www.findarticles.com/p/articles/mi_qn4160/is_20050808/ai_n14806238#continue

Jerusalem Report, Cellular Discontent

Israelis love their cell phones but are increasingly concerned about the proliferation of the antennas that make them work. Fears of serious health risks are fueling court battles, Knesset debates and explosive neighborhood protests.

When the sun came up on August 1, 2004, there was a giant green- and-white cylinder atop the apartment building at 141 Yehuda Halevy St. in Tel Aviv, directly opposite Moshe Michaan's penthouse art studio. It hadn't been there the day before. Cellcom, a cellular phone provider, had signed a lucrative rent deal with the building's owner, and its technicians had come overnight, closed off the road, put up a pole with 10 cellular antennas, and then disguised it as something with the appearance of a large barrel that was peculiar but benign. Since then, Michaan, who is 69, has been unable to paint his pastel canvases of elegant, angular women. He has been suffering, he says, from headaches, insomnia and anemia. "Everywhere I look, I imagine arrows of poison coming at me," he says.

Over the past few years, and with gathering intensity in recent months, the notoriously cell phone-addicted residents of Israel have been displaying increasing unease, even panic, about the infrastructure that is necessary to support their habit. The antennas that provide cell phone coverage emit radiation, and the belief that this radiation causes cancer and other maladies is widespread, though no link has been clearly established. Nearly every appearance of an antenna in an urban area now draws vocal opposition from angry neighbors. One recent site of contention was the home of Israel's national theater, Habimah, in downtown Tel Aviv, which has no fewer than 27 cellular antennas on its roof. Three hundred residents of upscale Ramat Aviv showed up in early July to protest at the Land of Israel Museum in that Tel Aviv neighborhood when the institution added eight new antennas to several already on its roof. Also in early July, residents of the Arab town of Shfaram rioted when cellular technicians came to erect an antenna, and police had to be called to extricate them.

Israelis are angry about laws that favor the cell phone companies - Pelephone, Partner, Cellcom and MIRS - allowing them to erect antennas without notifying the public or allowing any objections from citizens. They are angry about the disastrous effect antennas can have on the value of their homes, and about the fact that no one is legally liable for that damage. People are worried about the exponential increase in the number of antennas that is expected to accompany the introduction, now under way, of third-generation technology, known as 3G, phones that can carry faster Internet and video. This anger is translating into new local citizens' organizations, a lot of press coverage, appeals to the High Court of Justice, three new Knesset bills, and into proposed, and controversial, changes to regulations governing antenna construction, debated in the cabinet in mid-July.

Those active in the coalescing public opposition to the cellular companies see those companies as a corporate juggernaut with no regard for the well-being of the country's citizens, and see the government agencies that supervise them as complacent at best and corrupt at worst. The cell phone companies treat their critics as if they were cranks and dismiss their anxieties and complaints with contempt.

Israelis started snatching up cell phones as soon as they became widely available and affordable here, in the mid-1990s; the terror attacks that began five years ago helped push mobile phones from a convenience to a necessity. Everyone had to be in touch, all the time. Today, 6.9 million Israelis have 7 million cell phones, supported by a network of 6,700 cellular antenna clusters. (A cluster can have one antenna, or it can have far more; the 27 at Habimah, for example, make up one cluster.) Sometimes the antennas look like antennas. Sometimes they are clumsily disguised as trees, or made to look like rooftop solar water heaters. Inside cities, they are typically mounted on roofs of public buildings and homes, with the cell phone company paying generous rent of thousands of dollars a year to the owner. The number of antennas is growing by around 10 percent every year.

As the number of antennas grows, so do the worries. "There's real concern in the public today, and there's no outlet for it," says Tammy Gannot, a legal adviser at the environmental group Adam, Teva V'Din (known in English as the Israel Union for Environmental Defense). "People feel that their eyes are covered and their hands are tied."

