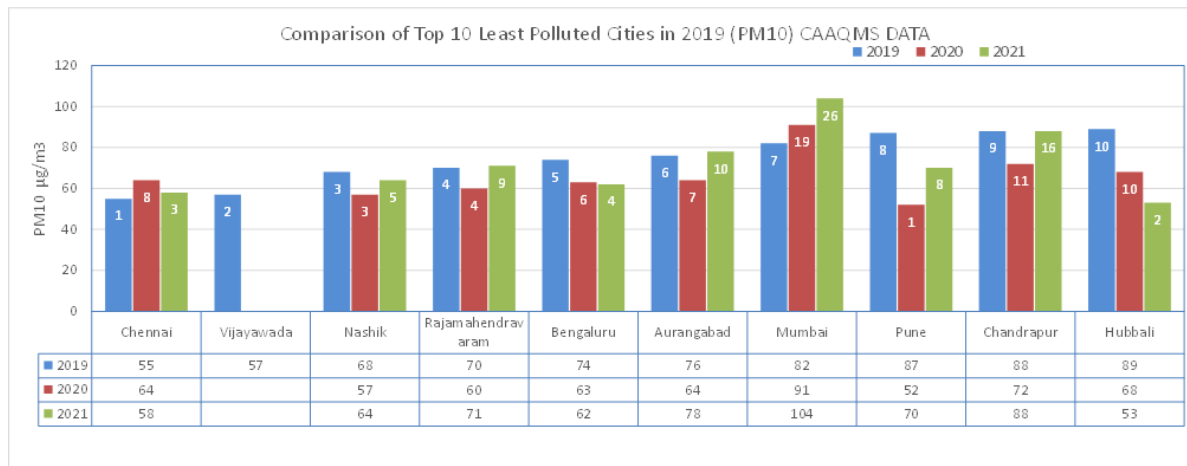


Image: Comparison of PM 10 levels for the 10 least polluted non-attainment cities

Data Source: Continuous Ambient Air Quality Monitoring System (CAAQMS). Compiled by Respirer Living Sciences

## NAMP PM 2.5 Ranking

### Most polluted

Even as per the NAMP data, most cities which were the most polluted in 2017 continue to remain in the top 10 in 2020 as well. While Agra, the most polluted city in 2017 only marginally improved its PM 2.5 levels from 124 ug/m<sup>3</sup> to 112 ug/m<sup>3</sup> in 2020, Delhi reported an increase in PM 2.5 in the same period and was the most polluted city in 2020.

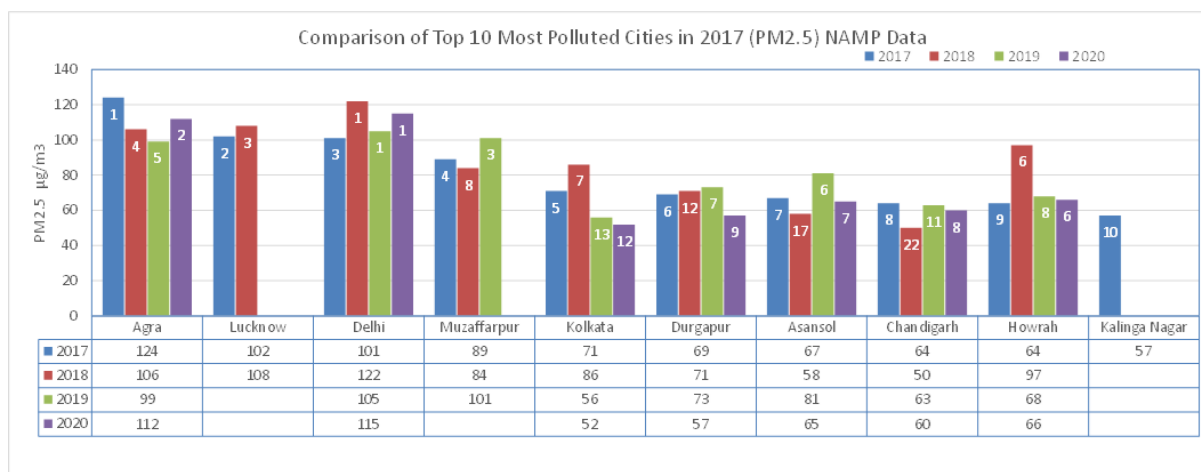


Image: Comparison of PM 2.5 levels for the 10 most polluted non-attainment cities

Data Source: National Ambient Monitoring Programme. Compiled by Respirer Living Sciences

### Least polluted

Based on the NAMP data, Himachal Pradesh’s Parwanoo has held onto its position of being the least polluted among the non-attainment cities as it reduced its PM 2.5 concentration from 20 ug/m<sup>3</sup> in 2017 to 10 ug/m<sup>3</sup> in 2020. Though considerably lower, this is still higher than the World Health Organisation’s PM 2.5 safe limit of 5 ug/m<sup>3</sup>. Cities like Jabalpur, Haldia and Surat were among the top 10 least polluted in 2017 but have reported increased PM 2.5 levels and slipped out of the top 10.

