

'Urban forests' not enough to end pollution: Study

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AHMEDABAD: It's quite known that Ahmedabad's dismal green cover does not shield its citizens from the rising particulate air pollution. It was in 2019 that the municipal administration had for the first time adopted the concept of developing certain areas as green clusters called 'urban forests'-that was to act as lungs for nearby neighbourhoods and even filter dust from city's air.



FIGHT AGAINST POLLUTION

HOW POLLUTANTS HAVE VARIED OVER THE YEARS

Year	Pollutants	Naroda GIDC	Shardaben Hospital	Sola, Chanakyapuri area	Narol
2016-17	PM10	114	112	112	114
	PM2.5	36	36	35	36
	SO2	13	12.8	12	14.7
	NO2	28.4	28	27.5	33.3
2018-19	PM10	220	219	248	257
	PM2.5	69	67	77	79
	SO2	17.9	17.3	18.9	19.6
	NO2	28.6	28.8	27.6	33.8
2021-22	PM10	118	119	123	133
	PM2.5	26	26	27	31
	SO2	13.4	13.6	13.6	15
	NO2	17.3	17.6	17.4	19.5

Particulate matter: Solid or liquid air particles.
PM2.5 – fine particles that enter the bloodstream, from burning or emissions
PM10 – coarse dust particles, from dirt or waste

Nitrogen dioxide (NO2) – the primary source of nitrogen dioxide is the combustion of fossil fuels – coal, petrol, and oil

Sulphur dioxide (SO2) – its main sources are fossil fuel power plants and industrial operations



NUMBER OF TREE SPECIES				
Municipal zone	Number of tree species	Approx number of trees in zone	Area analyzed	Area of urban forest (sq m)
North West	48	26,000	Ugati Lake, Sola	10,828
South	39	60,000	TP 45 Giriwar Bungalows Park	3,500
North	41	12,000	Oxygen Park, Naroda	6,170
East	40	9,000	TP 111 Park, Nakshatra Bungalows Park	4,700

By 2021, though these clusters helped in reduction of pollution in neighbouring areas, a recent study of four urban forest clusters - Sola-Chanakyapuri, Narol, Naroda and Nakshatra Park - by researchers of Institute of

Architecture and Planning at Nirma University (IAPNU) revealed that more plantations and green cover will be required to meet rising pollution levels owing to rising construction activities and new vehicles added.

Fine particulate matter (PM_{2.5}) levels increased in 2017-2018 and 2018-2019, but then decreased in 2019-2020, when urban forests were introduced and the Covid-19 pandemic hit. PM_{2.5} levels have risen since then, but they are still lower than they were in 2018-2019.

A similar trend can be seen in PM₁₀ and nitrogen dioxide (NO₂) levels. Sulphur dioxide (SO₂) levels, on the other hand, rose until 2019-2020, but then fell in 2021-2022. "Air quality monitoring stations within 4km of the urban forests showed a decrease in pollutant concentration after the forests were planted," states the study by Shweta Suhane, Rujvi Polara, Avni Gajjar, Ritu Agrawal and Utpal Sharma of IAPNU.

The study found that Ahmedabad has only 1.52 square metres of green and open space per person, which is significantly below the WHO and URDPFI guidelines of 9 square metres and 10-12 square metres per person, respectively.