

Industrial Pollution, Agriculture, Farming, Water Pollution, Food, Air in Lebanon

Abridged from a paper by Dr. Julinda Abu Nasr and Rima Zankoul (*)

Lebanon is a small country of 10,452 Km², located on the eastern Mediterranean coast. It lies at the intersection of three continents namely Asia, Africa and Europe. It has the four seasons and is rich in a wide variety of geographical features such as mountains, valleys, plains, rivers and lakes, not to mention the beaches surrounding its western boundaries. The Lebanese population estimated at 2,965,000⁽¹⁾ clustered mainly in the large cities especially in Beirut the capital

The last 16 years of war caused the deterioration of the country's infrastructure, the devastation of people's properties and the alteration of their life styles. During the war the Lebanese people were mainly concerned with coping, survival,

safety, securing water, electricity, food supplies and other necessities. Now that peace is settling in, their concerns have shifted to other problems namely environmental ones. Notably, an environment that has been widely neglected and abused for years.

Due to the lack of governmental control, laws have been violated; trees cut; water, air and food polluted.

Noise pollution has increased tremendously. Birds and animals are being shot, the sea violated and garbage dumped everywhere. Furthermore, land degradation is spreading quickly to engulf all of Lebanon. The last swamp (Amiq) in Lebanon is being dried out and no longer serves as a shelter for birds putting them in danger of extinction,

for it is considered one of the major stop-over stations for migrating birds in the Middle East. These sad realities shook the Lebanese out of their indifference. They have come to realize that Lebanon is caught in a very serious state of pollution. Some of the Lebanese are finding it hard to accept the ugly fact that their beautiful green country is turning into a desert.

For the sake of clarity, we shall discuss each specific aspect of pollution separately, such as water, sea, land, air and noise pollution.

Water pollution: The Lebanese war has contributed immensely to water pollution problems, since 1975. "Water transmission mains, reservoirs and distribution systems were subjected to extensive damages in many parts of greater Beirut"⁽²⁾. One of the major problems resulting from the war situation is poor maintenance and repair of distribution systems. Poor maintenance persisted because of the dangers and difficulty of repair-personnel's access to the area where the damage occurs. On the other hand, the usual domestic water shortage was increased because of an extra demand created by the influx of displaced families to large cities such as Beirut and Tripoli. Consequently, the people were forced to drill private wells which tend to be located mostly near the sea shores. Almost all the wells are drilled and used in an unscientific way. "This has led to progressive sea water infiltration into the coastal aquifer with potential risks to users in terms of health and economy"⁽³⁾. Some cases of Cholera, Hepatitis and jaundice were



Taken from Ricardous Michel al-Habr, Tabi'at Lubnan- Bi'at alinsan, mawarid fi tariq alzawal, (Lebanon's Environment- The Human Environment, Resources becoming Extinct),

reported, recently, in North Lebanon. Tests relate causes of such diseases to the pollution of domestic water.

Another factor that contributes to the underground water pollution is the digging of holes for dumping human waste materials. In Lebanon these dumping areas are not constructed according to hygienic and calculated criteria. Liquid wastes penetrate deep into the soil added to the pollution of the wells dug for domestic use. Some farmers even use untreated sewage water to irrigate their land. Needless to say that bacteria and pollutants enter directly into the underground water supply causing a host of health problems.

The second issue related to water is that of the Amiq swamp. This swamp is located in the Beqaa valley. It is a private property with an area of approximately 1700 Hectares which has been reduced to only one Hectare (10,000 m²). "The swamp is unique in all middle eastern countries for its natural ecological system. Hence, it is a natural area which includes hundreds of water plants and animals, most of which are becoming almost extinct due to the draining of water" (4) in order to turn it into an agricultural spot. After the act, it was discovered that the land itself is not fit for agricultural use. Nevertheless, if the swamp is eliminated, the damage will not only affect Lebanon, but the Middle East as well as Africa and Europe. "It has been estimated that more than 2,000,000,000 birds, each year, travel from their breeding grounds in Eurasia to their wintering areas in Africa and back. More than half of these birds traverse the Middle East" (5). The swamp of Amiq also plays an important role in the irrigation of adjacent cultivated land. Hence, by drying it out Lebanon loses an important source of water. Amiq also helps moisturize the Lebanese climate, now, unfortunately, most of the land is changing into a desert. "If

we take the rain-fall average of the last century, we realize that it has dropped from 900 ml to 600 ml affecting mostly coastal areas" (6).

Sea Pollution Lebanon is located on the eastern Mediterranean coast. The Lebanese sea shore is 225 km long. Pollution on the shore is brutally destroying life forms. "An estimated 628,000 Tons/km² of sewage water and solid waste materials are dumped into the sea each year" (7). Pollutants remain in the Mediterranean for decades before being washed away or dissolved, especially because it is a small and closed sea. "Specialists predict that the Mediterranean may become a totally dead sea in the next century, if pollution is not controlled" (8). The Lebanese shore is a good example of a polluted sea because nine major sewage pipes dispose their content in an area 12 km long. "organic wastes in that specific area are estimated at 6 million tons a year which is 7 or 8 times greater than

any other area" (9). As a result, the Lebanese people are suffering from diseases such as meningitis and intestinal problems, in addition to epidermic irritations.

