



STATE OF AIR QUALITY

West Bengal





Overview

- Polluted air is one of the key concerns for most of the urban centres today, and West Bengal is no exception to this.
- NAAQS (national ambient air quality standards) was adopted by India in 1982 for the first time and was followed by two revisions in 1994 and 2009 making mentions of 8 prime pollutants namely- particulate matter (PM 2.5 & PM 10), nitrogen dioxide, sulphur dioxide, carbon monoxide, ozone, benzene, and ammonia.
- Air pollution has been portrayed as a “great killer of our age” and as a “key hazard to human wellbeing” because it can extremely damage human health irrespective of sex and age.¹
- According to the UN Environment Programme calculates approximately worldwide, about 1.1 billion people suffer from breathing problems due to detrimental air conditions.²
- Kolkata, one of the fastest growing metropolises in India, is experiencing the problem of poor air quality. The influx of a large population from the rural areas is putting immense pressure on the city's infrastructure and it is getting difficult to manage it properly (Ghose et al 2004³; Agrawal et al 2003⁴). As a result, the level of pollution in the city is growing at an alarming rate over the past several years.
- Several factors result in the air pollution level in Kolkata. One of the main factors of air pollution is transportation (Mondal et al 2000). The abundance of poorly maintained vehicles, use of petrol fuel (although the government is in the process to phase out these vehicles) and poor control is making transportation the primary air-polluting sector (Mukherjee and Mukherjee 1998⁵; Kazimuddin and Banerjee 2000⁶).
- According to the State of Global Air report, 2022, Kolkata ranks as the second most polluted city in the world. Kolkata has an annual average of 84 µg/m³ of fine particulate matter (PM_{2.5}), 17 times the recommended WHO safe limit.



1. Sawalha AF. Outdoor air pollution and respiratory health: a bibliometric analysis of publications in peer-reviewed journals (1900 – 2017). *Multidisciplinary Respiratory Medicine*. 2019; 13(1). DOI:10.4081/mrm.2018.146

2. Haque S, Singh RB. Air Pollution and Human Health in Kolkata, India: A Case Study. *Climate*. 2017;5(4):77. DOI: 10.3390/cli5040077.

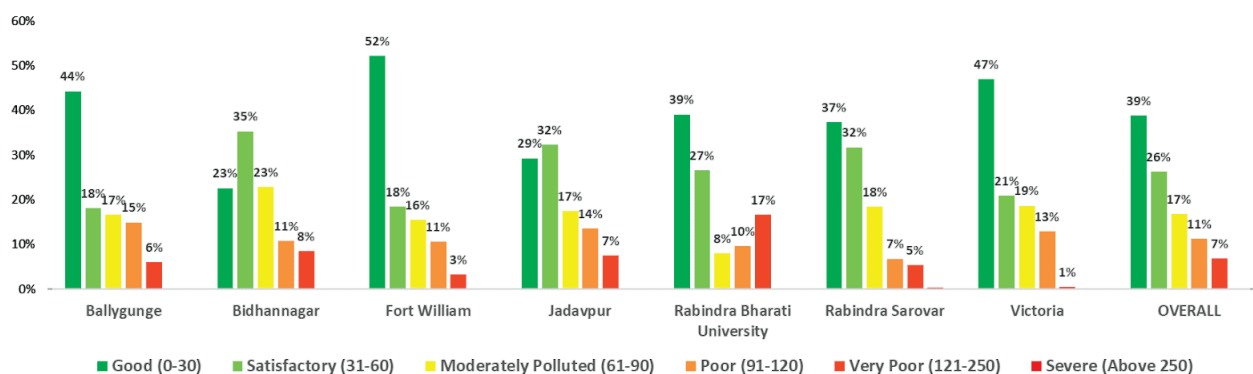
3. Ghose, M. K., Paul, R., Banerjee, S.K. (2004). Assessment of the impacts of vehicular emissions on urban air quality and its management in Indian context: the case of Kolkata (Calcutta). *Environmental Science & Policy* 7: 345–351

4. Agrawal, M., Singh, B., Rajput, M., Marshall, F., Bell, J.N.B.(2003). Effect of air pollution on peri-urban agriculture: a case study. *Environmental Pollution* 126: 323–329

5. Mukherjee, A., Mukherjee, G. (1998). Occupational exposure of the traffic personnel of Calcutta to lead and carbon monoxide. *Pollut. Res.* 17 (4): 359–362.

