

MEASUREMENT OF PARTICULATE MATTER (PM₁₀ AND PM_{2.5}) CONCENTRATION: A CASE OF AHMEDABAD CITY

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ABSTRACT

The air pollution in Indian cities is increasing at an alarming rate. Amongst the world's 10, most air polluted cities, 6 are from India [1]. The air consists of various pollutants like SO₂, NO₂, PM₁₀, PM_{2.5}, Ozone, CO etc. But PM_{2.5} is the most dangerous, adversely affecting human health. Air pollution is the 5th highest cause of deaths in India [2]. The study intends to find the particulate matter (PM) concentration levels (PM₁₀ and PM_{2.5}), in Ahmedabad city. 32 areas including commercial, residential, industrial, sensitive etc., across the city, were selected to measure PM₁₀ and PM_{2.5} concentration, in the month of December 2013. The study found that, almost 44% of these areas had PM₁₀ levels exceeding the permissible limits and 30% of them exceeded the permissible levels for PM_{2.5}, most of them located in the central part of the city. Moreover, certain areas had highly critical PM levels.

KEYWORDS: Particulate Matter, PM₁₀, PM_{2.5}, Ahmedabad, Concentration Levels, Air Pollution