

Impact of Pollution on Indian Economy

Sharanjeet Kaur¹ and Daljit Singh²

^{1,2}Guru Nanak Dev University, Amritsar

E-mail: ¹sharanamritsar@gmail.com, ²daljitsingh4448@gmail.com

Abstract—According to the report of Green Peace India, every year 12 lakh people were killed due to pollution. Among the 168 cities of India, no one is under the guidelines of WHO for pollution. This report confirmed that there is not even a single city in India, which can pass the pollution test by WHO. A World Bank study released last year revealed that India lost more than 8.5% of its GDP in 2013 due to cost of increased welfare and lost labour due to air pollution. The study says India tops the world in pollution-related deaths, accounting for 2.5 million of the total 9 million worldwide in 2015. The biggest increases in such related deaths have been recorded in India and Bangladesh. At 1.81 million, India tops the charts, with China second at 1.58 million. A study by the Indian Institute of Technology, Bombay, found that air pollution cost Mumbai and Delhi \$10.66 billion (approximately Rs 70,000 Crore) in 2015, or about 0.71% of the country's GDP. This paper is an attempt to unveil the impact of pollution for the downfall of Indian economy as well as the health of Indian citizens.

The current high level of air pollution has shortened the average lifespan of a South Asian child by two-and-a-half years while globally the reduction stands at 20 months, according to a global study released on Wednesday. State of Global Air 2019, published by Health Effects Institute (HEI), said exposure to outdoor and indoor air pollution contributed to over 1.2 million deaths in India in 2017. The report added that worldwide, air pollution was responsible for more deaths than many better-known risk factors such as malnutrition, alcohol abuse and physical inactivity. In India, air pollution is the third-highest cause of death among all health risks, ranking just above smoking; each year, more people globally die from air pollution related disease than from road traffic injuries or malaria.

The latest number crunching by the World Bank is an eye-opener. Its evaluation of the damage to health from a gamut of environmental factors—including air pollution, inadequate water supply and poor sanitation—shows outdoor air pollution takes the maximum toll in India. This is followed by indoor air pollution.

The combined cost of outdoor and indoor air pollution is the highest annual burden on India's economy, according to the bank's report—Diagnostic Assessment of Select Environmental Challenges in India.

The report has considered both pollution and natural resource degradation. Outdoor air pollution accounts for 29 per cent, followed by indoor air pollution (23 per cent).

The report states that higher cost of outdoor and indoor air pollution is driven by high exposure of the young and productive urban population to particulate matter pollution. That leads to higher rates of deaths due to cardiopulmonary and chronic obstructive pulmonary diseases among adults

Health impact of urban air pollution

- Particulate pollution causes 109,000 premature deaths among adults each year
- 7,500 deaths among children under five annually
- 48,000 new cases of chronic bronchitis reported each year
- 370,000 annual hospitalizations
- 7.3 million emergency room visits/outpatient hospitalizations per year

The most serious message for setting policy that has emerged from this study is that benefits from investments in damage mitigation far outweigh the health cost of no action. The study has established that while particulate matter mitigation will cost money, it will be offset by the benefits in terms of reduced health cost. About 10 per cent reduction in PM10 by 2030 can yield a benefit of US \$ 10-20 billion and 30 per cent reduction can yield a benefit of as much as Rs USD 47-105 billion.

Mitigation action can also have other benefits. Along with improving public health it can help in climate mitigation. With 10 per cent PM10 reduction by 2030, carbon dioxide emissions can be reduced by 10-20 per cent. With 30 per cent PM10 reduction, CO2 can be reduced by 30-60 per cent. This is a win-win formula.

“A low emissions, resource-efficient greening of the economy should be possible at a very low cost in terms of GDP growth. This makes green growth scenario attractive,” Muthukumara Mani, senior scientist with the World Bank, said when releasing the report.

In China and India

The study found that China and India together were responsible for over half of the total global attributable deaths, with each country witnessing over 1.2 million deaths from all air pollution in 2017. China has made initial progress, beginning to achieve air-pollution decline. Overall, long-term exposure to outdoor and indoor air pollution contributed to nearly 5 million deaths from stroke, diabetes, heart attack, lung cancer, and chronic lung disease in 2017. Out of these, 3 million deaths are directly attributed to PM2.5, half of which are from India and China together. The South Asian region - Bangladesh, India, Nepal and Pakistan - led the world as the most polluted, with over 1.5 million air-pollution related deaths according to the report.

Meanwhile, for the first time, this year's report and website include worldwide estimates of the effect of air pollution on life expectancy. Worldwide, air pollution reduced life expectancy by an average of 20 months in 2017, a global impact rivaling that of smoking; this means a child born today will die 20 months sooner, on average, than would be expected without air pollution. The report also highlighted that nearly half of the world's population — a total of 3.6 billion people — were exposed to household air pollution in 2017. Globally, there has been progress: the proportion of people cooking with solid fuels has declined as economies develop. But in India, 60% of the population still uses solid fuels; in Bangladesh that number rises to 79%, underscoring the importance of achieving success in government initiatives to address the problem.

Acknowledgements

This work is dedicated to the Supreme Lover

References

- [1] The Hindu "*The cost of pollution*" May 01, 2018
- [2] The Little Green Data Book, The World Bank, 2010
- [3] <https://www.downtoearth.org.in/news/health-cost-of-air-pollution-in-india-assessed-at-3-per-cent-of-its-gdp-41699>
- [4] The Hindu, In India, air pollution is the third-highest cause of death among all health risks: report, April 04 2019
- [5] Decade of drought: a global tour of seven recent water crises, Guardian June 12, 2015