Will the Middle East starve?

Saudi Arabia and others have oil but not enough water or farmland. So they're buying land from poorer nations

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A Saudi farmer harvests his crop on a farm in Al-Diriyah, on the northwestern outskirts of Riyadh. (Credit: AP/Hassan Ammar)

Excerpted from "The Land Grabbers: The New Fight Over Who Owns the Earth" by Fred Pearce

Fly over Saudi Arabia today and you will see that the desert sands are dotted with huge circles of green. They were not there 30 years ago. These geometric oases are man-made, the result of a \$40 billion national effort to create giant farms in the desert to irrigate fields of wheat, fruit and fodder crops. Look down carefully, and you may also see giant sheds holding tens of thousands of cattle in the desert.

The Tabuk plain in the northwest of the country, close to Jordan, gets an average of just 2 inches of rain a year. Yet it is a prairie of wheat fields. Fortunes are being made here. The biggest farm — covering nearly 90,000 acres, or eight Manhattans — is run by the Tabuk Agricultural Development Company (TADCO). Its irrigation pumps extract up to a million acre-feet of water each year from beneath the sands.

TADCO is part of the vast business empire of the al-Rajhi brothers — Sulaiman, Saleh, Abdullah, and Mohammed. As the Economist put it, they have made "one fortune from money brokering and another from farming." Each brother became a billionaire as they turned a small money-changing business servicing migrant workers in Saudi Arabia into the world's largest Islamic bank, the Al-Rajhi Bank. Then they joined the country's 1980s cropping boom which, for a while, made Saudi Arabia self-sufficient in wheat.

But Saudis don't live by bread alone. Dairy farming is the other big domestic agricultural business. Raising cows in the desert seems even odder than growing wheat. But in the center of the country, near the capital, Riyadh, the late Prince Abdullah al-Faisal, eldest son of the former King Faisal, has established the world's largest dairy farm. At the heart of the Al Safi farm are six giant sheds, where 30,000 Holstein cows from Europe produce around 42 million gallons of milk a year, sold under the Danone brand. To keep their udders productive, the cows are cooled by a constantly circulating mist of water. Surrounding the sheds are 7,400 acres of fields, where dozens of movable irrigation units called central pivots, each up to a third of a mile long, irrigate alfalfa, sorghum, and hay destined for the cows' feedlots. This too takes prodigious amounts of water, pumped from more than a mile below the sand.

Not far away, Almarai, a food conglomerate also owned by the Saudi royal family, has five dairy farms with 36,000 cows. This giant was established in 1976 by racehorse-breeding Prince Sultan bin Mohammed bin Saud Al Kabeer and a colorful Irish dairy magnate, Alastair McGuckian. In semi-retirement today, back home in Dublin, the jovial pianoplaying McGuckian now writes musicals. He still oversees an agricultural empire that

The desert farms are magnificent 20th century monuments to unsustainable agriculture. They were created in the aftermath of the oil crisis of 1973. Back then, the OPEC oil-producing states, headed by Saudi Arabia, held the world hostage over oil supplies, causing fuel rationing and lines at gas stations around the world. As anger grew, the United States threatened to organize retaliatory food sanctions. OPEC got its way, restricting oil supplies. The world has paid much higher oil prices ever since. But in the aftermath, the Saudis took that American threat to heart. And with the huge new wealth that the oil revenues were generating for them, they set about insulating themselves against any future food embargo by farming the desert. Even the Saudis cannot use sea water to irrigate fields, so they are pumping up underground water reserves from beneath the desert.

By the 1990s, with \$85 billion invested, Saudi Arabia was one of the world's largest wheat exporters. Like the dairy business, the wheat crop was vastly subsidized. Money was no object. The government paid its farmers five times the international price for wheat — not just for the wheat the nation wanted, but for any wheat the farmers cared to produce. Riyadh charged nothing for the water pumped from beneath the desert, and virtually nothing for the fuel needed to pump it. This deluge of largesse generated full granaries but staggering inefficiency, not least in the use of water. Every ton of wheat required between 3,000 and 6,000 tons of water — three to six times the global average.