The Mediterranean sea that may look normal on the surface is, in reality, loosing many of its life form because of pollution. "Our shores used to host dolphins, eels, seals, shrimps and many different kinds of fish. Most of these either migrated, are extinct or on their way to extinction" (10). An example of extinct species are sea turtles which lay their eggs on the Lebanese shores. Today they are no longer in sight. As a matter of fact, there is a direct relationship between the decrease in sea turtles and the increase in Jelly fish because Jelly fish are generally eaten by the turtles. In other words, the emigration of turtles, or their extinction from the Lebanese shore caused Jelly fish to survive and propagate safely and easily, leading to harmful effects on swimmers.

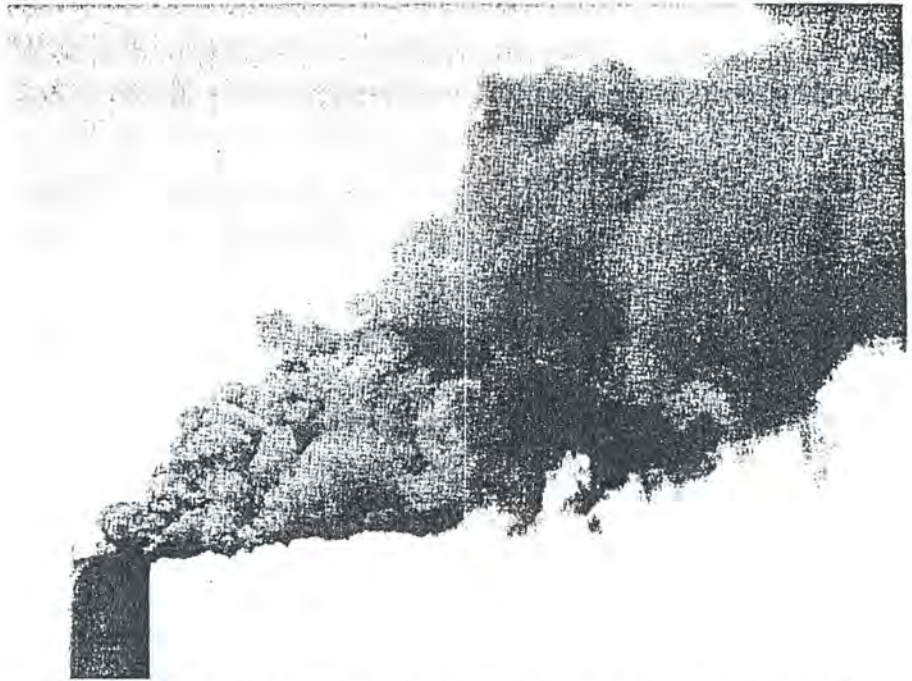


Taken from Ricardous Michel al-Habr, Tabi'at Lubnan- Bi'at alinsan, mawarid fi tariq alzawal, (Lebanon's Environment- The Human Environment, Resources becoming Extinct), Jounieh: Lebanon, P.O.Box 205, 1991

Land Pollution: In Lebanon, rain schedules are usually inconsistent leading to repeated disasters such as flooding or scarcity of water supply. "The slow and continuous decline of natural resources caused by generations who cut forests, misuse agricultural land and cause an increase in herds will sooner or later lead to desertification" (11) Countries characterized by the above features are known for their sensitivity to any ecological change. Like Lebanon the threat is greater in countries surrounded by desert or near one. The soil plays an important role in desertification. Agricultural areas irrigated by underground wells are in danger of saltification as well as decreased fertility. The problem of desertification is growing because of an increase in the degree of land sloping. This increases soil erosion in the mountains leaving it with no green cover.

Another aspect of land pollution is the use of chemical fertilizers and hormones to increase the size, weight and growth of many vegetables, fruits and farm animals. The non-supervised quantities of chemicals being used enter and remain in the human body. With time, these chemicals are transformed into toxic compounds such as Nitrate, causing gastrointestinal disorders and in some cases cancer. Nitrate also interacts with the Hemoglobin in the blood leading to lower Oxygen supply and then causing a series of related diseases. Some of the fertilizers penetrate in the soil and are carried into underground water used by the citizens.

Air and Noise pollution "Air pollution is an ancient problem which goes back to the time when man discovered fuel and began to develop industrial technology" (12). In Lebanon there are more than 1,000,000 vehicles and 2,000,000



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generators which release thousands of Tons of lead, carbon dioxide and harmful gases into the air. Due to the present situation of continuous electricity rationing almost every house has a generator. "The smoke badly affects the kidneys and lead in some cases to cancer" (13).