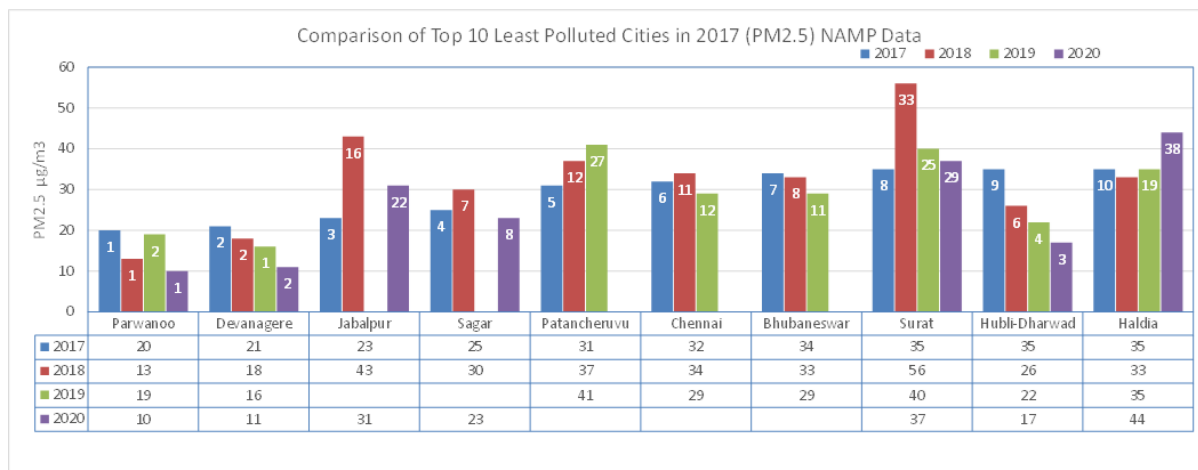


Image: Comparison of PM 2.5 levels for the 10 least polluted non-attainment cities

Data Source: National Ambient Monitoring Programme. Compiled by Respirer Living Sciences

## NAMP PM 10 Ranking

### Most polluted

The list of most polluted cities based on PM 10 from the NAMP are a closer match to the CAAQMS list. Like the CAAQMS data, Ghaziabad remains one of the most polluted cities. Except Noida and Gajraula in Uttar Pradesh all the 10 cities on the list saw a steady decline in PM 10 levels from 2017 onwards. In 2020, a clampdown on non-essential activities during Covid-19 pandemic led to a significant decline in air pollution levels across India.

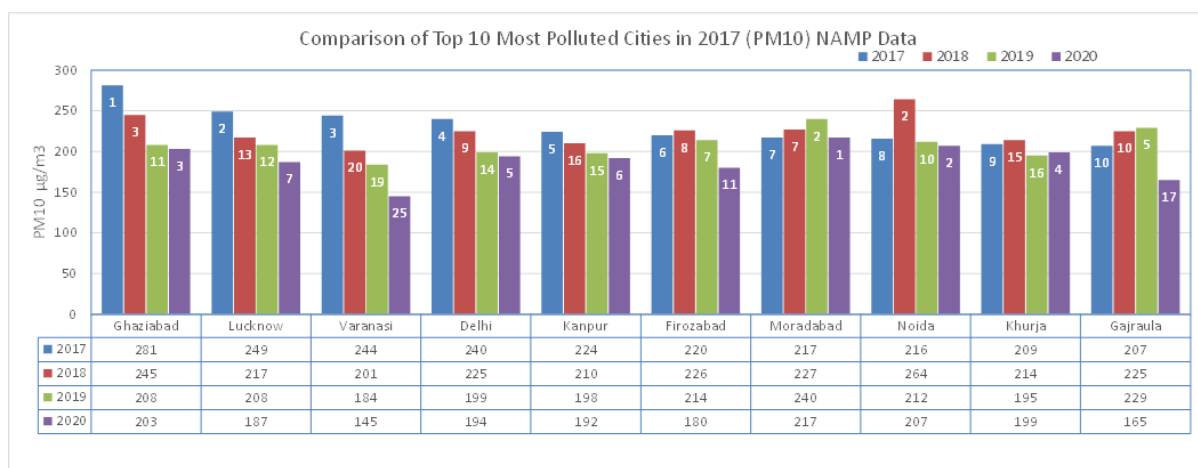


Image: Comparison of PM 10 levels for the 10 most polluted non-attainment cities

Data Source: National Ambient Monitoring Programme. Compiled by Respirer Living Sciences

