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The power of planting a forest in Zouk Mosbeh



👤 Rosabel Crean | The Daily Star

BEIRUT: During the drive north up the coast from Beirut, the two striped towers of Zouk Mosbeh's power plant come into view. Last Friday morning black fumes puffed from one of the towers, a common sight for Adonis resident Grace Bou Nafeh, a 41-year-old translator.

Bou Nafeh told The Daily Star about living in a region known for its poor air quality, and the "black dust" residue of the power plant that settles on her balcony. "Whenever we go out on the balcony to sit, we always have to clean the table and chairs even though there is a curtain. Even if we clean in the morning, we have to clean again in the afternoon," she said.

Over the past year, Beirut has seen a growth in small green projects shooting up in disused public spaces, with volunteer groups attempting to mitigate the pollution of urban living. Sin al-Fil now boasts a small forest of Lebanese trees and shrubs on the banks of what was once Beirut's river. Meanwhile, thanks to a youth team in El Horch, a flower-filled park has been created for the community to

enjoy. And this week, a project has begun in Zouk Mosbeh, the district adjacent to Jounieh.

In the shadow of Lebanon's biggest power plant, an abandoned plot of dust, litter and dirt in the media strip sandwiched between opposing lanes of the highway will soon boast a forest of 720 native plants and trees. Led by Adib Dada, who founded TheOtherForest, an initiative focused on nature as a tool for ecological regeneration in cities, the project will follow in the footsteps of his brainchild at Sin al-Fil, which was Lebanon's first urban forest.

Lebanon has one of the highest levels of air pollution in the Middle East and North Africa, according to a Greenpeace report this year. It found that Lebanon suffers from the highest rate of premature deaths in the region due to air pollution. The country's burning of Heavy Fuel Oil in power plants, unfiltered generators and endless traffic fumes have contributed to record levels of nitrogen oxide particles in the air. Nitrogen oxide is a dangerous pollutant released when fuel is burned, and can cause respiratory problems and damage to lungs.

According to Greenpeace's air pollution report of 2018, Jounieh is the most polluted town in Lebanon and listed as the fifth-most-polluted region in the Arab world. The town's location beside the highway and the impact of the power plant have been factors in the city's poor environmental standing.

Dada explained to The Daily Star the reasoning behind his project to install forests in a city. "The whole point is we are planting native forests, bringing back this ecosystem that used to exist here that disappeared because of urbanization. We are replicating and bringing it back into these urban landfills."

TheOtherForest uses the Miyawaki technique, a method developed in Japan to return native species to areas affected by deforestation or cities in need of an environmental boost. It is intended to create a more natural forest than conventional landscape gardening, which does not necessarily incorporate local species. It also requires more maintenance, needing constant watering and attention, whereas the Miyawaki technique plants a mixture of shrubs together in close proximity, mimicking a traditional forest. The key to the Japanese method is that the forest becomes self-sufficient after two to three years of watering and care.

Dada hailed the technique as not only having the power to reduce Lebanon's air and noise pollution, but also to restore natural water systems and become a haven for migratory birds. According to Dada, Lebanon lies on the second-most-important flyway in the world for such birds, which are often at risk from hunting or logging. But within a city neither activity could be carried out.

TheOtherForest was led to Zouk Mosbeh by a resident who reached out to Dada on social media. Karelle Rizk, a 29-year-old sustainability researcher, has been living with the detrimental effects of Lebanon's biggest power plant her whole life.

Rizk informed The Daily Star that the power plant was too close to residential areas, and since the late 1980s the plant has failed to update its standards in line with international regulations. The plant uses HFO, which is known to release high quantities of sulfur. For over a year there have been claims from the Environment Ministry and the Zouk Mosbeh Municipality that the plant was switching to gas, but residents have been waiting in vain.

Back in March, Dada and Rizk presented the idea of an urban forest in Zouk Mosbeh to the mayor, Abdo Elias El Hajj, who took to the

idea. However, the pair underwent eight months of phone calls and unanswered messages before they got the green light and could start fundraising. Speaking to The Daily Star, Hajj said it had been his aim since he was elected to plant trees and create public gardens for the 87,000 residents of the town.

He admitted, however, that off the top of his head he did not know what type of oil was burned in the power plant. According to Rizk and her father Wilson Rizk, a 74-year-old hydrologist and environmental expert who also lives in Zouk Mosbeh, the HFO burned there has a sulfur content of 6 percent, far exceeding the internationally recommended limit of 0.5 percent. The sulfur rich fumes also cause acid rain, resulting in ecological damage to open water and trees.

In the past, the elder Rizk has worked alongside officials to assess pollution in Lebanon. In 2018, the court of Jdeideh hired him to audit the environmental damage from the Bourj Hammoud/Jdeideh landfill. When The Daily Star asked whether he had been given appropriate equipment to work on the toxic site, he laughed. The air from the rubbish dump was so poisonous that it left Rizk with a fever for five days and permanent damage to his voice, which is now strained and gravelly.

Bou Nafeh revealed that her father, who also lived in Adonis, died four years ago at the age of 70 from pulmonary fibrosis, a disease caused by scarred or damaged lung tissue. She suspects that his long-term exposure to the toxins in the air in the region could have played a factor in his death, citing one of the causes of pulmonary fibrosis as environmental pollutants. Both Bou Nafeh and the Rizk family hope to see the Environment Ministry install filters in Zouk's power plant to attempt to detox the air.

Soil excavation began this week at the site of the new project in Zouk Mosbeh, the first stage of Dada's afforestation process. He explained the complexities of digging in urban areas – removing trash, glass, rubber and concrete – and then digging down to a depth of 1 meter. Subsequently, the biomass of husk and straw as well as organic compost is added to make the right mix for the trees, after which the soil is replaced. The 540 trees and 180 shrubs planted will all be species local to the area.

If all goes to plan for the pilot project in Zouk Mosbeh, Dada and Rizk hope to create further spaces in the town to alleviate decades of dirty fumes. Dada explained the benefit of working with municipalities on a lower level of government, which has enabled permission to be granted for the schemes albeit with delays. But until the environment becomes a concern at the top level of government, the Lebanese people will have to endure the perils of toxic air for years to come, and none more so than the residents of Zouk Mosbeh.