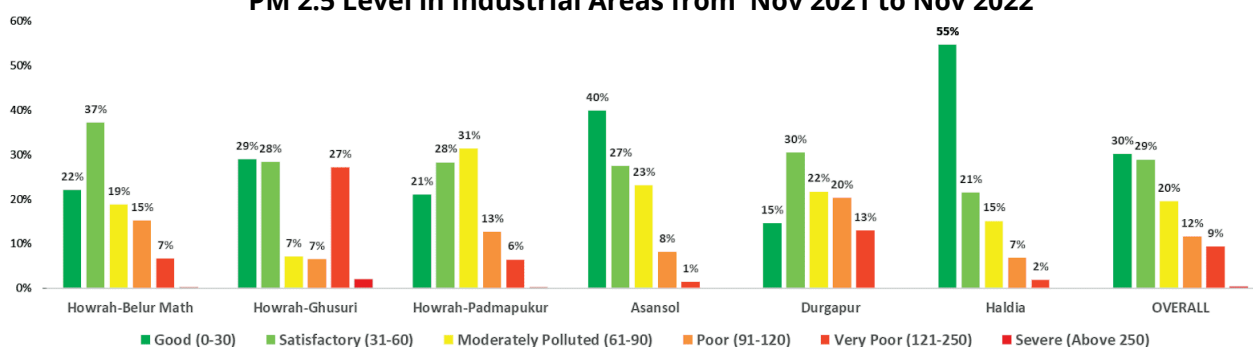
6. Kazimuddin, A., Banerjee, L. (2000). Fighting For Air. *Down to Earth*, July 31.

PM 2.5 Level in Kolkata (Metropolitan City) from Nov 2021 to Nov 2022



- NO2 comes mainly from the burning of fuels often in older vehicles, power plants, industrial facilities, and residential cooking and heating.
- As city residents tend to live closer to busy roads with dense traffic, they are often exposed to higher NO2 pollution than residents of rural areas.

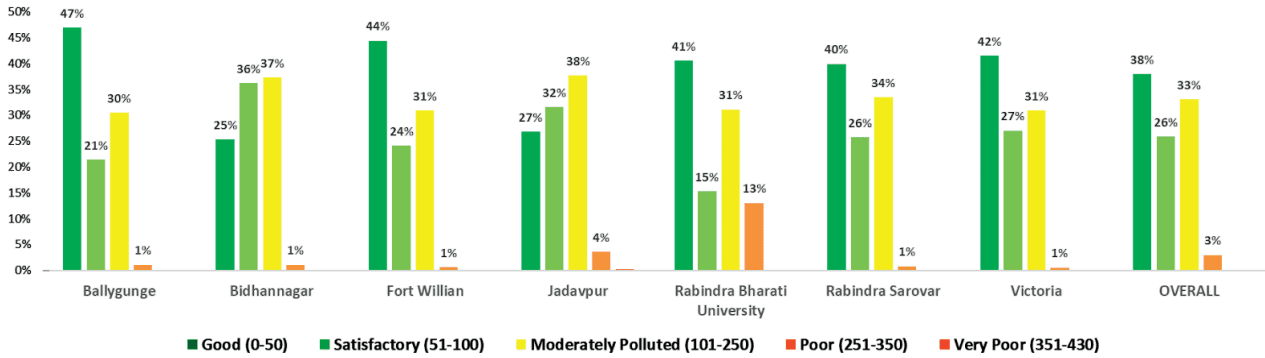
PM 2.5 Level in Industrial Areas from Nov 2021 to Nov 2022



