## India's economic growth and disease burden in relation to air pollution



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Air pollution severely impacts health and the environment globally. With a significant increase in air pollution concentrations, its role in disease burden is far more critical in the present scenario. Air pollution is alarming in southeast Asia. Countries like India and China, racing from developing to developed nations with more industrialisation and productivity, face the issue in greater severity. According to previous studies, ambient air and indoor air pollution account for nearly 0.98 million and 0.61 million deaths in India in 2019. Indoor air pollution in India is mainly related to fossil fuel burning for cooking purposes, which releases higher concentrations of various air pollutants, impacting health significantly.2 Indoor air pollution in India was explored earlier also by researchers. For the last decade of the 19th century, it was found that in India, indoor air pollution is responsible for nearly 400-550 thousand premature deaths annually.3 Indoor air pollution also accounted for ~6% Indian national disease burden for the same period.<sup>3</sup>

Ambient air pollution, which has higher concentrations and impacts health and economic growth, has a significant share of vehicular and power plant sectors in India.<sup>4,5</sup> In the context of air pollution impacting the disease burden and economic growth, the work published by Kumar and colleagues <sup>6</sup> in *The Lancet Regional Health— Southeast Asia* discussed state-wise disparities in air pollution attributed to disease burden (APADB) concerning gross state domestic product (GSDP) and growth in motor vehicles in India. Confirming previous results published, <sup>1</sup> the authors <sup>6</sup> report observations of the inverse associations between the APADB and markers of economic productivity for most Indian states. The work may serve as a benchmark for policymakers to check the air pollution regulations over India with the severity of relation over each state.

The study focused on each state's motor vehicles and industries and related the APADB and GSDP. Except for Maharashtra, Karnataka, Gujarat, Punjab, and Manipur, all the states showed a negative correlation between APADB and economic growth. It is clear from the study that economic growth is providing a feedback

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mechanism to APADB and GSDP over India; with more vehicles registered comes more emission of pollution, and a higher contribution of disease burden, lowering the economic growth. At this stage, it is crucial to maintain policies that will reduce the pollution and its related disease burden and keep the economic growth rising, which is a trivial task for many states of India.

The article 6 has discussed the disease burden and economic growth with age group, population and vehicular registration and factories in a detailed manner to study ambient air pollution. However, the role of fossil fuel burning for indoor air pollution is not combined here for overall air pollution. Another point to research is why some states are not showing significant relation between the air pollution disease burden and economic growth. The reason may be diversified and related to other factors, including climate, business facilities and raw materials, but needs a thorough investigation. The article suggests that to increase India's Economic growth, we must reduce APABD. Though the policymakers will take note of these results and optimize the existing policies further to reduce the state-wise disease burden of India, it is not possible without the participation of society.

## Contributors

BT conceptualised and wrote the paper.

## **Declaration of interests**

None.

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