

# ***Air Quality Life Index Report 2020: India Still Lagging Behind***

New data from the Air Quality Life Index (AQLI) shows that India is today the world's second most polluted country. Air pollution shortens the average Indian life expectancy by 5.2 years, relative to what it would be if the World Health Organization (WHO) guideline was met; 2.3 years relative to what it would be if pollution were reduced to meet the country's own national standard. Some areas of India fare much worse than average, with air pollution shortening lives by 9.4 years in the capital of Delhi and 8.6 years in Uttar Pradesh, the most polluted state.

## **About the Air Quality Life Index:**

The AQLI is a pollution index that translates particulate air pollution into its impact on life expectancy. Developed by the University of Chicago's Milton Friedman Distinguished Service Professor in Economics Michael Greenstone and his team at the Energy Policy Institute at the University of Chicago (EPIC), the AQLI is rooted in recent research that quantifies the causal relationship between long-term human exposure to air pollution and life expectancy. The Index then combines this research with hyper-localized, global particulate measurements, yielding unprecedented insight into the true cost of particulate pollution in communities around the world. The Index also illustrates how air pollution policies can increase life expectancy when they meet the World Health Organization's guideline for what is considered a safe level of exposure, existing national air quality standards, or user defined air quality levels. This information can help to inform local communities and policymakers about the importance of air pollution policies in concrete terms.

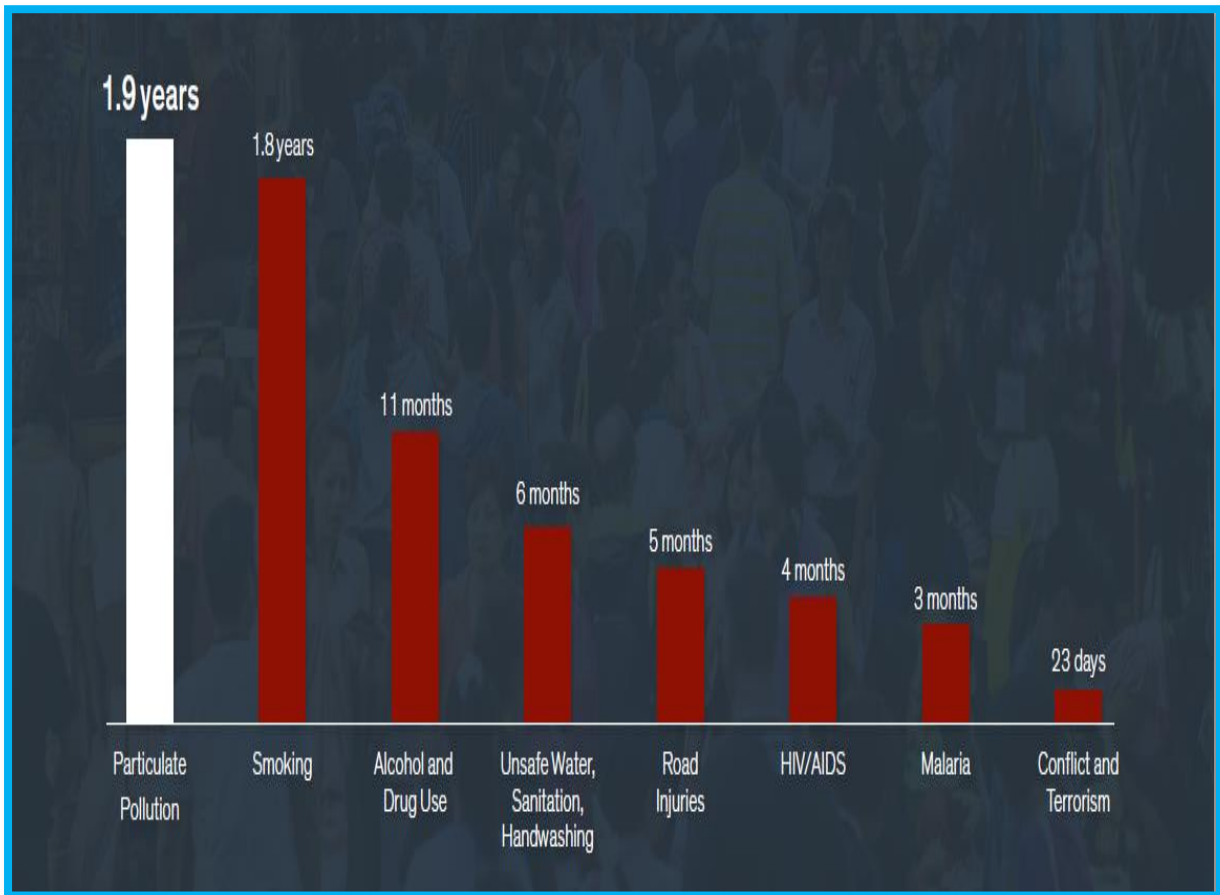
## **What is particulate matter?**

- Particulate matter (PM) refers to solid and liquid particles like soot, smoke, dust, and others that are suspended in the air.
- Some have their origin in natural sources such as dust, sea salt, and wildfires. But most come from the combustion of fossil fuels such as from vehicle engines and power plants and the combustion of biomass such as through household wood and crop burning.
- These microscopic particles enter the respiratory system along with the oxygen that the body needs.
- When PM is breathed into the nose or mouth, each particle's fate depends on its size: the finer the particles, the farther into the body they penetrate. PM<sub>2.5</sub>—or particles with a diameter of less than 2.5 µm, just 3% the diameter of a human hair—is the most deadly.
- They penetrate deep into the lungs, bypassing the body's natural defences. From there they can enter the bloodstream, causing lung disease, cancer, strokes, and heart attacks.
- There is also evidence of detrimental effects on cognition. The tiny size of PM<sub>2.5</sub> particles not only makes them harmful from a physiological perspective, but also allows these particles to stay in the air for weeks and to travel hundreds or thousands of kilometres.
- This increases the likelihood that the particles will end up inhaled by humans before falling to the ground.