The public feels helpless, Gannot says, because the law so blatantly favors the cellular providers. National Zoning Plan 36, which laid out guidelines for cellular antennas, does not require cell phone companies to notify the public before erecting an antenna, and does not provide any forum for objections. If a cellular provider wants to put an antenna up on your neighbor's roof, it must get your neighbor's permission, approval from the local planning council, and a radiation permit from the Environment Ministry, which the cellular company gets after sending its own technicians to carry out a survey of the site. The antenna will likely be put up in the middle of the night; the cellular companies explain that this is to avoid snarling traffic with trucks and cranes. You will find out about the antenna when you see it on your neighbor's roof in the morning.

The antennas' link to adverse health effects is uncertain, but their effect on housing prices is not. According to Davyd Tal of Jerusalem Homes, a high-end real estate firm in the capital, a cellular phone antenna nearby can lower the rent on a house by as much as a third. And if there is an antenna on the roof, Tal says, the house will simply not be sold. Moshe Michaan says the antennas across the street from him have driven the worth of his rooftop studio from $250,000 to $180,000. Michaan's real estate agent has told him, however, that in practice his studio is now unsellable.

Ordinarily, if the value of your property is damaged by something your neighbor builds - a second-floor addition blocking your sunlight, for example - you have three years to petition the local planning council, which approved the addition, for compensation. But thanks to a legal loophole, if it's a cellular antenna bringing down property values, no one is liable. In order to streamline the process of putting up antennas, National Zoning Plan 36 requires the cell phone provider to get only a building permit approved, not a building plan, which is more complicated, and which is what you would need if you were adding a floor to your house. The building plan for all antennas was approved, technically, when National Zoning Plan 36 was, in May of 2002. Citizens can petition the local council, therefore, within three years of that date. This means that as of May of this year, no one at all is liable for a lowering of property values. Adam, Teva V'Din appealed to the Supreme Court on this issue in July. A decision is expected in late summer.

One of the only places in Israel with no cellular coverage is the Druse town of Usfiyeh, in the Carmel hills near Haifa. In the late 1990s, residents became convinced that high rates of cancer in the town - they counted 200 cases out of 10,000 residents - were connected with the 73 cellular antennas inside Usfiyeh. Suleiman Abu Ruken, a member of the town council, plotted the incidence of cancer in the town on a map, and saw that many of the cases were located near the highest concentrations of antennas. The cell phone companies, Abu Ruken says, had put up most of those antennas without the necessary permits. "We tried to get rid of them legally," he says, "but we saw that we weren't getting anywhere."

On March 14, 2000, when Cellcom technicians arrived to add another antenna, residents rioted and destroyed all the antennas they could find in the town by burning them, knocking them down and ripping out their cables. After that, Abu Ruken recounts, the companies began hiding the antennas in water heaters and inside people's homes. "For a lot of people, the money that the cellular companies were offering was too tempting," he says. Pressure from neighbors forced some of those residents to give up their antennas.

The community went one step further this spring, when Usfiyeh's religious leaders issued a ruling excommunicating anyone who rented out space for a cellular antenna. After the ruling, three more antennas were located and dismantled. Abu Ruken still suspects that there are more - installed illegally, without permits, and so unknown to the authorities - hidden in the town. "The companies swear that there aren't any, but I don't believe them," he says.

The Environment Ministry, which denies any link between cellular antennas and disease, has suggested that the high rate of cancer in Usfiyeh could be related to pollution coming from heavy industry in Haifa

Bay. The Health Ministry has also rejected Abu Ruken's claims. But many Israelis see, as Abu Ruken does, a link between radiation emitted by the antennas and a long list of harmful effects, from headaches and insomnia to cancer.

They've got it all wrong, if we are to believe the world's foremost authority on the radiation emitted by cellular antennas, the International Commission for Non-Ionizing Radiation Protection (ICNIRP), which advises the World Health Organization. The ICNIRP standard, measured in microwatts per square centimeter, is 450; radiation above that level begins to heat tissues and can cause harm.

The American Federal Communications Commission standard is even looser, at 570 microwatts. Nearly all cellular radiation falls far short of those levels. The Israeli Environment Ministry approves antennas that emit radiation only up to 45 microwatts per square centimeter, a tenth of the radiation allowed by the ICNIRP standard. That measurement is carried out at the antenna; the radiation dissipates with distance.

