

## **PRESS RELEASE**

### **For Immediate Release**

## **Bengaluru has the potential to reduce PM10 emissions by 21% by 2024, says CSTEP study**

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“The state government will work with the Karnataka State Pollution Control Board to control the problem of air pollution in Bengaluru. However, scientific studies are essential to understand the problem and for this we need to work hand in hand with research institutes,” said Karnataka Chief Minister Basavaraj Bommai. He was speaking at a function organised by the Karnataka State Pollution Control Board (KSPCB), where air pollution studies conducted by the Center for Study of Science, Technology and Policy (CSTEP) were launched.

The Chief Minister further said, “The essence of these research studies should be disseminated in the public domain to get citizens actively engaged in understanding and controlling the problem of air pollution.”

The studies, “Emission Inventory and Pollution Reduction Strategies for Bengaluru” and “Identification of Polluting Sources for Bengaluru: Source Apportionment Study”, point to transportation and road dust as the biggest contributors to air pollution in Bengaluru city. These studies were conducted under the aegis of KSPCB and supported by The Bloomberg Philanthropies and Shakti Foundation, to generate scientific data and contribute to India’s National Clean Air Programme (NCAP).

The studies recommend a multi-pronged approach to controlling particulate matter emissions—PM10 and PM2.5. To curb pollution from transportation, the studies encourage the deployment of electric vehicles with charging stations at regular intervals, along with the proper implementation of the vehicle scrapping policy. The reports also highlight the need for regular servicing of public transport vehicles, such as shared autos and buses, heavy vehicles (dumper trucks, trolleys), etc., to curb pollution.

The studies recommend vacuum sweeping of dust from paved roads, laying end-to-end pavements and covering barren areas on the roadside with green covers, and studying the efficacy of mechanical sweepers before deploying them.

Dr Pratima Singh, who heads the Center for Air Pollution Studies at CSTEP, says, “Analysis of pollution sources is essential for identifying effective control measures for a city’s air pollution issue. Emission inventory and source apportionment studies are vital to understanding the polluting activities, associated emission load, and sources contributing to the ambient air pollution in a city.”

She adds, "With Bengaluru identified as one of the non-attainment cities in India, it was crucial to carry out these studies and prepare efficient strategies. The study estimated transportation to be the major contributor (40 to 51%), followed by road dust resuspension (17 to 51%). Other polluting sectors include construction dust, domestic fuel, and diesel generators."

For reducing the amount of construction dust, the studies recommend keeping the construction material fully covered while in transit. Further, the construction buildings should be covered vertically with a fine screen, and the material stored on construction sites should also be covered properly. Besides controlling dust from construction sites, efforts for providing last-mile connectivity for transporting debris to the processing plant can also aid in reducing pollution levels.

The study on emission inventory estimates that the total PM10 emission load for Bruhat Bengaluru Mahanagara Palike (BBMP) would reach around 28k tonnes/year by 2024, a 15% increase from 2019 levels under the business-as-usual scenario (BAU).

The study also lists a strategic roadmap for all control measures considered by KSPCB. The roadmap includes the targets to be achieved year-on-year till 2024 while identifying the departments responsible for their implementation. The study also evaluates the costs likely to be incurred by the government to implement these measures. Some of the control measures under the high-emission-reduction (HER) scenario are already part of the city implementation strategy and will help prevent 800-1200 deaths annually.

The source apportionment study finds that the annual mean  $\pm$  standard deviation of PM2.5 mass concentration for Bengaluru city is less than the annual permissible limit specified by the Central Pollution Control Board (CPCB), while that of PM10 mass concentration is around 1.3 times higher than the CPCB limit. It also finds that transportation sector emissions contribute the most to PM2.5 pollution, while soil dust is the top contributor for PM10.

If the key recommendations from these studies are implemented, Bengaluru can see possible concentration reductions of ~26.5%, ~13.5%, and ~9.6%, respectively, for high-, medium-, and low-emission reduction scenarios (measures clubbed with varying levels of compliance) for both PM10 and PM2.5, by 2024.

"The recommendations from these studies will help modify the action plan developed under NCAP for effective implementation. This will help plan and prepare futuristic strategies for making Bengaluru a model city with an improved quality of life for citizens, better environment and ecology," Karnataka State Pollution Control Board Chairman Dr Shanth A Thimmaiah said.

Priya Shankar, India Director, Environment and Climate Program, Bloomberg Philanthropies, said, “To reduce air pollution, we need to know and understand what causes it. Based on this analysis, Bengaluru has the potential to achieve cleaner air and better health for its citizens and in doing so, be an example for other cities.”

Meanwhile, Dr Anshu Bharadwaj, CEO, Shakti Sustainable Energy Foundation, said, “Bengaluru faces the risk of deterioration in air quality resulting from rapid urbanization, accompanied by a massive increase in transportation, construction, and industrial activities. I congratulate the Center for Study of Science, Technology and Policy for conducting the timely source apportionment and emissions inventory studies, which highlight ways to achieve cleaner air through data-centric, cost-effective, and pragmatic policy interventions.”

With Bengaluru being identified as a non-attainment city, CSTEP— as an Institute of Repute under the National Clean Air Programme— is working with KSPCB and BBMP to help implement the recommendations.

The report “Emission Inventory and Pollution Reduction Strategies for Bengaluru” can be accessed [here](#) while “Identification of Polluting Sources for Bengaluru: Source Apportionment Study” is available [here](#).

For more details and interviews with researchers, please write to us at [cpe@cstep.in](mailto:cpe@cstep.in)

### **About CSTEP**

Headquartered in Bengaluru, the Center for Study of Science, Technology and Policy (CSTEP) is one of India’s leading think tanks with a mission to enrich policymaking with innovative approaches using science and technology for a sustainable, secure, and inclusive society. CSTEP’s areas of focus are Climate, Environment and Sustainability; Energy and Power; AI and Digital Labs; Materials and Strategic Studies, and Computational Tools.