

To the Editors:

Rising SO₂ levels in ambient air

For several weeks running now, increasing concentrations of sulphur dioxide (SO₂) have been recorded on air quality monitors in Colombo. It is pertinent that the medical profession is made aware that the Sri Lanka Air Quality Index has recorded SO₂ levels entering the "unhealthy" category [1]. Burning of diesel produces SO₂, and more fossil fuels are burnt now to meet our increasing energy needs.

Since the inception of data collection in 1996-7 with Continuous Automated Air Quality Monitoring Systems in Colombo, a consistent observation has been the increased concentrations of SO₂ in ambient air from December to February. The readings have been independently confirmed by academics in Peradeniya University, and are higher this year. The expert view is that this is a natural phenomenon during the north-east (NE) monsoon. Lower wind speeds and the wind direction being opposite to the sea breeze in the western parts of the country (during this monsoon) are believed to hamper the dispersion of air pollutants. So Colombo, a coastal city in the west, experiences higher levels of air pollution at ground level. A cause that extends beyond the confines of the local environment is suggested by Prof O. A. Illeperuma from Peradeniya University, who has found similar high levels of SO₂ during the months of December to January in Kandy and Anuradhapura, and pollution from India is postulated.

Pollution is often not confined to one pollutant, and synergic effects of pollutants could be more damaging to health than one. Our own studies on health effects established a link between air pollution and wheezing in children in Colombo [2]. In 1998 we observed a concomitant increase in oxides of nitrogen and SO₂ and increased incidence of acute wheezy episodes in December to January.

The need of the hour is an explanation for the increase in SO₂ and measures to curb it, rather than studies on health effects. It is heartening that an important study is currently underway that may throw light on the current situation. A team of scientists from India, Pakistan, Bangladesh, Nepal and Sri Lanka are studying effects of high particulate pollutants on pulmonary health status in selected mega cities in south Asia. The information gathered by medical graduates includes data on chronic respiratory ailments and peak flow measurements of 1000 people from over 250 households in Colombo. Each household was visited 3 times over a period of 12 months, and the dates correlated with ambient air quality. The results when available, both nationally and regionally, would help elucidate the source of the threat to health.

Meanwhile, it is regrettable that emission standards and vehicular standards are not being enforced despite a solemn undertaking given by a previous Minister of Environment to courts several years ago. In the light of the current situation the environmental lawyer who took this matter to court is left lamenting that "all the kings horses and all the kings men, have not been able to put emission standards together again"; and the children of Sri Lanka face the prospect of wearing air filtering masks to school in the not too distant future.

References

1. Sri Lanka Air Quality Index. Air Resource Management Center, Environmental Economics and Global Affairs Division, Ministry of Environment and Natural Resources, 2007.
2. Senanayake MP, Samarakkody RP, Kudalugoda Arachchi J, Sumanasena SP. A Relational analysis of acute wheezing and air pollution. *Sri Lanka Journal of Child Health* 2001; **30**: 66-8.

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