

## Wheezing and coughing our way to bad health

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**A DISEASE CALLED DIESEL**

1,000 NEW PERSONAL VEHICLES EACH DAY IN DELHI, ALMOST DOUBLE COMPARED TO PRE-CNG DAYS, SEVERAL OF WHICH RUN ON DIESEL

The Society for Indian Automobile Manufacturers (SIAM) says market share of diesel cars was about 50 per cent of total car sales by 2010. This growth in personal diesel vehicle numbers undid all the efforts to reduce pollution by phasing out diesel buses and converting them to CNG.

50 PER CENT OF TOTAL CAR SALES

- According to CSE's estimates, the total number of diesel cars presently in Delhi is equivalent to adding particulate emissions from nearly 30,000 diesel buses

**A WORRYING TREND**  
The most worrying trend is a decreasing ridership of Delhi's buses - according to a 2008 study done by RITES, between 2001 to 2007-08, the share of buses in the modal split has fallen from 60% to 41%

Source: Centre for Science and Environment

Air pollution kills. In 2009, the Capital registered 10,900 premature deaths due to ambient particulate matter (PM) pollution. These were the findings of a study that was conducted to monitor the adverse health effect of rising air pollution in the city.

The effect of breathing toxic air laced with harmful particles, gases and a range of toxic compounds are now associated with an array of health outcomes that include respiratory problems, cancer, eye-related symptoms, adverse effect on foetus, hypertension, diabetes, and brain development in children among others.

“Poor air quality is detrimental to good health,” asserted Raj Kumar, professor and head of the National Centre for Allergy, Asthma and Immunology, Vallabhbhai Patel Chest Institute.

“Over the years, we are seeing more people with acute respiratory problems, especially children. Previously, bad or hampered lung function was noticed mainly among smokers, the same cannot be said now. Rising pollution levels is causing and aggravating ailments, including asthma, bronchial asthma and obstructions and breathlessness. The noxious fumes being thrown into the atmosphere is causing the same harm that smoking causes to smokers,” Dr. Kumar said.

Calling the PM 2.5 among the culprits, he added: “Particulate matter this small causes the maximum harm adversely interfering with lung function and capacity.”

Studies done by the environmental watchdog the Central Pollution Control Board (CPCB), too, have noted that high levels of pollution raises concerns for the health of the city's inhabitants.

Senior chest consultant at Sir Ganga Ram Hospital Dr. Arup Basu concurred: "Bad air quality has a profound air quality on health, especially children and those with various lung-related diseases. Rising pollution is known to cause allergic condition and aggravates respiratory diseases. A study done in South India had shown that there is a direct relation to vehicular population increase and rise in the number of children coming to the chest out patient department."

But the Capital did not have it so bad always. The annual average PM 10 levels were reduced by about 16 per cent between 2002 and 2007.

A report by the Centre for Science and Environment (CSE) has noted that since then particulate levels have increased dramatically by 75 per cent.

During the same decade (2002 to 2012), vehicle numbers have increased by as much as 97 per cent contributing enormously to pollution load and direct exposure to toxic fume. Moreover, between 2002 and 2011 the nitrogen oxide levels have also increased 30 per cent.

"This indicates that Delhi is in a grip of multi-pollutant crisis," said CSE executive director, research and advocacy, Anumita Roychowdhury.

Additional recent reports have indicated that about 55 per cent of Delhi's 17 million people, who live within 500 metres from any road side, are directly exposed to toxic vehicular fume.

"The evidences in India and globally are so strong that this cannot be denied any more on the grounds of uncertainty," said Ms. Roychowdhury.

Some of the available local health evidences are also very stark. An epidemiological study on children in Delhi carried out by the CPCB and the Chittaranjan National Cancer Institute of Kolkata and published in 2012 covered 11,628 school-going children from 36 schools in different parts of Delhi and in different seasons.

It found that every third child had reduced lung function. Sputum of Delhi's children contained four times more iron-laden macrophages than those from cleaner environment, indicating pulmonary haemorrhage.

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***Raj Kumar professor and head, National Centre for Allergy, Asthma and Immunology***