‘It Eats You.’ Cancer-causing Arsenic Plagues Hopi Tribe

by Rowan Lynam
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Rosalie Talahongva stands in front of the home her father built for her mother.

At the base of First Mesa, the ancient village of Walpi in sight, Rosalie Talahongva stands in front of the home her father built for her mother. On the Hopi reservation, two hours outside of Flagstaff, Arizona, there is little more than a single highway and the vast expanse of desert from horizon to horizon.

Rosalie is vice chair of the Hopi Tribe's Economic Development Corps. Her father died before completing the small cinder block house. But this past winter, with the help of her close friend Mervin Yoyetewa, she added insulation and a propane heater to keep the frigid winter at bay.

Rosalie's whole family uses the house when they're in Walpi, hauling in propane tanks and big jugs of water from off-reservation. The rest of the time the family lives in Flagstaff and Phoenix, where they can find work.

Outside the house is what's left of a traditional bread oven. It's missing bricks and covered in threadbare plastic sheeting torn by the constant wind. Rosalie hurries on, embarrassed. Without a word, Mervin begins covering the small opening in the bricks with an old piece of wood. He stoops out in the field to collect heavy rocks to weight the wood down.

"She doesn't like to say it, but Rosalie is the sibling that puts the most into this house," Mervin says. "I just want to help where I can."

He pauses and stuffs his hands inside his blue pagoda jacket.

"I came last year to check on them," Mervin says. "And it was freezing inside. They're all sitting in their knitted caps, happy. Rosalie is in the back cooking for everyone, freezing her butt off."

That's when Mervin helped the family buy and install a propane heater. Next came the insulation. Then the tarp on the roof to reduce wind damage.

But the water is another story. It can't be fixed with friends or ingenuity.

The family's only close-by option for drinking water is a windmill well a few minutes drive away, but there's never a guarantee that there will be water. The rains have come less and less in

recent years. Sometimes, Navajo cattle ranchers abscond with gallons of water for their livestock, leaving none left for the Hopi to drink.

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Today, the windmill has water.

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Mervin Yoyetewa approaches the windmill water pump, which is often empty.

Rosalie watches Mervin fill up a few jugs and sighs. Water, for years, has been a mixed blessing.

Sitting over a thousand feet below the dusty surface of the desert, the Navajo aquifer supports the drinking water needs of most of the 7,000 Hopi who live on reservation. But the aquifer, once considered a pristine water source, is harboring an invisible toxin.

Arsenic is a regional problem in the Southwest. It occurs naturally in rocks and sediment and enters drinking water in conditions of low precipitation, high evaporation, slow aquifer recharge, and over-pumping of groundwater. The Navajo aquifer was first tapped for running water on Hopi land in the 1980s, when the EPA limit for arsenic was 50 µg/L. Hopi water was within that limit, and tribal members pumped and drank the water without fearing consequences.

In 2006, the EPA lowered the arsenic standard from 50 to 10 µg/L, immediately putting wells drawing from the Navajo aquifer over the legal limit. Testing revealed that arsenic levels are often more than double the limit, and studies have revealed that, as water levels decline, the concentration of arsenic gets higher.

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And while the neighboring Navajo tribe has access to the San Juan river and Lake Powell, the Hopi are landlocked, relying on the aquifer. They also lack the infrastructure to remove arsenic from their water or the ability to draw from other sources.

Rosalie and Mervin know that the arsenic they drink is a serious threat. They personally know many people plagued by diabetes and cancer.

“We know the water has hurt us,” Rosalie says, her long dark hair swirling around her face in the wind. But the Hopi don’t handle sickness the same way the West does. “We don’t talk about it at all.”

So far, attempts to identify the cancer burden on Hopi have been indeterminate, but arsenic is a nasty toxin.

Naturally occurring arsenic poses serious health risks including diabetes, skin discoloration, cancer, blindness, and partial paralysis. Studies show that arsenic poisoning may make cancer more deadly, as it correlates to higher mortality rates. Exposure through drinking water is the "greatest threat to public health from arsenic," according to the World Health Organization. According to the CDC, death rates for certain types of cancer among Native men and women are more than double those for white men and women. The Hopi's language, unlike that for most tribes, even has a word for cancer: "sowana." It means "it eats you."

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Many people here feel that the coal industry has contributed to the problem. In 1964, the Navajo and Hopi both signed agreements with Peabody Energy, allowing them pump groundwater from the Navajo aquifer to mix with coal from the Kayenta mine, creating a slurry that could be sent via pipeline to the Mohave Generating Station in Nevada, 273 miles away.

"They told us, 'You have an ocean of water beneath you, and we want just one cup,' " Rosalie says.