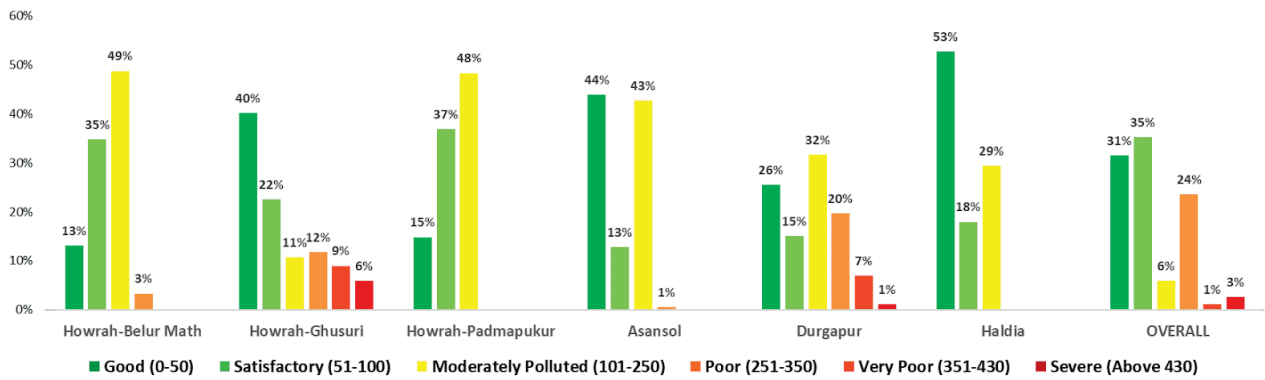
- PM 2.5 count shoots up in the industrial belt of West Bengal, particularly in the Howrah-Ghusuri belt, which is one of the oldest industrial area of India.
- Between March and May 2022, nine of the 10 most polluted locations in West Bengal recorded a PM 2.5 concentration higher than the safe limit of 40 micrograms per cubic meter of air prescribed by the Central Pollution Control Board, according to Climate Trends analysis.
- West Bengal's average annual PM10 pollution shows an upward trend from 2017 through 2022- to 109.60 micrograms per cubic metre of air in 2021 from 84.34 micrograms per cubic metre of air in 2017. It rose to more than one-fourth in a span of 4 years.



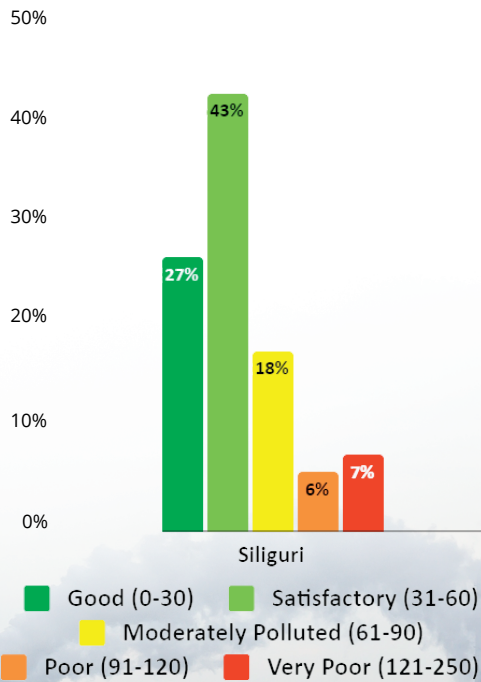
PM 10 Level in Kolkata (Metropolitan City) from Nov 2021 to Nov 2022