Why such hydrological madness? Saudis thought they had water to waste because beneath the Arabian sands lay one of the world's largest underground reservoirs of water. In the late 1970s, when pumping started, the pores of the sandstone rocks contained around 400 million acre-feet of water, enough to fill Lake Erie. The water had percolated underground during the last ice age, when Arabia was wet. So it was not being replaced. It was fossil water — and like Saudi oil, once it is gone it will be gone for good. And that time is now coming. In recent years, the Saudis have been pumping up the underground reserves of water at a rate of 16 million acre-feet a year. Hydrologists estimate that only a fifth of the reserve remains, and it could be gone before the decade is out.

It took years for the truth to sink in. But in 2008, the Saudi government announced it would end wheat subsidies, with the aim of phasing out all production by 2016. Instead, it would import wheat to make Saudi bread. It decided to keep the cowsheds, but reduce their water needs by feeding the animals on foreign fodder. Then, just as the Saudis abandoned their former goal of food self-sufficiency, came the first world food-price spike. A bit of food inflation didn't worry the Saudis much. Almost any world price for grains was cheaper than growing them at home. What did scare the Saudis was when their key grain suppliers started banning exports to protect their home consumers. This eventuality, after all, was the nightmare that pushed the Saudis into attempting self-sufficiency in the first place.

So, finding it impossible to feed itself, and unwilling to rely on international food markets, Saudi Arabia came up with Plan C. Under the King Abdullah Initiative for Saudi Agricultural Investment Abroad, announced in 2008 in the wake of the global food crisis, the sheikhs decided to buy up farmland in foreign countries. The King called in his country's agribusiness billionaires, including the al-Rajhi brothers and a number of royal princes. He offered to underwrite the creation of a series of giant consortia to find and cultivate foreign fields and bring the food home. Soon, the commerce ministry had identified 27 countries that might appreciate Saudi investment in their farms; the ministry

this is a water grab as well as a land grab. The government says existing rice farmers the "have no problems with these lease deals." But traditional farmers do object, and local cattle herders will lose vital dry-season pastures near the river.

Saudi rice farmers could also get an angry reception in neighboring Mauritania, where the president has promised them nearly 100,000 acres of land on its northern banks of the River Senegal. Just over 20 years ago, the Koranic scholars and land barons who run the secretive Saharan state presided over a pogrom against black Mauritanians who lived there. It happened during a war with Senegal that began with a dispute over grazing rights along the banks of the River Senegal. Hundreds died and some 100,000 black Mauritanians fled to Senegal. As they have slowly returned since, many have found their former land taken for irrigated rice crops. Now it looks like the black Mauritanians may lose more of their land to the Saudis.

A sign of the power of Saudi land grabbers in fellow Muslim countries could be seen at a curious ceremony at the Saudi King Abdullah's royal palace in Mecca in September 2010. In attendance were the king himself and the UN Food and Agriculture Organization's director general, the Senegalese diplomat Jacques Diouf. Diouf was on record a couple of years before as condemning international land grabbing as "neo-colonialism." But now he was in Mecca to award the king, Saudi Arabia's land-grabber-in-chief, his organization's Agricola Medal "in recognition of his support for improving world food security." It was an ignominious retreat for the world's top food official.

Saudi Arabia is just one of the Gulf petro-states. The other super-rich emirates were as panicked by the 2008 price spike as the Saudis. They face the same triple whammy of concerns. Demand for food is soaring as the arrival of millions of foreign workers sets them on course to double their populations by 2030. The emptying of water reserves is

from the Saudis and the UAE, will probably never happen, the Al Thanis do seem bent on spending their treasure chest. There are plenty of takers for this Arab largesse. A constant stream of leaders from around the world has flown to the Gulf, offering land in return for investment. Indonesia's agriculture minister Suswono went wooing Gulf states in 2010, offering 19 million acres of "sleeping land" for agribusiness investment. The veteran chief