



VERDARA, INDIA

A wish and a well

Technology and blind faith help bring WE Charity's water pillar to smallholder farmers in a desert province in India.

The sky is almost cartoonishly blue, an innocent disguise hiding the power it holds over the man underneath. Kharta Bhil is perched on the lip of a well, a circle of stones that rises from the belly of the earth to just above the grass. At 85, his hands are etched like the deep, rough lines of tree bark, and he has the stoic countenance of a man resigned to his fate.

Kharta is the fifth generation to farm here in the rural Rajasthani village of Verdara, where he helped his father dig the well by hand as a boy. After decades of flooding fields for irrigation, the well ran dry. Kharta's farm and the plots of a dozen other farmers who share the water source were in distress. Crops failed. Food was scarce.

When WE Charity got word, two local team members arrived with a rather intimidating solution. It involved exploding dynamite and heavy machinery to haul out the well's insides. A kind of controlled destruction would break new water veins in the rock, WE's development experts promised, to increase depth and the water's recharge rate.

"*Kisan darap riya ha,*" Kharta remembers, speaking in Mewari. "The farmers were afraid."

Their well had once filled up over the rainy season, with enough water to last all year. Lately the rains had become unpredictable. By summer's dry season, the water was often gone. Kharta and the others faced a choice: rely on the rain and watch the well deplete with the changing seasons, or call in the machines and blow up their very means of survival in the hopes of coaxing out more water. Both options seemed like a gamble.

This is the story of an old man versus nature.

As benefactors go, Mother Nature can seem largely indifferent. Rajasthan has 10 percent of India's land mass, but only 1.1 percent of the country's surface water. It's a desert state of extremes, where monsoon rains abruptly flood fields after summer's dry heat. Residents are almost completely dependent on wells that draw water from the earth when it doesn't fall from the sky. If that groundwater isn't replenished fast enough, farmers like Kharta suffer.

PILLARS

💧 **WATER**

🌱 **FOOD**

Kharta Bhil: risk-taker, mobilizer and local hero



Seventy years ago, when Kharta was 15, his father, grandfather and farmers from a dozen other nearby plots set out in search of a spot to dig. Without a bedrock assessment or a geological map, they looked to the ridges in the nearby hills where the rains slid down like a slalom course. At the bottom, they found a low-lying patch where groundwater often pooled. That would be the place.

A dozen men hacked at soil and rock with crowbars, shovels, chisels and hammers, breaking stone by hand for six hours every day, hauling it out with oxen. A teenage Kharta joined them. There was no school in the village at the time, Kharta adds through a translator, so he was free to work. The group only stopped during monsoon season, when their hole filled up with rain. Then they went to temple and prayed the water would last through the dry season.

The men dug like that for a year, enough for a continual supply of groundwater that would irrigate their surrounding land. They planted corn in the summer (the *kharif* crop) and wheat in the winter (the *rabi* crop). Their prayers had been answered—sort of. Summer after summer came, and the water level slowly dropped.

Wheat is a thirsty crop, Kharta explains. From planting to harvest, in this climate and with this crop variety, fields must be irrigated six or seven times over the season. Every time, the soil sucks up nearly 40,000 gallons of water—per plot. Kharta's crop alone would drink about 265,000 gallons every season. Their hand-dug well was regenerating only 8,000 gallons per day. So it became a math problem.

The farmers had to ration: whose land would be watered first, and how many times? Who planted first? Whose fields are farthest from the source? How can we crunch the numbers so we can all feed our families? Water levels kept shrinking, and the farmers reached a point when they couldn't manage.

Not every well can be rehabilitated. Only the right kind of rock and sediment will support a narrow tunnel and the pressure of holding thousands of gallons of water. Before approaching farmers, WE Charity conducts hydrological surveys to determine viability, ensuring that the well won't collapse in on itself when it's deepened and that it will, in fact, release more water. Only about one in every 15 wells assessed in this region is selected.

When Kharta's well was chosen, he reluctantly agreed. WE Charity would bring in equipment, hire machine operators and fund the project. All 15 farmers had to consent, and they had to help with manual labor, under the reasoning that community buy-in

ABOVE: Seventy years ago, Kharta helped his father dig this well by hand. But as an elderly man, he watched the well go dry during summer months. When crops failed, he agreed to let WE Charity blast out the well to make water more plentiful.

FACING PAGE: With an increase in the recharge rate of the refurbished well, Kharta's crops are flourishing from year-round irrigation.



ensures long-term sustainability. It required Kharta to convince 14 other farmers that dynamite was a viable option. Most of the men had never been to school and couldn't read an assessment report. What proof did they have that this would work?

"We're not able to do any farming," Kharta told the non-believers, "so let's try and see."

The crane had to be shipped in, piece by piece, over narrow footpaths and assembled on-site. Dynamite loosened the large rocks so that smaller pieces could be broken up by hand, this time easily lifted out by the crane. Explosions were set off at night, when the surrounding hills went quiet and there was less chance of foot traffic. After an initial drilling, experts coached the locals to dig this way and that, angling to hit deeper and deeper water veins in the rocks.

Kharta watched as the well was temporarily destroyed, its guts stacked up into neat piles. "Even when the work was half completed, I didn't have faith," he admits. "But I was not sharing my worry with anyone."

Kharta and his ancestors spent a year digging 100 feet into the ground. This time, the same task took two months, increasing the depth to 200 feet. Rehabilitation also included masonry lining to keep the water contained, and a parapet was added—the stone lip around the well—to keep out runoff waste from neighboring livestock.

Water capacity and recharge rate increased almost immediately. Crop yields grew and a whole new planting season was added. Green gram, a kind of bean, now grows in the peak of summer, an additional crop that thrives at a time without rain, when no planting had been possible.

The refurbished well has a water recharge rate of 21,000 gallons a day, widening the farmers' scope of arable land to 227,010 square feet from 52,097. Kharta's plot alone is now 27,000 square feet, up from 7,000. The effect on his family is immeasurable. "My family has enough food, and we are healthy. Whatever we want to grow, we can grow."

Since rehab, the well has never run dry, even in the summer.

Kharta has two grown sons, who have been helping him in the fields for some time. One day they will take over the land. Kharta's four grandsons will inherit it after that, and his great-grandchildren after that. "I rest more than I used to," Kharta says.

KATIE HEWITT

"My family has enough food, and we are healthy. Whatever we want to grow, we can grow," says Kharta. Since rehab, the well has never run dry, even in the summer.

For his part in bringing water back to the village, Kharta has become a local hero.





Proper irrigation grew Kharta's plot to 27,000 square feet from 7,000. He is able to cultivate year-round, growing not only corn and wheat, as he has for decades, but also protein-rich green gram and other pulses. His family now has enough food and they are healthy.





IMPACT

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