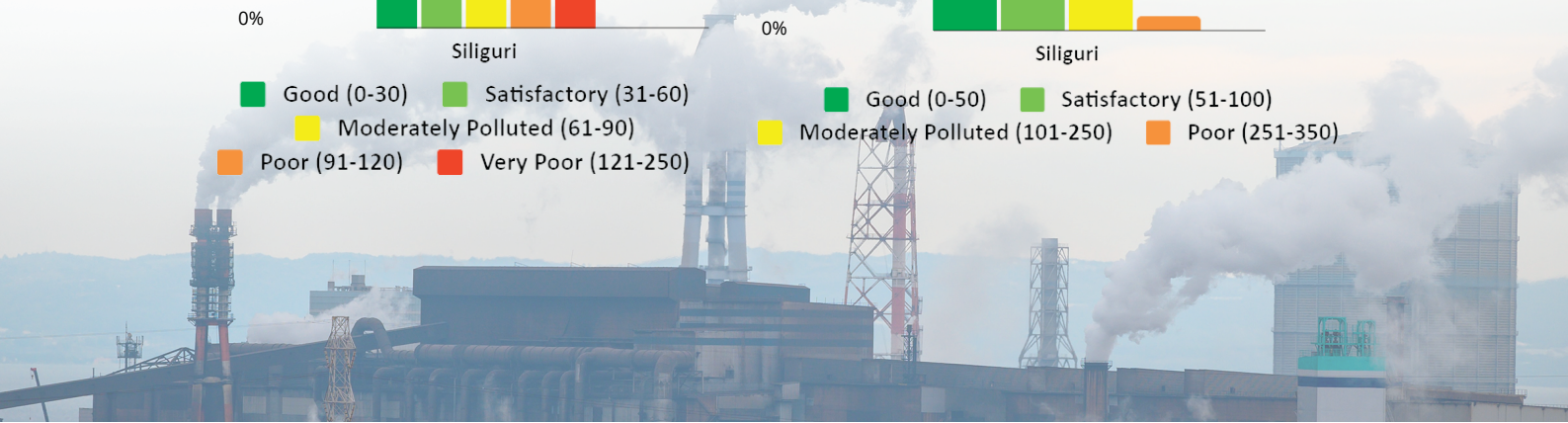
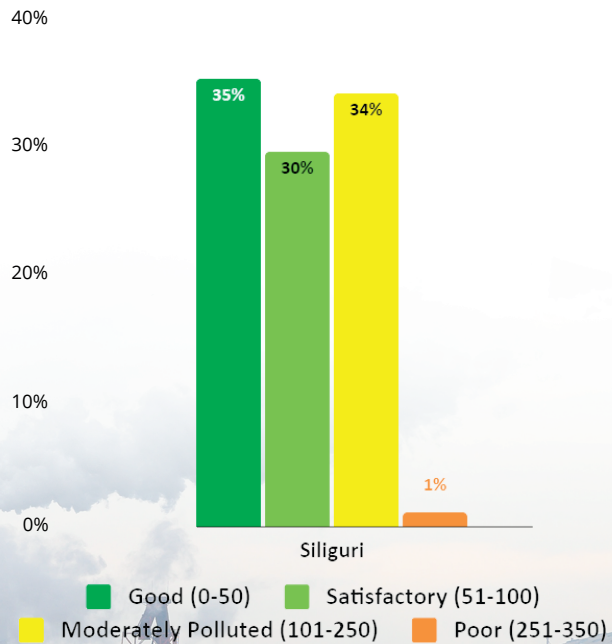
PM 10 Level in Industrial Areas from Nov 2021 to Nov 2022



PM 2.5 Level in Siliguri Hilly Area during last 12 months



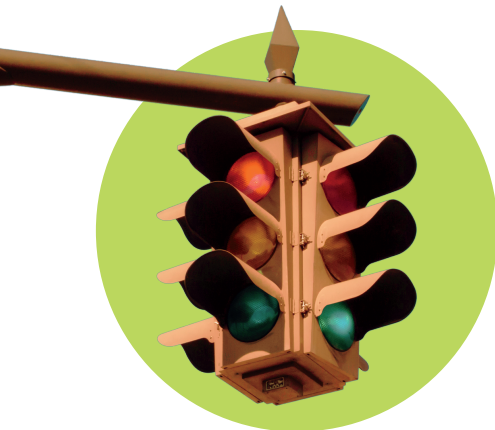
PM 10 Level in Siliguri Hilly Area during last 12 months





The State of Environment Report, West Bengal 2021, published recently by the West Bengal Pollution Control Board (PCB) and released by the state's environment minister Ratna De Nag, documented the trend based on particulate matter (PM) 10, fine particulate pollution and data generated under National Air Quality Monitoring Programme.

