

Chapter 21 Gravesites: Environmental Ruin in Iraq

The chain of death created by the Gulf War was an awesome thing. But the really scary part came later when we find that things which looked alive are really dead, or doomed.

It was a sunny spring afternoon in North Iraq. The blockade had been on Iraqi backs for five and a half years. I stood on a gently sloping verge overlooking meadows of what was supposed to be young wheat. A cover of green tinged with waves of soft yellow extended as far as one could see in all directions and, from a distance, it appeared to be an undisturbed pastoral setting. On the surface, it looked serene.

Had I traveled 250 miles just to escape the ugliness of Baghdad and the sight of beggars there? Did I come to this fresh green landscape to shut out those endless complaints about food prices, and the tedious questions put to me as a journalist about when the embargo might end? As much as I could, I had addressed those issues. Now I was pursuing my own agenda--to investigate agricultural production.

Why should the economic embargo, imposed in 1990 and strictly enforced up to now, hamper local food production? I wanted to know. So I traveled to Iraq's northern wheat growing region beyond Mosul, and to small family farms both north and south of Baghdad.

With me on my tour in the north were agronomists from the agricultural office in Mosul, administrative center for the northern governorate. The region was Iraq's breadbasket, the country's primary grain-producing center. It is a glorious expanse of waves of rolling hills, extending as far as one can see. All of it green in spring, yellow in summer. Normally.

The Iraqis were to show me the farms so I could see for myself. We drove fifteen miles outside the city. When we pulled off the road and walked up the slope, I waited for my guides to proceed further, to those fields where wheat grew. The men did not move beyond where we stood. Impatiently, I asked to see the wheat fields.

"This is it," murmured the officer, looking from me to the earth around us. "This is the crop."

I looked down at the growth at my feet, then across the hill, and finally at my Iraqi hosts. I was confused. "I do not believe this is a wheat field," I remarked impatiently.

"Why did I say that?" I thought. I felt embarrassed. It was as if I had accused the men of deception.

Mohammed Sheet is chief plant protection officer, a trained agronomist. Neither he nor his assistants responded to my observation, or my rudeness. What were they to reply?

I broke into the awful silence and asked if we could move deeper into the field, as if our proximity to the thoroughfare somehow was responsible for the sickly growth around us. They obliged and led me up the slope and away from the road. It was the same. This time I said nothing. "Yes, this is also wheat," explained the official. He was past his anger, beyond any embarrassment. This growth was no different than what we observed earlier. Now all of us were silent, gazing at the ground, as if standing on a grave.

Recovering from the shock, I apologized. I knew what healthy, ripe grain fields looked like and I could recognize young stands of wheat. In other countries, I had witnessed diseased crops, and drought stricken grassland. I had observed thin fields planted with bad seed or crops eaten back by pests. But I had never seen anything as bad as this.

I asked Mr. Sheet to point out which was the wheat plant. He bent down and touched some green shoots visible among the growth. The grass was hardly more than four inches high, whereas a normal crop should reach eighteen inches by now. Low yield is one thing. But this wheat was so badly infested, it was virtually destroyed. Most troubling of all, this tragedy was neither mismanagement nor natural calamity.

The growth at our feet was largely mustard weed and another thick leafed, ugly plant. Together, both weeds almost obliterated the wheat. There was no possibility of separating these from the food crop, explained the agronomist. Not now, or when the fields are harvested. The weeds had also consumed whatever fertilizer farmers had spread there.

Weeds of course are a threat everywhere. If not controlled, they destroy. They cannot be cut out by hand. Machines are useless. Only chemicals can control them.

Normally, herbicides and pesticides would be applied here. Any amount would have been helpful. But they were unavailable in Iraq. Why? They are embargoed by the U.N. along with other agricultural supplements and machinery.

Those essential chemicals can only be obtained with permission from the U.N.'s "661" Committee in New York. For several years none was available; the weeds flourished, uncontrolled. After the passage of SCR 986 and pressure from the U.N.'s own Food and Agricultural Organization, limited supplies of herbicides were authorized. Yet, somehow shipments were tardy. This year, (as in the next, and the next) the critical time for spraying had passed before the FAO office in Baghdad received approval to import some of the chemicals that might have saved the wheat.

