

For Immediate Release



AUB research study warns of high levels of indoor and outdoor air pollution in Lebanon

Beirut, Lebanon- 8/12/2010- Climb the mountains around Lebanon's capital city on a bright sunny day and, more often than not, one will notice a thick layer of dust and smog that lingers just above the sprawling concrete jungle below. The notion that the air in Beirut is polluted is a common reality that its residents will unhappily attest to, but 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 researchers at the American University of Beirut (AUB).

The research team, headed by Associate Professor of Atmospheric and Analytical 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 between 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 (between 2.5 and 10 micrometers in diameter) in the districts of Haret Hreik, Bourj Hammoud, Abdel Aziz, Bliss Street and the Manara area near AUB's Seagate in Beirut were found to be around three times the guideline level set by the World Health Organization (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 greater effects on children.

The more serious risk to public health comes from carbon emissions related to the increase in the number of cars and peak traffic hours which have been proven to be carcinogenic. Lebanon is estimated to contain some 1.6 million vehicles with over half built over 20 years ago. And with

new car sales increasing at a steady rate of around 5 percent a year, the problem can only get worse.

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 operational. 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 *nargilehs* going at the same time,," said Saliba recalling that the air in that 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 amend 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."

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Note to Editors

About AUB

Founded in 1866, the American University of Beirut bases its educational philosophy, standards, and practices on the American liberal arts model of higher education. A teaching-centered research university, AUB has more than 600 full-time faculty members and a student body of more than 7,000 students. AUB currently offers more than 100 programs leading to the bachelor's, master's, MD, and PhD degrees. It provides medical education and training to students from throughout the region at its Medical Center that includes a full service 420-bed hospital.

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