The scientific debate over the health damage caused by antennas is fierce, with ICNIRP and its allies accused of peddling corrupt science paid for by the cell phone companies, and the cellular opponents of amateurish research and needless panic-mongering. The disagreement is essentially about one point. ICNIRP, and most researchers, believe that harm is only caused by the radiation when it begins heating tissues. That happens, says ICNIRP, when levels pass 450; anything under that is fine. By that standard, the Israeli level is far under anything that could possibly cause damage. But critics of this approach charge that radiation emitted by the antennas causes all kinds of other damage, including scrambling brain waves, altering DNA, encouraging cancer genes and inhibiting genes that fight the disease. The most vocal Israeli proponent of this second view, and one of the gurus of the anti-antenna lobby, is Dr. Zamir Shalita, a retired microbiologist who spent 30 years at the government's Nes Tzionah biological research facility. (Foreign sources have reported that the facility is where Israel develops biological weapons and countermeasures.) "Studies have shown that even at 5 microwatts this kind of radiation causes damage," Shalita says. Switzerland and Italy, he adds, have set radiation standards many times lower than Israel's - 10 and five times lower, respectively. "Every country sets its own standard, according to how much it cares for its citizens," he says.

The dangers from antenna radiation, all agree, are less than the dangers from the actual cell phone. Two Israeli scientists, Dr. Elihu Richter of Hebrew University and Dr. Zvi Weinberger of the Jerusalem College of Technology, posited in a 2002 paper that when you use a cell phone your head serves as an antenna and your brain tissue as a radio receiver - in other words, that your body is actually used by the cell phone to broadcast and receive signals. This, they wrote, could explain some of the reported health effects, like headaches and insomnia, reported by cell phone users. As Weinberger, head of JCT's physics department, explains it, the cell phone waves "wreak havoc with the brain's own frequencies." Though the antennas are farther away from people than phones, he says, "they broadcast the same waves and cause the same kind of damage. It's a real threat."

Still, the cell phone companies' claim that the technology is safe is backed by ICNIRP. In a survey of studies on the subject in 2004, the organization declared firmly that to date there is "no consistent or convincing evidence of a causal relation" between cellular radiation and any adverse health effect. It did, however, note that little was really known about the effects, especially on children, and that research was difficult to carry out.

The Environment Ministry believes that the public has nothing to worry about. The official in charge of granting permits for cellular antennas and for their supervision, and the target of much of the anti-antenna activists' wrath, is Dr. Stelian Ghelberg, director of the ministry's Noise and Radiation Control Department. Not only is the Israeli standard 10 times tighter than that of ICNIRP, Ghelberg says, but Israel is also one of the few countries to require that every antenna be checked once a year. (Shalita points out that those checks are carried out by technicians paid by the cell phone companies. Ghelberg confirms this.)

"People are afraid of new developments, of new technology," Ghelberg says, "and the fear of antennas isn't necessarily rational. The fear itself," he suggests, "is making people sick." The anti- antenna activists believe that more antennas mean more radiation, and this, Ghelberg says, is a fundamental

misunderstanding. Each antenna broadcasts according to the number of cell phones communicating with it at any given moment, so the more antennas there are, the less each one has to broadcast.

Furthermore, a cell phone expends more effort - meaning more radiation - the farther away the antenna it's communicating with. The more antennas are available, the closer they are to your phone, which gives off less radiation as a result and causes you less harm.

Moshe Michaan, spurred to action by the appearance of the antennas on the rooftop opposite his studio, has become an outspoken opponent of the cellular companies and of the Environment Ministry. "The ministry is doing nothing," he rages, "but it's worse than nothing, because the cellular companies brandish the ministry's permit and say, 'What do you want from us?' And people have the illusion that someone is looking out for them, when in fact that isn't true at all." Michaan reserves special venom for Ghelberg. "The person in charge of guarding our health and that of our children insists that no harm whatsoever is being done," Michaan says. "He's either stupid or lying." Michaan wants the number of antennas decreased by three-quarters, wants radiation standards tightened by a factor of four, at least, and wants radiation meters installed on rooftops around any antenna to make sure no excess radiation is being emitted.