The crop was lost. Again. The experts knew this. Farmers expected this. Starving Iraqis would soon find out. When returning to Mr. Sheet's office from our inspection of the fields, I was astonished to see a line of irate farmers outside the agricultural center. Those were not starving mothers and children. They were portly men who would profit from a good crop.

Having prepared the soil and planted the seed, they saw the crisis ahead of them. "Daily they descend on us to plead for pesticides before all is lost," said Sheet, shaking his head, and scurrying past them. This was no Baathi conspiracy. FAO officers assured me of that when we discussed my experience in Mosul on my return to the capital.¹

Should I have asked those farmers if they were Shia, Sunni, Kurd or Christian? Don't forget Turkman.

The Really Scary Part

The chain of death created by the 1991 Gulf War was a scary thing.² I'm not talking about black skies under the blazing oil wells of Kuwait, or the charred remains of soldiers on the sand, or incinerated families who had sought protection in a bomb shelter. Those are familiar images of death, recognizable, and however painful, they are finite. With the end of hostilities, they disappear.

The really scary part comes later, now, when we find that things which looked alive, are really dead. Or doomed.

I refer to a chain of deadly pollution, the kind that creeps up on us, first with vague complaints, then with the persistence of strange illnesses, then with testimonials from increasing numbers of sick people describing similarly odd symptoms. We slowly recognize that disparate reports which appeared unrelated at first are in fact connected.

We have the sickening sense of something spreading, without limits, of something embedded so deep within the system that it's unreachable. Our inquiries are met with denials. To begin, we simply seek to confront it. We just want to stand on the gravesite as if it were a known, finite place.

This is our feeling, I think, as we hear more and more documentation regarding Gulf War Syndrome and its link to the use, by the Pentagon, of depleted uranium weaponry in the 1991 bombardment of Iraq. Evidence is mounting of harmful side effects.³ The numbers of soldiers stricken by inexplicable illnesses after their term in Iraq are increasing. They veterans networks among themselves in order to conduct research and gather facts that the U.S. Veterans Administration would not. They refused to accept government disclaimers that it's military had employed new, dangerous materials in the Iraq battlefield.

In The States, prompted by war veterans, a public movement to ban the use of depleted uranium in weaponry slowly began to attract some media attention.⁴ Inside Iraq, for a long time, nothing was said publicly about what the human effects of exposure to depleted uranium might be. When asked by a few informed journalists about possible radiation-related diseases, health officials were mute. Many Iraqi soldiers were killed outright by uranium-encased weapons when they blasted their vehicles and their bunkers. Those who survived the onslaught

must have ingested and carried with them the fumes and dust created by the bombardments. There is also the uranium waste, three hundred tons of it, according to reports, left on the battlefield inside Iraq. What about the radiation that remained in the air and drifted across the nation?

Today the entire population of Iraq is besieged by diseases. Waterborne parasites and bacteria and malnutrition in Iraq is responsible for many recognizable ailments, and for wasting and death. But what about reports of a sharp rise in spontaneous abortions, cancers, and other "new diseases"? The Iraqi Ministry of Health was systematically documenting some of these health problems.

Before 2000 only Dr. Siegwart Gunther, President of the (Austrian) Yellow Cross, had published evidence scientifically linking possible Gulf War Syndrome inside Iraq and the high incidence of abnormal births and aborted fetuses.⁵ Inside Iraq, some Ministry of Health staff and university faculty were engaged in related research, although they said little about their work at first. Their silence may have been an effort not to further traumatize the public. Or, like the Pentagon, Iraqi officials may have sought to downplay the troubling illnesses soldiers were experiencing. Iraqi research was also limited because of inadequate diagnostic instruments.

Iraqi Scientists Most Concerned About Radiation

Nonetheless, probably no one is more concerned about radiation and other kinds of pollution than Iraqis. The pollution is concentrated in their land. It will affect the future of every soul born here for generations.

Essential comparative data should be gathered by Iraqi researchers. Only they have first hand access to data. Iraq has-- at least before the blockade--a highly capable community of biologists, environmentalists, energy specialists, cancer researchers, etc.. Most had advanced degrees in their fields from the United States and Great Britain. They were capable of conducting the necessary research.