Every year for forty-one years, Peabody consumed 1.2 billion gallons of water from the Navajo aquifer. In the decades since, sacred springs have run dry and the Navajo aquifer's structural stability and water quality has deteriorated, effects the National Resources Defense Council has attributed to Peabody's operations.

"They took more than a cup," Rosalie says.

Peabody denies that its operation contributed to the diminishing water supply in the Navajo aquifer. In 2011, the company reached a settlement with the Navajo and Hopi tribes, ending a

twelve-year-long legal battle. The settlement itself is confidential, but the *Navajo Times* reported that a leaked draft "proposed to release Peabody and partners from a variety of damages, especially those involving use of the Navajo and Coconino aquifers underlying tribal land."

Peabody's Kayenta Mine is slated for closure due to challenging economics. The Hopi tribe relies heavily on job income and royalties from the mining operation, expecting to bring in some $12 million in 2017. How they will make up that income in the future is uncertain.

The Hopi are a few years and several million dollars away from drilling two new wells to supply water to the reservation. The EPA has contributed $6 million, but an estimated $20 million is needed to finish the project, money the Hopi do not have. Some 60 percent of tribal members live below the poverty line, and the only substantial income the tribe receives is from coal royalties. The courts also rejected the Hopi's attempt to sue the federal government for funds to clean up arsenic in the water supply in 2013.

That leaves the Hopi largely on their own.

"We refuse to sit by and do nothing," says Timothy Nuvangyaoma, the chairman of the Hopi Tribal Council. He has a sharp look to him, with close-cropped hair and a low, measured voice. "We can't stand to see our people consuming and cooking with poison water."

Two new wells have already been drilled to almost 2,000 feet below the surface, double the depth of past wells, and the Hopi are working to secure funding for a water pipeline.
In testimony to Congress last year, then Tribal Chairman Herman Honanie explained that the new sites draw from the Turquoise Trail region of the aquifer, where testing shows superior water quality well below the EPA's arsenic limit. It would need to carry clean water across a thirty-mile area to six different villages currently exposed to arsenic.

Honanie also testified that the tribe has applied for rural development loans, secured grant and partnership funding, and created a new utility service.

Nuvangyaoma says current plans estimate the project could be completed as early as 2020. But so many decades of exposure means the Hopi will be living with the health consequences long after the infrastructure problem is solved.

“We have a right to health,” Nuvangyaoma says. For a moment, the sternness around his eyes is replaced by something almost sad. “I’m living with this problem,” he admits. “It’s in the back of my mind every morning when I make my coffee.”

On the reservation, there’s only one place to go when you’re sick—the Hopi Health Care Center on Highway 264. The Indian Health Service helps to supplement the cost of transportation, drugs, and care services.

The center lacks the ability to test and treat cancer, says its former CEO, Daryl Melvin. But the Cancer Support Service, run out of a trailer in Kykotsmovi Village, conducts cancer screenings and arranges for travel and lodging for patients receiving treatment. The service’s screening coordinator, a non-Hopi young woman named Aleemah Jones, explains that a lack of funding limits what it can do.

“We rely on sponsorships and donations for anything outside of breast and cervical cancer services.” Jones says. “Ten years ago, we started expanding into testing for other types of cancers, but most of those funds are gone now.”

Though they have a word for it, the Hopi don’t like to talk about cancer.

“It’s a major health taboo,” Jones says. “It’s very hard to convince people to come in for testing. You can’t even talk about it in someone’s home, because you’d be inviting that in.”

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In fact, according to Jones, many Hopi won't come in for testing until the cancer is in the advanced stages, when it has already "eaten" so much of them.

"We're trying to make this less of a taboo," Jones says. "We're asking people to think about who will take care of their family when they're not there."

Getting to Mervin's house at Second Mesa is an exercise in climbing more than driving. The thin road winds at a nearly vertical incline up the rock face to the razed top of the butte. Today, the winds are high, and the desert sky is swept with painterly clouds. You can see for miles.

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Mervin Yoyetewa stands in the doorway of his home at Second Mesa.

It’s a bachelor pad, a small house with concrete floors and enough space for Mervin to play guitar in his wood-paneled den. A poster from the movie *Scarface* hangs on the wall, and he can’t resist pointing it out with a grin.

Mervin has lived in this home his whole life.

Running water was installed decades ago, but now he can’t use it for anything but washing dishes. So he travels for miles to get drinking water for himself and his dog. “But I don’t pay for the water, at least,” he says. “In the neighboring village on Highway 264, they pay for water that is unsafe to drink.”

He pauses, and his usual smile drops from his face.

“How would you feel if you were paying to be poisoned?”

Rowan Lynam is a Medill graduate student and freelance journalist.

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