

Pollution levels unsafe across Beirut – study

BEIRUT: Pollution at indoor and outdoor spaces in the capital has reached alarmingly high levels, a research study conducted by the American University of Beirut (AUB) warned Wednesday.

While the notion that the air in Beirut is polluted is a reality that its residents will unhappily attest to, just how much pollution the average person in the city breathes into his or her lungs has only recently been quantified by a team of AUB researchers.

According to the study, a serious risk to public health comes from carbon emissions – proven to be carcinogenic – related to the increase in the number of cars and peak traffic hours.

The research team, headed by associ-

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atical chemistry, Najat Saliba, who doubles as the university's director of the Nature Conservation Center for Sustainable Futures (IBSAR), received around \$7,000 a year in funding from the Lebanese National Council for Scientific Research (CNRS) and the University Research Board (URB) at AUB to collect data around Beirut from 2001 to 2007.

In 2008, the Air Quality Research Unit was established under the CNRS and with financial support from CNRS, AUB, and University Saint Joseph (USJ) to continue studying air pollution in the Beirut area. "Previously, we did not have systematic data that went back years, and all countries of the region still lack baseline studies, so we didn't have anything to compare to," said Saliba with a mixture of regret and triumph.

After analyzing the data collected over the study period, Saliba and her team finally published the compilation of their results this year. They found that the levels of different particles in the air that adversely affect human health greatly exceeded guideline levels set by the World Health Organization (WHO).

"When you inhale particulate matter it can stop at the throat level, at the esophagus, or go all the way to the lungs, depending on its size," said Saliba, who explained that particles can sometimes be carcinogenic.

The study reveals that "coarse" particles in the Beirut districts of Haret Hreik, Bourj Hammoud, Abdel Aziz, Bliss Street and the Manara area near AUB's Seagate were found to be

around three times the guideline level set by WHO. The average level for "fine" particles – less than 2.5 micrometers in diameter and more hazardous to health due to their smaller size – reached three to four times WHO standards.

Even though some particles – such as dust from Beirut's construction boom – may not cause cancer, they still have adverse effects on public health and have been proven to contribute to airway inflammation, allergies, contracting asthma, and chronic bronchitis, with the most severe effects on children.

What's more, Saliba's research shows that average levels of coarse particles indoors turn out to be much higher than outdoor levels, especially during the winter months, when windows are generally closed and heaters are in use. During the summer months levels in studied neighborhoods are at around 2.5 times the recommended WHO standard. However, during the winter months, average levels shoot up to over five times the acceptable rate while outdoor levels decrease.

"In one of the houses, they said they had eight nargileh going at the same time," said Saliba, recalling that the air in that particular apartment was over 10 times the acceptable WHO level. "It was really shocking."

The Air Quality Research Unit is now preparing to conduct similar research in the greater Beirut area with the hope of providing the scientific community with reliable country-wide data and presenting policy makers with the impetus to improve the current situation.

"We don't have as many cars as Los Angeles does, and we have the same topography, but they were able to limit their emissions and bring their pollution levels down," says Saliba. "We are a small country, and if others are able to contain their levels, we should be able to do it." – *The Daily Star*