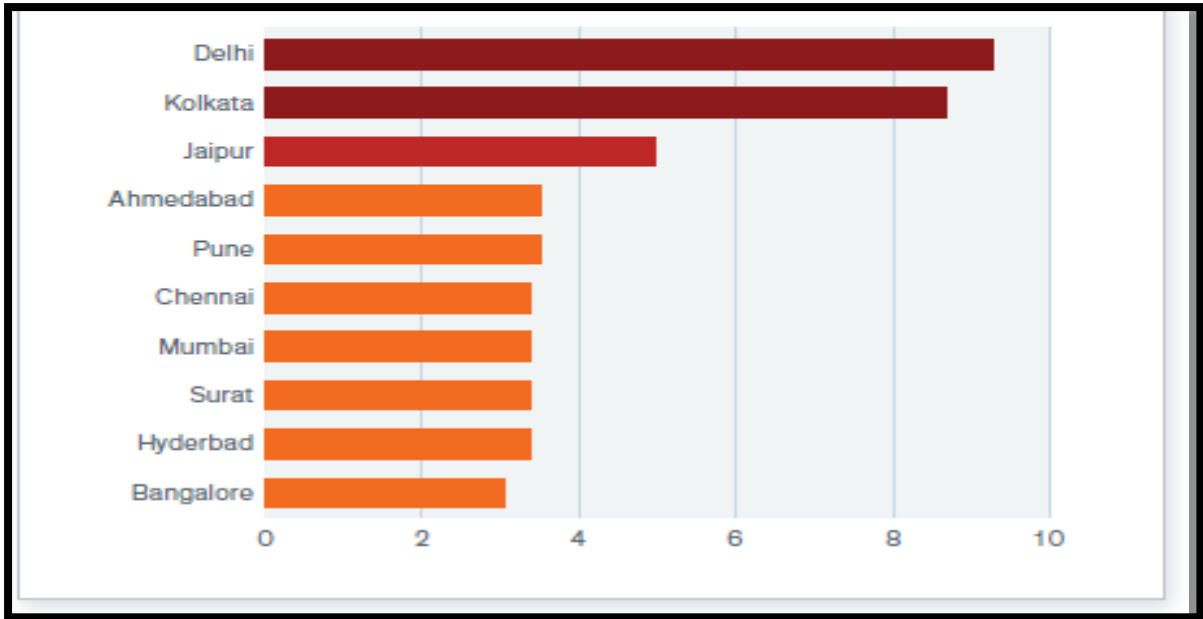
## **Key findings from the report:**

- All of India's 1.4 billion people live in areas where the annual average particulate pollution level exceeds the WHO guideline. 84% live in areas where it exceeds India's own air quality standard.

- Particulate pollution has sharply increased over time. Since 1998, average annual particulate pollution has increased 42 %, cutting 1.8 years off the life of the average resident over those years.
- A quarter of India’s population is exposed to pollution levels not seen in any other country, with 248 million residents of northern India on track to lose more than 8 years of life expectancy if pollution levels persist.
- Lucknow, the capital of India’s northern state Uttar Pradesh, has the highest level of pollution in the country, with pollution 11 times greater than the WHO guideline. Residents of Lucknow stand to lose 10.3 years of life expectancy if pollution persists.
- India’s capital Delhi is also highly polluted. Residents of Delhi could see 9.4 years added to their lives if pollution were reduced to meet the WHO guideline; 6.5 years if pollution met India’s national standard.



**Average Life Expectancy Lost Per Person**



**Potential Gain in Life Expectancy through Permanently Reducing PM<sub>2.5</sub> from 2018 Concentration to the WHO Guideline in 10 Major Cities**

### **Recent policy efforts by the government to reduce particulate pollution:**

- Fuel emissions standards on par with the European Unions have taken effect nationwide as of 2020.
- This change comes after; the government declared a “war on pollution” in 2019 and announced the National Clean Air Programme (NCAP).
- The goal of the Programme is to reduce particulate pollution by 20-30% relative to 2017 levels by 2024.
- If India does achieve and sustain this reduction, it would lead to remarkable health improvements:
- A nationwide reduction of 25%, the midpoint of the NCAP’s target, would increase India’s national life expectancy by 1.6 years and by 3.1 years for residents of Delhi.

### **Conclusion:**

- The Air Quality Life Index shows that particulate pollution is the world’s greatest threat to human health.
- South Asia is consistently the most polluted region, with people there seeing their lives shortened by an average of five years relative to what it would be if the region met the WHO guideline.

## References:

1. <https://aqli.epic.uchicago.edu/reports/>
2. <https://aqli.epic.uchicago.edu/wp-content/uploads/2020/07/IndiaFactSheet2020-Indiaversion.pdf>
3. <https://www.newindianexpress.com/states/tehangana/2020/jul/30/air-pollution-cut-short-lives-of-tehangana-citizens-by-31-years-reveals-study-2176704.html>
4. <https://www.outlookindia.com/newscroll/regional-cooperation-necessary-for-fighting-air-pollution-in-south-asia-experts/1906130>