

The smog in Lahore

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The air pollution level in Lahore is considered to be among the unhealthiest, worldwide, with average concentration of pollutants estimated to be $150.7\mu\text{g}/\text{m}^3$. Lahore continues to rank the highest as per LIVE AQI INDEX.

According to 'IQAir', which is a reliable global think tank, the 'Real-time Air Quality Index' (AQI) the smog level in Lahore levels to 604, with maximally touching the 630 mark. IN the same lines, the Daily News International reported on December 12th 2021, that Lahore has the world's worst air quality despite closure of the schools and offices on specific week days. It further states that the Punjab Government seems to be helpless in controlling the smog in Lahore.

According to a report by 'The United News of India on 12th December, Sunday, the capital city of Punjab has once again topped as the most polluted city cities in the world.

The air pollution usually gets worse during winter, notably from October to January, with peculiar smog covering the entire city, rendering the air pollutants to remain trapped within the air for longer duration. The Pakistan Disaster Management Authority, Government of Punjab (PDMA), has announced on its website, that most of the smog we see is photochemical smog containing volatile organic compounds (VOCs), hydrocarbons and SO_2 , and when sunlight reacts with these nitrogen oxides and volatile organic compounds in the atmosphere, there is generation of airborne particles and ground-level ozone or smog. These VOCs are primarily emitted by gasoline products, paints, cleaning solvents, coal power plants and factory exhausts. In addition, vehicle exhaust, burning of crop residue and general waste and large scale loss of trees further contribute to smog

In January 2021, a research article published in The Journal of Cleaner Production (ELSELVIER, Vol 279) by Waseem et al¹, documented that the poor air quality and smog in Lahore is largely attributed to rapid and unchecked urbanization, industrialization and increasing fossil fuel consumption. The study also identified smog as a potential source of health hazard with serious economic outcomes. In the same line, H. S. Yousaf et al² evaluated the air pollutants in the smog in Lahore, near Wagah border and other sites of the city. The study highlighted that carbon monoxide, nitrogen oxide, vehicle exhaust and burning of fossil fuel interact with sunlight and produce toxic photochemicals, leading to the formation of bad ozone (O_3), which is regarded as the worst smog causing pollutant.

The impact of smog on various sections of population in the city was documented in a recent study in Lahore which revealed that people with different occupations residing in either outdoor or indoor environments, are equally affected by smog, especially in the winter season. Among them, middle-aged people and those with a history of a respiratory disease are specifically affected by smog. However, people with poor hygiene, less educated people, older people who reside in polluted areas develop respiratory health complications (Fatima Jabeen; 2021)³

Steps are needed to curb this health hazard, controlling the rising air pollution and switching to greener fuel alternatives. These efforts require effective legislation and intense public awareness programs and educating the masses via print and electronic media

Simple steps to stay protected

1. Use of face masks, particularly outdoors.
2. Proper closure of windows in schools and residences
3. Avoid outdoor activities as much as possible
4. Regular use of air-purifiers at home and offices

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