The causes of air pollution in Lebanon are many. Industries, means of transportation, burning of solid waste materials as well as the domestic use of fuel and coal are some of these causes. Furthermore, "Burning of garbage causes a high degree of pollution leaving the atmosphere full of hydrocarbons and organic flouide resulting from burning plastics" (14)

Generators are the biggest pollution crime of the century in Lebanon. They pollute our air with deadly poisons and increase noise pollution and temperature due to

combustion. Generally speaking, there are 50 generators in each street, each having an average of 50 horsepower. Consequently, 2500 times more pollution is released by each street. (15). Noise pollution is also one of the major environmental problems common to most countries.

Studies have shown that noise pollution can negatively affect human mental abilities, their energy and productivity. "Environmental specialists divide noise pollution into 5 different categories: cars, airplanes, industries, building and entertainment. The degree of noise a person can handle without any permanent damage is 90 decibel (db) for 8 hours. The degree of noise pollution in Lebanon is much higher.

Fortunately, while some people remain oblivious and abusers of the environment, others are becoming more aware of these environmental problems through combined efforts

between various academic, educational, and governmental institutions (16). One of the government's proposals is to turn the Amiq swamp into a natural preservation, where animals, birds and humans can survive safely and make use of its richness. Series of proposals are being studied in order to take the proper action towards preserving the beautiful Lebanese nature and its important natural resources.

The basic methods used to create public awareness are: lectures, seminars, T.V. spots and programs, fairs, cleaning campaigns and press releases. Academic institutions such as Beirut University College, the School of Public Health of the American University of Beirut, the Kaslik University and others, sponsor and organize lectures, seminars and environmental fairs to combat pollution. On another hand, numerous seminars, conferences and round tables, were sponsored by international relief organizations such as UNICEF, UNDP and Frederick Ebert Association.

The visual media plays an important role in exposing environmental problems. Scientific documents are broadcasted to introduce different pollution problems in a real and objective way. People tend to understand, react and become aware of the things they see.

T.V. programs and spots, films, animated songs and advertisements, slides and documentation are presented to educate the people irrespective of their social, economic or educational status. This approach allows the message to reach the majority of people. One of the important points of the visual aid show is to show the extent of pollution, by referring to the before and after the war environmental condition. When the present peaceful

atmosphere started to prevail, the Lebanese noticed that their city had become loaded with garbage and waste materials scattered on every corner of every street. Seeing the unbelievable ugliness, pollution, and diseases being caused, municipality officials began a national campaign to educate the people and clean the streets. Hence, they designated a time schedule for garbage collection. This systematic schedule has already contributed to reducing pollution, creating health consciousness and improving the esthetics of the once beautiful city of Beirut.

Women are highly active in this area but few publicize their involvement. Mrs. Zeina Serhal, a fine Art teacher at Beirut University College is the person in charge of directing and organizing ecological programs on national T.V. She made a number of documentaries to show how people pollute their own environment. The Humanities Division at the College also gave a series of lectures to promote environment awareness. The Institute for Women's Studies in The Arab World at Beirut University College in cooperation with the Natural Science Division and the Geology Department of the American University of Beirut are planning a conference entitled Arab Women and the Environment as well as a series of environmental activities for the coming year*

(*) Abridged from "Industrial Pollution, Agriculture, Farming, Water Pollution, Food, Air" by Dr. Julinda Abu Nasr, the Director of the Institute for Women's studies in the Arab World and Rima Zankoul, research assistant at the Institute. the paper was presented at the Asian Women Institute's (AWI) Triennial conference, "Women and the Environment in an Age of Technology", at Kobe College, Japan, September 1991

(1) UNITED NATIONS, The situation of women 1990 chart, USA 1990.

(2) Zurayk, H., Armenian, H. and Bryce, J. Beirut: 1984. A Population and Health profile. American University of Beirut press, 1984.

(3) Ibid.

(4) Ricardous Michel al-Habr, Tabl'aat Lubnan- Bi'at allinsan, mawarid fi tarq alzawal, (Lebanon's Environment- The Human Environment, Resources becoming Extinct), Jounieh: Lebanon, P.O.Box 205, 1991

(5) Society For Protection Of Nature and Natural Resources in Lebanon. Birds Migrating Visitors Protect Them!, Poster, Beirut Lebanon.

(6) Al Afsar 27 may 1991, # 461.

(7) Al Saffir. 11 Jan 1991 page 4.

(8) Ibid

(9) Ibid

(10) Ibid

(11) Ricardous Haber, Ibid, p. 102.

(12) The Federich Ebert Foundation and the The Media Syndicate, 'Alm alBi'a fi Wasa'il al'Ilam, (Environmental Education in the Media), Lebanon: P.O.Box 73.

(13) Al Hasnaa, 8-22 Feb. 1991 # 1456-1457 page 12.

(14) Federich Ebert Foundation, Ibid

(15) Ibid pages 82-83.

(16) See section entitled Worldwide Efforts in this issue of Al-Raida