Until the embargo and war, these scholars were active in the international scientific community; they published widely and they took part in international conferences. But their ability to keep abreast of developments and share their work was also blighted by the embargo.

First, their government could no longer afford to finance the expense of overseas travel for its experts. Even if the money could be found, there was another obstacle. Iraqi scientists found themselves unwelcome abroad. They had more reason than every to consult with their peers about their research findings. It took some years before they realized that the embargo essential banned scientific exchange with Iraq. First they were not invited to consult with others abroad; second, even when they learned about a conference and applied to join, they

could not obtain visas to attend. When Iraqis finally admitted that a ban lay behind their exclusion, they were incredulous. Once again, their own teachers were abandoning them. Science was being politicized.⁶

Inside Iraq, the need for disease control was urgent. Conditions were deteriorating by the day; hazardous conditions generated by the war were spreading. A catastrophe of accelerating proportions and unknown ramifications was underway. Iraqi experts needed to alert their colleagues worldwide about the contamination. They had first-hand data and important comparative material to report. No one seemed to care.

The Pentagon, which has been trying so hard to suppress information about the extent, occurrence and possible source of Gulf War Syndrome among its own personnel, would doubtless want to keep any Iraqi source silent on the matter as well. A prohibition on scientific exchange in general was in effect through the blockade; the Pentagon had additional reasons to see that the ban was in place.

Dr. Huda Ammash was an Iraqi scientist eager to share her research on war-related contamination with international colleagues.⁷ Ammash, an environmental biologist, completed her Ph.D. at the University of Missouri. After graduate studies in the United States in the 1980s, she returned home and joined the University of Baghdad faculty. She taught and was engaged in cellular research.

Working with governmental departments of agriculture, health, and environment, Ammash directed her attention to the health affects of environmental pollution caused by the 1991 bombings. When I met her in 1996, she kindly shared her report with me. Her research at that time focused on the enormous energy emission and light energy from the massive bombing in the forty two days of war in 1991 and the resulting radiation.

"We know that ionization causes radiation," she explained. "It is now diffused throughout the entire airspace of Iraq and has likely spread to our neighbors as well, possibly as far north as the southern border of Russia.

"The prolonged effect of this ionization is, over a period of more than ten years, equal to one hundred Chernobyls."⁸

Dr. Ammash and others identified an outbreak of meningitis in children, concentrated in one Baghdad locality. "This is highly unusual and may be a manifestation of high ionization levels. It has never been seen in Iraq before and, under the circumstances of the embargo, we are unable to provide immunization against it." Ammash notes the alarm among doctors she interviewed who report that "Ninety-nine percent of the victims of this disease are children." The Iraqi's research on the incidence of cancer indicated "The disease is increasing at rapid and abnormal rates.. child leukemia is especially rampant, with some areas of South Iraq exhibiting

a four-fold rise in these few years. Breast cancer in young women (age 30 and under) is also many times higher than in 1990 in certain parts of Iraq," she reports.

The experienced microbiologist explains how "the Iraqi environment is subject to a mass of other chemical and microbial pollutants released into the atmosphere, indirect results of the war. This further aggravates conditions." Ammash points out, for example, how "damage to bombed and crippled industrial plants resulted in the leakage of millions of liters of chemical pollutants--black oil, fuel oil, liquid sulfur, concentrated sulfuric acid, ammonia, and insecticides--into the atmosphere. Fumes created by the bombardment of more than 380 oil wells produced toxic gases and acid rain.

"Bombardment of chemical factories damaged their gas purification units and thus created tremendous air pollution as well. If these filters can't function, dangerous gasses are allowed to escape from cement factories, for example. Up to the present, the imposition of sanctions prevents repair of these industrial filters. Untreated heavy water from industrial centers are the media for growth of microbes, mainly typhoid, Malta fever, and other pathogenic bacteria."

Ammash also reports fourteen new crop diseases never before recorded in Iraq's history. "They include covered smut, sazamia moth, yellow crust, spiculated drought disease, gladosporium disease, and epical bent. These are now infecting date trees and citrus trees. "Nothing, nothing is immune to these toxins," she warns.

