

**Trends of air quality in the city of Colombo**

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Good quality air is a prime requirement for a healthy life. Air Quality Management is an important aspect in Urban Environment Management and Air Quality Monitoring is one of the vital components of Air Quality Management. Lack of ambient air quality data is a major limitation for planning of future development and Air Quality Management activities. Ambient air quality data have been gathered over a five-year period from January 1997 in front of the Colombo Fort Railway Station using continuous automated analyzers. The collected data were analyzed for trend using a spreadsheet package.

The diurnal pattern of ambient air quality parameters such as CO, NO<sub>x</sub>, indicates that mobile sources have a major contribution to air pollution in the Colombo city. In general the concentration of air pollutants is higher during working days (Monday - Friday) than weekends. Pollutant concentrations are higher in the Northeast monsoon period than in the other periods. Colombo's Ambient Air Quality is within the National Standards with respect to Carbon Monoxide (26 ppm for one hour average) and Nitrogen Dioxide (0.13 ppm for one hour average). Even though NO<sub>2</sub> concentration is on the increasing trend ( $y = 0.0024x + 0.0146$ ), CO concentration shows a decreasing trend ( $y = -0.13x + 0.78$ ).

The 24hour average concentration of Particulate Matter less than 10 micron in diameter (PM10) exceeded the USEPA standards (150 µg/m<sup>3</sup>) only one day during the monitoring period. However, the annual average of PM10 exceeds the annual standard for PM10 stipulated by the USEPA (50 µg/m<sup>3</sup>) PM10 concentration remains more or less constant during the five-year period since 1997 with high values in the dry season and low values in the wet season. Frequency of exceedance of hourly average of Sulphur Dioxide concentration beyond the national standards (0.08 ppm for 1h average) at the Colombo Fort Railway Station Monitoring Site reached maximum in the year 2000 (83 h) with a very rapid increase compared to the previous years (5 h in 1997, 7 h in 1998, 5 h in 1999).

These findings show that a prompt action is required for the management of air quality in the Colombo City with a special focus on vehicular emission reduction.

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