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**Colombo air pollution from a statistical point of view**

Colombo District, about 652 km in extent is about 1% of the total land area of Sri Lanka. The Colombo Municipal Area occupies only about 10% of the land extent of Colombo District. Colombo is a coastal city, functioning as the commercial and the administrative capital of Sri Lanka.

It is estimated that more than 50% of the total vehicular fleet of about 2 million vehicles in Sri Lanka is operated in this city and neighboring area. Because of the infrastructure facilities available, there is an increasing trend in number of industries, power plants and other air pollution sources in and around the city of Colombo.

This study was mainly concerned on the data from November 1997 to September 1999 concentrating mainly on ambient Carbon Monoxide (CO), Nitric Oxide (NO), Nitrogen Oxides (NO<sub>x</sub>), Sulphur Dioxide (SO<sub>2</sub>), wind speed, wind direction and rainfall obtained from the continuous Ambient Air Quality Monitoring Station at Fort railway station, which was operated by the National Building Research Organization(NBRO). This study indicated significantly ( $p$  value= 10) high levels of air pollution during North-East monsoon and low levels in South-West monsoon compared to the other seasons. With a specific increment of CO, NO and NO<sub>x</sub> in North-East period relative to the South-West period were found to be around 131%, 44% and 43% respectively.

By considering the variations of air pollution during the day, the highest concentration was recorded in the morning traffic period (07.00 a.m. to 11.00 a.m.) followed by the evening traffic period (03.00 p.m. to 06.00 p.m.). The lowest pollution level was found during the period from mid night up to morning (10.00 p.m. to 07.00 a.m.), especially during South-West monsoon.

Factor analysis techniques were also used to identify possible sources of air pollution in the Colombo city and found that during the North-East monsoon, the main contributor to the day time air pollution was from the sources in the near vicinity towards North and East, may be due to the Central bus stand and Fort railway station and during the night the contributing sources were towards North and North- West direction, probably from the activities of Colombo sea-port and the Kelanithissa power station.