The Iraqi biologist grew disturbed about what she realized was a determined goal by the U.S. to keep Iraq's scientists isolated and to prevent their research findings reaching others. When I first met Ammash in 1996, she had completed the first phase of research and expected her work would soon be distributed internationally and scientists worldwide would become alarmed by the insipient health hazards of a continued blockade. As the years progressed and her efforts were sabotaged, she became increasingly (and openly) critical of American policy. This may have been a factor in her appointment to the RCC (Revolutionary Central Command headed by Saddam Hussein) in 2001. At the time of the American invasion, she was targeted by U.S. authorities and apprehended, held in a U.S. military jail in Iraq for 31 months. The professor was never charged for any crime and when asked about her imprisonment in 2005, a U.S. spokesperson casually admitted, "We have nothing on her".⁹ In a 1997 radio interview (www.RadioTahrir.org/iraq) Ammash explains her research on war pollution.

Now let's return to those wheat fields. In Baghdad I followed up my research in Mosul by discussions with agriculture officials and I visited small, local farms engaged in mixed agriculture. Farming had declined during the Iran-Iraq war. The FAO office in Baghdad was actively engaged with Iraqi agricultural experts since the 1980s to increase food production.

More than ever, with imported food unobtainable, Iraq was obliged to attend to its neglected agricultural sector. Somehow it had to bring more land into grain production and improve irrigation; FAO, the U.N.'s office concerned with food production, was there to help. Iraq Could Be Self-sufficient

FAO officials were unequivocal about prospects. "Iraq could be self sufficient in grain," said director Amir Khalil. "It has the water; it has the land; it has the expertise." Yet, despite enhanced efforts and the growing food crisis, production was not increasing at the rate it could. Why?

Agriculture experts and farmers agree on the answer: "No herbicides, no pesticides, no fertilizer, no improved seed." It's that simple. And everyone knows why they are unavailable. Because of the U.N. embargo.

Iraq's animal husbandry and poultry industries were as crippled as grain farming. The reasons were the same. "Without vaccines and other medicines, all of which Iraq cannot produce at home and can no longer import, animals--like people and plants--cannot survive."

According to an FAO report, dairy herds in Iraq declined by forty percent since 1990.¹⁰ Before the war, dairy cows numbered 1,512,000. By 1995, the figure had fallen to one million:--a thirty-five percent loss. Water buffaloes suffered an even worse fate, and goat herds declined from 1.3 million to less than a quarter of a million. Iraq's poultry system with 106 million hatching hens in 1990 was virtually wiped out overnight by the bombing when electrically-run poultry sheds across the country--8,400 units--shut down. Without temperature-controlled sheds, vaccines and specialized, treated food, moreover, hens cannot survive long.

Why such massive devastation? Bombing was not that widespread. Lack of essential supports in food production in any modern economy sets another landslide in motion. The U.N. banned everything.

Like plant infections, animal diseases are spreading uncontrolled. The 1995 FAO Survey on Iraq, itself commissioned by the U.N. provides documentation of the catastrophe. This is the same U.N. whose "661" Sanctions Committee either outright refused to allow those imports (including items requested by the FAO), or somehow could not manage to facilitate approval and shipping when the agricultural cycle demands.

If we are to believe FAO's own reports, it seems that another weapon in this secret war is the denial of agricultural essentials--a kind of sabotage--to ensure Iraq could not become food self-sufficient.

Many wind-borne diseases, unimpeded in Iraq, were expected to infect every part of the region. They could reach beyond Iraq. Officials in Baghdad hoped that Turkey, Jordan, Iran

and others would become sufficiently alarmed to call for international action. Thus far, say Huda Ammash and other concerned Iraqi specialists, "We do not know of any efforts by our neighbors to control these developments." Iraqi biologists are unaware of related research being carried out in Jordan, for example. "We are totally disconnected," Dr. Ammash says with distress. "We have no means of communication with our counterparts."

Before They Are Even Born!

Farms, like hospitals, provide us with the first ominous signs of a problem. Rashdiyya is a farming community two hours north of Baghdad. Before 1990, it was a wealthy agricultural district. There, I found shocking evidence of a plague in the human population that, up to this point, had received no outside attention. It turned up during my visits to family farms outside the capital. I found myself annoyed as I passed the thin fields of Rashdiyya. The gardens were overrun with weeds. Even orchards were untended. Broken tractors lay idle outside the farm sheds. Shortage of fertilizer had reduced yields of apple and grain as well as vegetables by half. The hand spraying machines were in disrepair too. Even if they worked, where were farmers to get chemicals to spray? After my experience in Mosul, I saw no point asking why things were so run down.