Three bills that would increase regulation of the antennas are in various stages of legislation in the Knesset. In addition, Interior Minister Ofir Pines-Paz is pushing for changes to be made to National Zoning Plan 36 that would force the cell phone companies to inform the public of the impending construction of an antenna and provide a forum for objections. Most painful for the cell phone companies, Pines-Paz also wants to make them liable for 80 percent of any drop in property values nearby. The remaining 20 percent would come from the local planning council that approved its construction. Not surprisingly, the cell phone companies are strenuously opposed, and Communications Minister Dalia Itzik has been making efforts to get the issue buried indefinitely in committee.

Yuri Shtern, a National Union Knesset member, has become one of the more active legislators on the cellular front. His proposed law, one of the three bills now before the Knesset, would, like Pines- Paz's proposals, make the process of antenna construction more transparent and would also make the cellular companies pay for research into the technology's health effects. "It's true that so far no one has been able to prove that they cause harm," says Shtern. "But no one has proven that they don't. The fact that people are panicking is already a kind of harm, and making the process more transparent would go a long way toward calming people down."

Public advocates like Tammy Gannot of Adam, Teva V'Din are in a hurry to tighten the rules governing antennas before a new push of construction that, Gannot says, will see the cell phone companies erect as many as 18,000 new antennas - quadrupling the number that exist today - in order to support the demands of the new 3G phones, which transmit more information and need greater band width. "We have to stop them before the third generation," Gannot says. "These phones are not a matter of life and death. You can live without a 3G cell phone." Moshe Michaan agrees. "The situation today is bad," he says, "but the third generation is going to make this look like child's play." Zamir Shalita charges that not only are there going to be thousands of antennas built, the new 3G antennas emit more radiation than the older models.

Iftah Kramer, spokesman for the Israeli Cellular Forum, which was set up by Pelephone, Partner and Cellcom to handle their increasingly sticky public relations, assures me that there will be no push of new antenna construction. The number of antennas, he says, will continue to expand by 10 percent a year. And the new antennas being erected for the 3G phones don't emit more radiation, he maintains, they emit less. Stelian Ghelberg of the Environment Ministry confirms this. The new antennas, Ghelberg says, give off a third to a half of the radiation of the previous generation, "just as a new Ford uses less gas than an old one." In the next few years, he says, the companies will not need to dramatically increase the number of antennas.

According to Kramer, the Israeli cellular network is among the safest in the world. "People criticize the cell phone companies, but we don't set the health standard," he says. "That's set by the Environment Ministry. No one has found any evidence that this technology is harmful." Kramer seems to have an intense dislike for Shalita, the anti-antenna microbiologist. "He simply doesn't know what he's talking

about," Kramer charges. "It's easy to wage a campaign of fear and to frighten the public, to cause panic and hysteria. But he's just telling people stories."

And why do the cellular companies oppose rules that would allow citizens to be notified ahead of time, and guarantee them compensation for any drop in property values that result? "The companies don't oppose moves to let the public know more," Kramer says carefully, "but they have to be balanced. Pines-Paz's proposals are not balanced. The Israeli government decided that the country would have a first-rate cellular network. We must be allowed to carry that out." Growing public unease is going to make that increasingly hard to do. "There's going to be an explosion here, like there was in Shfaram and Usfiyeh," Moshe Michaan predicts. "If people feel that they have no other option, that the government isn't looking out for their health, they'll take the law into their own hands." When Suleiman Abu Ruken described Usfiyeh's vigilante solution to its antenna problem at a June conference organized by the public advocacy group Shatil, the audience applauded.

But there are no signs that this unease and anger are making Israelis throw out their cell phones. People may get upset when an antenna is built in their backyard, but everyone wants good coverage. Everyone interviewed for this story uses a cellular phone. "Our society can decide to live with or without this technology," says Stelian Ghelberg of the Environment Ministry. "It's clear what choice Israelis have made."