

The Desert Rock That Feeds the World

A dispute over Western Sahara's phosphate reserves could disrupt food production around the globe.

ALEX KASPRAK

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Aided by the longest conveyor belt in the world, a steady stream of chalky white powder emerges on the North African coast from deep within the desert. The belt, its presence betrayed by the bright windswept powder scattered around it on the brown earth below, travels 61 miles across the rugged terrain of Western Sahara, from the mines of Bou Craa to Port El Aaiún, where massive ships transport its contents across the globe.

The white powder is phosphate rock—a commodity both valuable and vital. Without it, humanity's growing population couldn't feed itself. Phosphate, along with nitrogen, is one of the two most necessary components of synthetic fertilizer. But unlike nitrogen, which makes up 78 percent of the atmosphere, phosphate is a finite resource. And there's no way to manufacture it.

Western Sahara has been occupied by Morocco, just north along the coast, since 1975. If you include this disputed region, Morocco holds more than 72 percent of all phosphate-rock reserves in the world, according to the most recent [United States Geological Survey study](#). The next closest country, China, has just shy of 6 percent. The rest is spread out in smaller pockets around the globe. Morocco aggressively and sometimes violently argues that the notion of Western Sahara statehood is illegitimate, and that the region's rich supply of phosphate is theirs. As a result, Western Sahara has been the stage for a growing human-rights conflict as well as significant regional geopolitical tensions.

This political conflict, like the natural resource issues tangled into it, has remained obscure on the global front. But as other country's domestic reserves of phosphate become more costly to extract in the coming decades, this disputed region could have more of a monopoly over phosphate than OPEC, the Organization of the Petroleum Exporting Countries, has over oil—which has major implications for the future dynamics of food in the developing world.

There is a great deal of the uncertainty surrounding how much phosphate Morocco really has due to the region's tense political situation. At the center of the conflict are the Sahrawi people, who have inhabited Western Sahara since [before colonial times](#)—a fact that Morocco [contests](#)—and have been fighting for the right to self-determination since Spain agreed to allow Morocco and Mauritania to split the area in 1975. (Mauritania later abandoned their claim to the region.)

According to Zunes, the Moroccan government squashes any hint of Sahrawi nationalism, follows foreigners, and bans the press. The United States, Morocco's long-time ally, has acknowledged many of these issues in the State Department's most recent human-rights [report](#). Much of the native population now lives in Algerian [refugee camps](#).

The dynamics of the entire phosphate market, then, could be shaped significantly by the conflict in Western Sahara, its resolution, or its continued stalemate. In 1975, a UN fact-finding mission to Western Sahara suggested that Morocco and Western Sahara combined would one day

become the largest exporter of phosphate worldwide. Morocco has argued that its own reserves of phosphate are large enough to make the Western Saharan reserves insignificant.

The existence of a Moroccan monopoly would have a disproportionate effect on poorer countries, according to researchers. In a 2011 *Nature* comment, the sustainability and natural resources scientists Jim Elser, of Arizona State University, and Elena Bennet, of McGill University, argued that “developing-world farmers cannot afford phosphate fertilizers even at today’s non-monopoly prices,” let alone in a future dominated only by Moroccan phosphate. “Many of the world’s food producers are in danger of becoming completely dependent on trade with Morocco, where press reports have emerged of Dubai-style luxury developments being planned in anticipation of phosphorus windfalls.”

Morocco, for their part, has been denying Western Saharan independence with growing vigor. In February of this year, Morocco’s Minister of Communication announced a program to train Moroccan youth to defend the government stance on Western Sahara through social media. Leaked diplomatic cables suggest increased concern over the international perception of Morocco’s claim to the land. The Polisario, meanwhile, have stated that they are ready to raise arms, once again, over Western Sahara.

The future of the region, the actual distribution of the world’s phosphate reserves, and the market forces driving the commodity’s future are full of uncertainty. The one thing that *is* certain is mentioned in a footnote in the USGS mineral resources report: “There are no substitutes for phosphorus in agriculture.”