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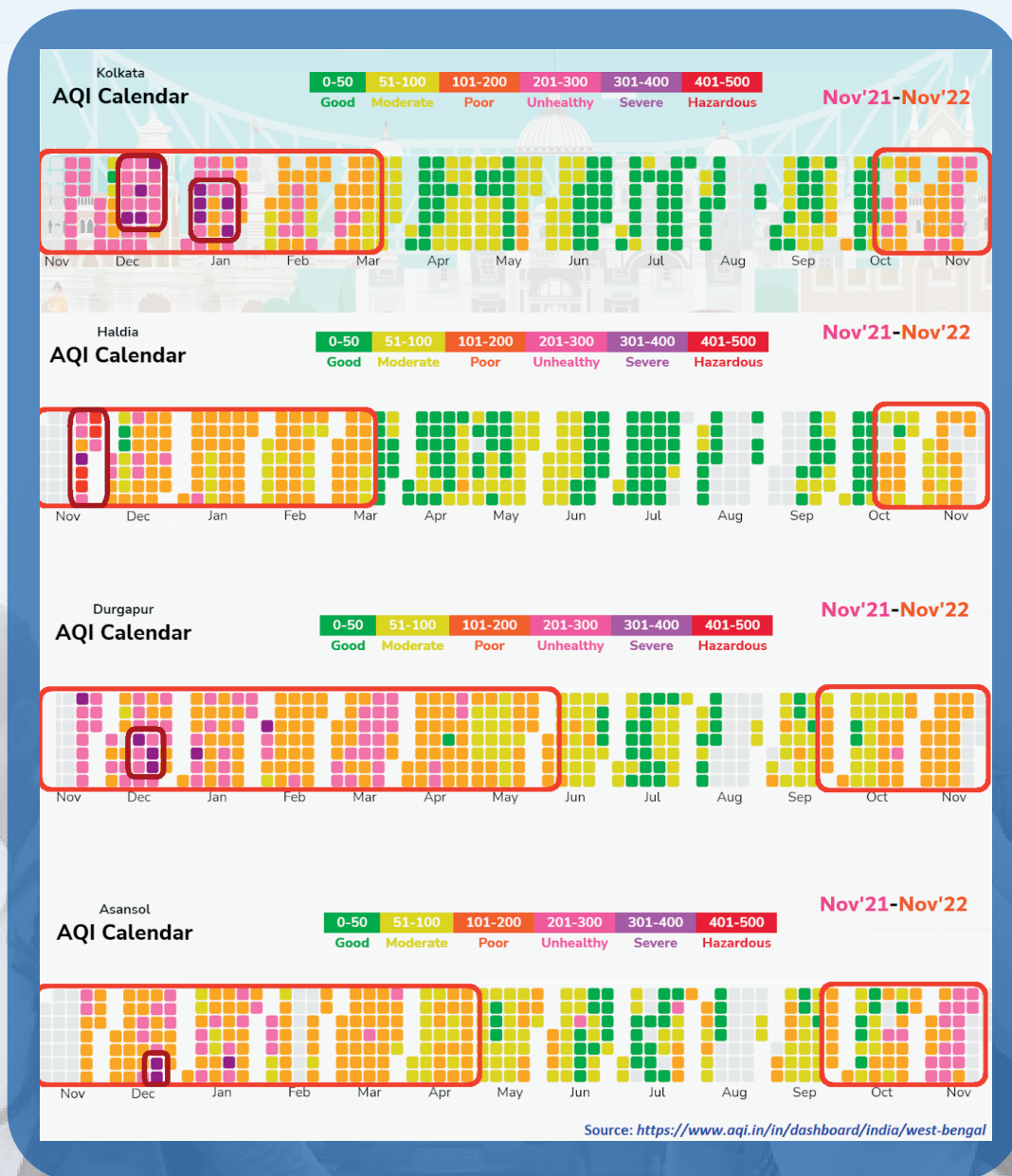


- **Promoting the use of public transportation,**
- **Promoting sustainable means of transport like trams, bicycles & walking,**
- **Traffic planning & management.**



Furthermore, choosing public transport, cycling, carpooling, and maintenance of vehicles and their proper servicing are some minor steps for the betterment of the environment of West Bengal.

AQI Calendar



- The AQI calendar shows the unhealthy quality of air in the months of October & November across all the locations of West Bengal.
- Asansol and Durgapur depict worse scenarios of air quality, as the industrial belt of this region serves as a nerve-knot of the economy of West Bengal as well as the entire economic region of Eastern India. Industrial emissions are the major source of pollutants here, whereas vehicular emissions contribute the most to air pollution in the city regions.



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