

Iran is Sinking, and Not Just Figuratively

by Hugh Fitzgerald



The moral bankruptcy of the Islamic Republic is displayed every day in every way. The executions of Baha'is, the hanging of homosexuals, the imprisonment and torture of dissidents, the arrest of women who dare to remove their hijabs, the outsourcing of terrorist attacks to Hezbollah, the hysterical threats to destroy Israel, are all of a piece, along with the remarks of Ayatollah Lotfollah Dezhkham, Khamenei's representative in Fars Province, who said on January 25, 2019 in Shiraz that "We Will Shout 'Death to America' until We Turn the White House into a Shiite Islamic Center."

But along with the figurative sinking of Iran's ship of state, the *S.S. Naufragium* (also known as the *S. S. Narrenschiff*, there is the literal sinking of the country, which threatens to destroy many structures, including airports, apartment buildings, factories, roads, and highways. Huge sinkholes have

opened up throughout Tehran, a city of some 13 million people; one of them is 60 meters deep. Some are fifty feet across.

[Here](#) is the report, little noted when it appeared nearly a year ago, on this colossal threat to Iran's infrastructure, for which there seems to be at this point no remedy and about which nothing has been done since this report appeared:

Stressed by a 30-year drought and hollowed by excessive water pumping, the parched landscape around Iran's capital has begun to sink dramatically. Seen by satellite and on foot around the city, officials warn that what they call land subsidence poses a grave danger to a country where protests over water scarcity have already seen violence.

"Land subsidence is a destructive phenomenon," said Siavash Arabi, a measurement expert at Iran's cartography department. "Its impact may not be immediately felt like an earthquake, but as you can see, it can gradually cause destructive changes over time."

He said he can identify "destruction of farmland, the cracks of the earth's surface, damage to civilian areas in cities, wastewater lines, cracks in roads and damages to water and natural gas pipes."

Several things have contributed to this catastrophe. Most important is the nationwide drought, which has gone on for 30 years. In 2018, only 6.7 inches of rain fell in Iran. By comparison, New York City gets 49.9 inches of rain every year. Because of the absence of rainwater, Iranians have been digging more wells, and Iran's aquifers steadily decline.

Tehran, which sits 1,200 meters (3,900 feet) above sea level against the Alborz Mountains on a plateau, has rapidly grown over the last 100 years to a sprawling city of 13 million people in its metropolitan area.

The huge growth in Iran's population, and especially in Tehran, naturally requires ever greater water use, at a time when the once-in-a-century drought has supplied only tiny amounts of rainwater. More salty water is pumped up from ground aquifers; this is not good for agricultural use.

All those people have put incredible pressure on water resources on a semi-arid plateau in a country that saw only 171 millimeters (6.7 inches) of rain last year. Over-reliance on ground aquifers has seen increasingly salty water pumped from below ground.

"Surface soil contains water and air. When you pump water from under the ground surface, you cause some empty space to be formed in the soil," Mr Arabi told Associated Press. "Gradually, the pressure from above causes the soil particles to stick together and this leads to sinking of the ground and formation of cracks."

Rain and snow to recharge the underground aquifers have been in short supply. Over the past decade, Iran has seen the most prolonged and severe drought in more than 30 years, according to the United Nations' Food and Agriculture Organisation. An estimated 97 per cent of the country has faced some level of drought, Iran's Meteorological Organization says.

That has caused the sinkholes and fissures now seen around Tehran.

Iranian authorities say they have measured up to 22 centimetres (8.6 inches) of annual subsidence near the capital, while the normal range would be only as high as 3 centimeters (1.1 inches) per year.

Even higher numbers have been measured in other parts of the country. Some sinkholes formed in western Iran are as deep as 60 metres (196 feet)....

By insisting on becoming self-sufficient in food production, which was not an economic but a political decision, based on the Islamic Republic's worry about the possible effect of sanctions on its imports, it has used up more of its available water than it had to. Iranian farmers use water inefficiently, unlike, say, the Israelis, who have learned to constantly adjust their methods to make maximum use of the water they do have, and who first came up with advances in drip irrigation that deliver to each plant the exact amount of water that plant needs. Israel has publicly offered to help Iran with management of its water; Iran has rejected the offer. Were Iran willing to forego growing all the food it needs, and return to buying some from abroad – as rice from China, and wheat from Russia, two countries that ignore the American sanctions on Iran – it could save a great deal of water in this time of historic drought. But it appears determined to continue with its ill-thought-out policy of autarky.

Already, the drought and water crisis has fed into the sporadic unrest Iran has faced over the last year. In July, protests around Khorramshahr, some 650 kilometres (400 miles) southwest of Tehran, saw violence as residents of the predominantly Arab city near the border with Iraq complained of salty, muddy water coming out of their taps amid the years-long drought.

The unrest there only compounds the wider unease felt across Iran as it faces an economic crisis sparked by President Donald Trump's decision to withdraw America from Tehran's nuclear deal with world powers.

Israeli Prime Minister Benjamin Netanyahu, who has long opposed Iran's theocratic government, even released an online video in June offering his country's water technology in a jab at Iran's leaders.

"The Iranian regime shouts: 'Death to Israel,'" Mr Netanyahu

said. "In response, Israel shouts: 'Life to the Iranian people.'"

Israel has out of necessity had to become a world leader in water management. This includes its advances in drip irrigation, which are well known worldwide; it has shared with others, both in the advanced West and in sub-Saharan Africa, its novel techniques of delivering the exact amount of water each individual plant needs.