## Least polluted

Only the city of Ongole, Andhra Pradesh improved its ranking from 2017 to 2020. While most cities on the list showed improvement in the PM 10 levels, Gulbarga in Karnataka recorded an increase in PM 10 from 54 ug/m<sup>3</sup> in 2017 to 81 ug/m<sup>3</sup> in 2020. Unlike the most polluted cities which are predominantly from the Indo-Gangetic plain region, the least polluted cities are predominantly from Andhra Pradesh and Telangana.

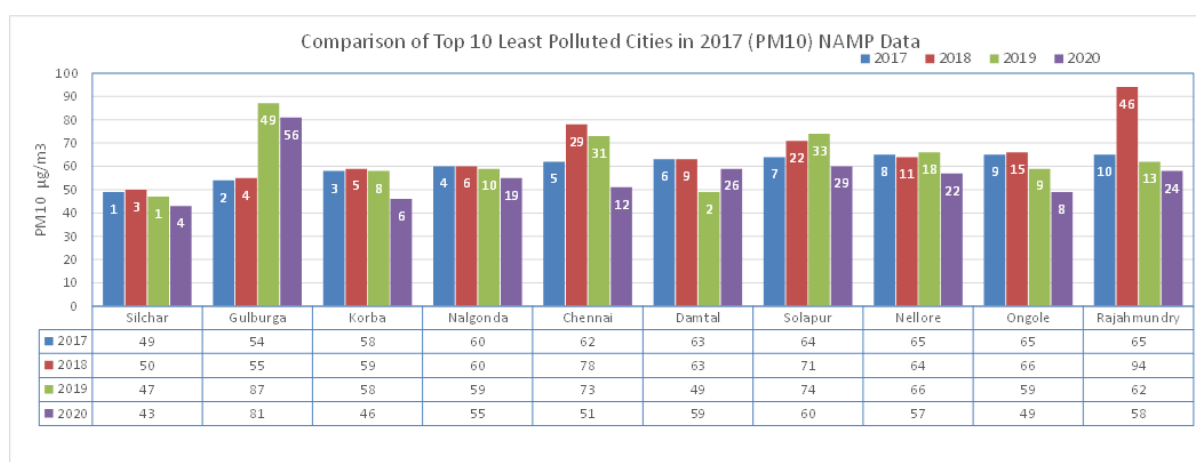


Image: Comparison of PM 10 levels for the 10 least polluted non-attainment cities

Data Source: National Ambient Monitoring Programme. Compiled by Respirer Living Sciences

## NCAP and the finances

Under NCAP, Rs 375.44 crore has been provided to 114 cities during 2018-19 to 2020-2021 and Rs 290 crore is allocated to 82 cities for the financial year 2021-2022. The programme has an allocation of Rs 700 crore envisaged for 2021-2026.

However, data presented at the NCAP's National Apex Committee recently showed that most states have used little of the funds allocated to them. With only three months to the next financial year, only Bihar and Chandigarh have used 76% and 81% of the received funds towards NCAP. States like Uttar Pradesh which has many of the most polluted cities has used up only 16% of the Rs 60 crores allocated to them. Similarly, Maharashtra, the state with most -18 - non-attainment cities has used less than 8% of the Rs 51 crore it got. Based on data available from CAAQMS, Maharashtra's cities [Mumbai, Navi Mumbai and Nashik saw its pollution levels increase from 2019 to 2021.](#)

