stress when exposed to toxic pollutants, and may end up being admitted to a hospital.[6] Therefore the statistical relation between emergency room admissions for cases of circulatory and respiratory diseases and level of pollutants is often considered as an indicator of the effects of air pollution. In other studies the association between weekly averages of air pollution and daily mortality has been used to demonstrate the effects of long term exposure to air pollution.[7] It is also important to identify the source of the air pollution; in this review of the literature, focus is placed primarily on roadside pollution.

4. Trends demonstrating the association between roadside pollution and mortality

In July 1990 a restriction on sulfur content of fuel was introduced in Hong Kong. Power plants and road vehicles could not use fuel oil with a sulfur content that was greater than 0.5% by weight. The intervention led to an immediate fall in ambient sulfur dioxide (SO_2). The effect of this intervention on mortality was then assessed. Statistical models were created to show the changes in death trends each month between the years 1985 and 1995. The effects on seasonal deaths were also assessed and done so by measuring the increase in number of deaths from warm to cool season.[8]

to lower concentrations of the air pollutant had led to an increase in the average life expectancy per year: 20 days for females and 41 days for male.[9]

The outcomes of the intervention introduced in Hong Kong provide direct evidence on the effect of sulfur-rich fuels on the death rates, in particular, on respiratory and cardiovascular deaths. It also demonstrates the importance of control over pollution, which could lead to both immediate and long-term health benefits.

suffered from higher concentrations of pollutants due to the accumulation of these toxic particles over time.

The uneven distribution of pollution concentration over the height of the building leads to a controversial topic of environmental justice. In the case of Hong Kong, typical examples of street canyons can be found in commercialized areas such as Mong Kok and Causeway Bay. Streets in these areas experience an immense flow of traffic daily. Many are surrounded by run-down buildings, which are usually inhabited by low-income families or the elderly. Fresh, clean air is a basic right that everyone should be able to enjoy. It should not be limited to the population that could afford housing in areas with low levels of pollution. Hence, the street canyons in Hong Kong raise an important issue over environmental justice as well as the distribution of land.

6. Further investigations

Vertical profiles of air pollution are an intriguing topic that encourages further investigation. Concentration levels of pollutants not only differ in between areas in Hong Kong, they also range from high to low levels of the building. Studies have suggested that higher levels suffer from a lower concentration of pollutants due to smaller amounts of accumulation and more ventilation. Experiments on this topic can be conducted by measuring the pollutant concentration at different levels of the same building. Measurement of pollutants in the bottom, middle, and top level of a building can be made and compared. Factors such as the number of people in the building, the length of the period of measurement, and other artificial forms of ventilation will all have to be controlled.