Israel is also a pioneer in desalination, operating Sorek – the world's largest seawater desalinization plant – some 10 miles south of Tel Aviv. While desalinization can be an energy intensive and expensive enterprise, the advanced technologies employed at Sorek allow it to produce a thousand liters of drinking water – about what one person in Israel uses in a single week – for 58 U.S. cents.

Israel aims to produce 200 billion gallons of potable water annually through five major desalination plants by 2020, and has shared its expertise in the field to help address water shortages globally, from Egypt to California.

Finally, Israel is the world leader in purifying its waste-water and using it in irrigation, making it the undisputed world leader in this field. 90% of Israel's waste-water is reused; its nearest rival in this area, Spain, recycles only 20% of its waste-water.

Offered help in water management by Prime Minister Netanyahu, Iranian officials shrugged it off. But solutions to the water crisis will be difficult to find without improvements in irrigation, in desalinization, and in the re-use of waste-water. These are three fields in which Israel is recognized as a world leader. The Israelis are eager to share their expertise, even with their geopolitical enemy. It's the mullahs who are preventing this....

Sanctions were the foreseeable result of a deliberate decision made by the Iranian regime to prioritize the acquisition of nuclear weapons over the well-being of its people. Sanctions prevent Iran from buying equipment that might be useful in both desalination plants and in waste-water treatment facilities. Iran's own obstinacy in refusing Israel's offer of help is further evidence of how it puts its anti-Zionist policy ahead of ameliorating the water crisis for 81 million Iranians.

Iranian authorities have begun to crack down on illegal water wells, closing 100,000 of them. But there are still 30,000 in use, and as fast as the government closes them down, new ones are dug. The Iranians are also exploring using desalinization plants along the Persian Gulf, but they continue to reject having Israel share its technical know-how in this area. Farming practices also need to change including greater use of drip irrigation; Iranian farmers, like many farmers in the Third World, have been reluctant to try new methods.

"We need to shift our development model so that it relies less on water and soil," Mr Darvish, the activist, said. "If we don't act quickly to stop the subsidence, it can spread to other areas."

Thirty years of drought, the worst in Iran's modern history, has caused Iranians to rely ever more on water from their aquifers. As it is pumped out, the loss of this underground water has created spaces in the soil where the water once was. This has led, in turn, to widespread subsidence of the soil. It is being pushed down, packed more tightly, as the water – and air with it – are sucked out of these aquifers. As the earth subsides, cracks are formed, and sinkholes, some as large as a bus, and 40-100feet deep (one sinkhole is nearly 200 feet deep) have been created. And even where there are no sinkholes, the subsidence of the earth by a few inches can have devastating consequences for buildings.

The sinking can be seen in Tehran's southern Yaftabad neighbourhood, which sits close to farmland and water wells on the edge of the city. Cracks run down walls and below windows, and water pipes have ruptured. Residents fear poorly built buildings may collapse.

The sinking also threatens vital infrastructure, like Tehran's Imam Khomeini International Airport. German scientists estimate that land under the airport is sinking by 5 centimetres (1.9 inches) a year.

Tehran's oil refinery, a key highway, automobile manufacturing plants and railroads also all sit on sinking ground, said Ali Beitollahi, a Ministry of Roads and Transportation official. Some 2 million people live in the area, he said.

Masoud Shafiee, head of Iran's cartography department, also acknowledged the danger.

"Rates (for subsidence) are very high and in many instances it's happening in densely populated areas," Mr Sherif told AP. "It's happening near sensitive infrastructures like airports, which we consider a top priority."

The mullahs have no idea what to do. They haven't yet recognized the need to buy more of the country's food from abroad – autarky be damned – so as to decrease the use of water for agriculture. They will never accept Israeli help in water management: drip irrigation, desalinization, and purification of waste-water. The more water that must be taken from aquifers in this time of historic drought, the more the earth subsides. And the more the earth subsides, the more cracks in buildings and pipes, with the possibility of collapse, and the more sinkholes into which cars and houses can disappear.

Right now in Tehran, an oil refinery, railroads, automobile

manufacturing plants, a major highway, and above all the Ayatollah Khomeini airport, all lie on land that is sinking by nearly two inches a year. And there is nothing, at this point, that can be done to reverse the damage. Had Iran been run by technocrats rather than theocrats for the last 40 years, they might have built desalinization facilities on the Persian Gulf, on the model of Israel's spectacularly successful plants, might have learned of Israel's methods of drip irrigation, and promoted them among their own farmers, and might, finally, have been taught by the Israelis just how to purify waste-water most economically for use in agriculture. But instead of choosing to do what it would take to stave off or mitigate the current disaster, including accepting the expertise Israel has offered, the Islamic Republic chose instead to embrace its Qur'an-based hatred of the Jews. Their loss, their pain.

The result is there for all – with satellite imagery – to see. Many places in Iran are sinking, inch by inch, each year, as the aquifers are drained, and with that subsidence of the land, also sinking are its roads, its apartment buildings, its manufacturing plants, even its main airport. Expect to read more, in the next few years, of highways collapsing, of buildings crumbling, of runways gutted by sinkholes, in Iran.

Having been sinking, figuratively, during 40 hideous years of Islamic misrule, Iran has now begun to sink, literally, in the last few years. One more failure of the Islamic Republic. There have been so many.

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