

## Study of Ambient Air Quality on Building's Roof of Dhaka City

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**Abstract :** The gaseous pollutants, SO<sub>2</sub>, NO<sub>2</sub>, CO and O<sub>3</sub> affect the environment of Dhaka City. These pollutants are mainly released from stationary sources, like, fossil-fueled, power plants, industrial units and brickfields around the city. Suspended particulate matters including PM<sub>10</sub> and PM<sub>2.5</sub> are also contributing to air pollution in Dhaka City. SO<sub>2</sub>, NO<sub>2</sub> and O<sub>3</sub> are determined by using UV and visible spectrophotometry. The sensor type devised has been used for the determination of CO in ambient air. Lead in the suspended particulate matter was determined by using atomic absorption spectrometry. The samples were collected at ground level and on the roof of a seven-storied building. For all the criteria pollutants, the concentration at the roof was found to be lower than that at the ground level. The average concentration of PM<sub>10</sub> and PM<sub>2.5</sub> were found to be 241.5 and 81.1 mg/m<sup>3</sup> at the ground level. On the roof of a 7 storied building was however 49.99 mg/m<sup>3</sup> and 25.88 mg/m<sup>3</sup> for PM<sub>10</sub> and PM<sub>2.5</sub> respectively. The concentration of Pb varied from 0.011 to 0.04 mg/m<sup>3</sup> at the ground level. The values for Pb at the roof level were significantly lower. The values for SO<sub>2</sub>, NO<sub>2</sub>, CO and O<sub>3</sub> were found to be higher than the USEPA values.

**Keywords :** gaseous air pollutant, PM, lead, gravimetry, spectrophotometry, atomic absorption, ambient air quality

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