I accepted the invitation from one farmer to sit inside his home rather than tour the fields. I wanted to gather information about the workers themselves. Before long we were joined by my host's brothers, cousins, nephews and other villagers. (Most were relatives of one degree or another, all men.) Soon twenty people sat with us; they represented a valuable store of knowledge about their community.

We began talking about social life in Rashdiyya. When one of the men remarked that marriages were fewer now, I was curious to hear his explanation. Without hesitating, he said, "Young people fear having still births and babies with strange abnormalities."

How had they come to this conclusion? "Look around our village. We all know couples here who had such babies in the last four years." The other men nodded in agreement.

With the help of several farmers and the local schoolteacher, I took an ad hoc survey of the 160 houses in this village. The men reviewed each household, one by one, discussing the family history. They counted twenty families where babies with malformations had recently been born. Most stillborn and abnormal babies were fathered by men who'd been soldiers during the Gulf War, they said. They also pointed out that spontaneous abortions were more common. These were in addition to stillbirths and birth deformities.

Later, doctors in Baghdad confirmed that spontaneous abortions were far more frequent than before 1990. These specialists were cautious in their assessment but more and more

evidence was forcing them to admit that these were not localized phenomenon but a countrywide epidemic.¹¹

My subsequent inquiries at five hospitals (in Mosul, Baghdad and Kerbala) revealed the same alarming trend; the number of abnormal births recorded in hospitals had dramatically increased. Where statistical records were unavailable, anecdotal evidence told the same story. Doctors I interviewed on the subject estimated that on average they were seeing ten times more abnormal births than five years ago. Dr. Nawal in Mosul confessed, "Before 1991 I saw no more than two cases a year. Now I see four to five examples a month!"

The symptoms? "Babies born without ears, without eyes; their limbs are missing or are stunted; their genitalia are undeveloped; we see cleft palate, club foot, enlarged heads." One doctor reported a case of congenital leukemia. I had never known a case of this before," she said.

"How Can I Have Any Plans?"

A professor of poultry science had accompanied our party to the wheat fields in Mosul. I noticed at the time how slowly he walked and how ashen he looked. I suspected he himself was unwell. As we drove back to the city, we began to chat and I inquired about his plans for further research. His expression turned from passivity to bewilderment. Like the agronomist, he had every right to lash back in anger at this upstart American's naiveté or arrogance. They could have directly accused the U.S.A. of sabotaging the wheat crop. They did not.

The professor paused as if to contemplate my question. Or was he just weary? His voice was low and pained. "Plans? Madam," he said softly, gazing at me as if confused. "I am trying to feed my family; I am looking for a medicine for my ill father. How can I have plans?"

I would ask Professor Ammash the same question in her office at the university. We had been speaking about her research program so the question seemed pertinent. Perhaps because she knew me better and was a researcher herself, she took time to explain. "It is difficult for anyone to have a plan." Her voice, although not resigned, was calm. She was aware she was speaking to someone who had no inkling of the conditions they lived. "You have a plan when you have a settled situation, when you have known circumstances. We don't have that anywhere in Iraq. My immediate plan is to provide tomorrow's means for life for my children, to help my students into another successful day. After that, I don't know."

As for her ongoing research, this soft-speaking, committed professor says "one major study is complete. I want to enlarge the project, concentrating on electromagnetic fields. But that research requires instruments and expertise from outside. Because of this blockade," she says, "I cannot plan the next necessary step." She ended our interview with a call to scientists from outside Iraq. "We ask them to join us in demanding that those powers imposing sanctions

allow this research to be undertaken; we urgently need to begin collaborative work with experts in countries bordering ours." 1996

Author's note: A previous version of this essay appeared in 1997 in Metal of dishonor, how the Pentagon radiates soldiers and civilians with DU weapons, Sara Founders, editor, published by International Action Center, New York, Article 21: 155-163. Another version was published in Anthropologists in the public sphere: speaking out on war, peace, and American power, Roberto Gonzalez, editor, Austin, TX: University of Texas Press, 2004. Used with permission.