State	Funds released up to March 31, 2021 (in Cr)	Funds utilised by the state (in Cr)	Percentage of funds utilised
Andhra Pradesh	23.64	2.77	9.61%
Assam	12.36	0.44	3.54%
Bihar	17.2	13.24	76.98%
Chandigarh	13.28	10.83	81.55%
Chhattisgarh	13.06	2.76	21.14%
Gujarat	12	-	-
Himachal Pradesh	10.24	0.24	2.34%
Jammu and Kashmir	8.12	0.12	1.48%
Jharkhand	6	3	50.00%
Karnataka	7.82	2.69	34.33%
Madhya Pradesh	22.12	9.12	41.23%
Maharashtra	51.25	4.06	7.92%
Nagaland	6.12	0.12	1.96%
Odisha	12.22	3.62	29.62%
Punjab	27.52	4.7	17.07%
Rajasthan	21.92	12.55	57.24%
Telangana	13.76	2.33	16.9%
Uttar Pradesh	60.63	10.05	16.58%
Uttarakhand	11.12	5.91	53.17%
West Bengal	19	10.95	57.63%
Meghalaya	3	-	-
Tamil Nadu	3.06	-	-
<b>India</b>	<b>375.44</b>	<b>125.88</b>	<b>35.53%</b>

Table: Funds released to the states and funds utilised by the states

Source: Ministry of Environment, Forest and Climate Change

## How did some states perform on reducing PM levels and using finances? - a snapshot

**Uttar Pradesh:** Some of the most polluted non-attainment cities under NCAP are from Uttar Pradesh with all the analysed cities reporting PM 2.5 levels higher than the CPCB safe limit of 40 ug/m<sup>3</sup> throughout 2019, 2020 and 2021. Ghaziabad which was the most polluted city in the above ranking has four CAAQMS monitors and hasn't increased its monitoring capacity. Most other cities in the state too didn't add monitors except Varanasi and Lucknow. Varanasi is also the city that has reported the highest reduction in both PM 2.5 and PM 10 levels over the last three years. However, with PM 2.5 and PM 10 levels of 44 ug/m<sup>3</sup> and 93 ug/m<sup>3</sup> respectively, they remain above the CPCB's permissible limits.

**Delhi:** Despite the constant focus on the air pollution woes of the capital city, Delhi reduced its PM levels only marginally. Based on the CAAQMS data, its PM 2.5 levels dropped from 108 ug/m<sup>3</sup> in 2019 to 102 ug/m<sup>3</sup> in 2021 and its PM 10 levels reduced from 217 ug/m<sup>3</sup> to 207 ug/m<sup>3</sup> during the same period. The PM 2.5 levels continue to be more than 2.5 times the CPCB's safe limit of 40 ug/m<sup>3</sup> and 20 times the WHO's safe limit of 5ug/m<sup>3</sup>.

**Maharashtra:** Home to the most number of non-attainment cities, Maharashtra has utilised less than 10% of the funds it has received for NCAP. According to the CAAQMS data on the [NCAP Tracker](#), while Mumbai increased its CAAQMS monitors from 9 to 21 in the three years, Pune installed 8 monitors in 2021 as opposed to just one in the previous two years, and Navi Mumbai got four monitors, all other cities did not report an increase in



monitoring capacity. Most of the cities analysed for the exercise also [reported an increase in PM levels](#).

**Bihar:** The state has just three non-attainment cities - Patna, Gaya and Muzaffarpur and monitoring is very sparse all across. Bihar has 16 CAAQMS monitors in eight cities out of which, six are in Patna. In Patna, PM 2.5 levels increased from 60 ug/m<sup>3</sup> in 2020 to 68 ug/m<sup>3</sup> in 2021. Similarly, PM 10 levels increased from 126 ug/m<sup>3</sup> to 151 ug/m<sup>3</sup> during the same time. Monitoring data is available for Patna in 2020 and 2021 and for Muzaffarpur in only 2021. In Gaya, only PM 10 levels are available for 2020 and 2021.

**West Bengal:** While the state has only seven non-attainment cities, Kolkata, Asansol and Howrah were among the top 10 polluted cities based on PM 2.5 levels in 2019. While they have slipped in ranks in 2021, [they have recorded only a marginal dip in PM 2.5 levels](#) based on CAAQMS data. West Bengal is among the few states which have used up over 50% of the funds allocated to them. Despite using Rs 10 crore of their kitty, the monitoring network was enhanced only in Kolkata.

#### About NCAP Tracker

[NCAP Tracker](#) is a joint project by [Climate Trends](#) and [Respirer Living Sciences](#) to create an online hub for the latest updates on India's clean air policy, the National Clean Air Programme (NCAP). It is designed to track India's progress in achieving the 2024 clean air targets set under the NCAP. The NCAP Tracker enables this by compiling and evaluating various levels of air quality data and closely tracking the effectiveness of the clean air policy. The tracker compiles and analyses information on air quality and budget allocation that is publicly available or provided by the government of India.

----