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THIRSTY GIANT

India Digs Deeper, but Wells Are Drying Up

By [SOMINI SENGUPTA](#)

TEJA KA BAS, [India](#) — Bhanwar Lal Yadav, once a cultivator of cucumber and wheat, has all but given up growing food. No more suffering through drought and the scourge of antelope that would destroy what little would survive on his fields.

Today he has reinvented himself as a vendor of what counts here as the most precious of commodities: the water under his land.

Each year he bores ever deeper. His well now reaches 130 feet down. Four times a day he starts up his electric pumps. The water that gurgles up, he sells to the local government — 13,000 gallons a day. What is left, he sells to thirsty neighbors. He reaps handsomely, and he plans to continue for as long as it lasts.

“However long it runs, it runs,” he said. “We know we will all be ultimately doomed.”

Mr. Yadav’s words could well prove prophetic for his country. Efforts like his — multiplied by some 19 million wells nationwide — have helped India deplete its groundwater at an alarming pace over the last few decades.

The country is running through its groundwater so fast that scarcity could threaten whole regions like this one, drive people off the land and ultimately stunt the country’s ability to farm and feed its people.

With the population soaring past one billion and with a driving need to boost agricultural production, Indians are tapping their groundwater faster than nature can replenish it, so fast that they are hitting deposits formed at the time of the dinosaurs.

“What we will do?” wondered Pavan Agarwal, an assistant engineer with the state Public Health and Engineering Department, as he walked across a stretch of dusty fields near Mr. Yadav’s water farm. “We have to deliver water.”

He swept his arms across the field, dotted with government wells. This one, dug 10 years ago, had already gone dry. In that one, the water had sunk down to 130 feet. If it were not for the fact that electricity comes only five hours a day, every farmer in the area, Mr. Agarwal ventured, would be pumping round the clock.

Saving for a Dry Day

If groundwater can be thought of as a nation’s savings account for dry, desperate drought years, then India, which has more than its share of them, is rapidly exhausting its reserve. That situation is true in a growing number of states.

Indian surveyors have divided the country into 5,723 geographic blocks. More than 1,000 are considered either overexploited, meaning more water is drawn on average than is replenished by rain, or critical, meaning they are dangerously close to it.

Twenty years ago, according to the Central Groundwater Board, only 250 blocks fell into those categories.

“We have come to the worst already,” was the verdict of A. Sekhar, who until recently was an adviser on water to the Planning Commission of India. At this rate, he projected, the number of areas at risk is most likely to double in the next dozen years.

Across India, where most people still live off the land, the chief source of irrigation is groundwater, at least for those who can afford to pump it.

Here in Jaipur District, a normally parched area west of New Delhi known for its regal palaces, farmers depend on groundwater almost exclusively. Across Rajasthan State, where Jaipur is situated, up to 80 percent of the groundwater blocks are in danger of running out.

But even fertile, rain-drenched pockets of the country are not immune.

Consider, for instance, that in Punjab, India’s northern breadbasket state, 79 percent of groundwater blocks are classified as overexploited or critical; in neighboring Haryana, 59 percent; and in southern tropical Tamil Nadu, 46 percent.

The crisis has been exacerbated by good intentions gone awry and poor planning by state governments, which are responsible for regulating water.

Indian law has virtually no restrictions on who can pump groundwater, how much and for what purpose. Anyone, it seems, can — and does — extract water as long as it is under his or her patch of land. That could apply to homeowner, farmer or industry.

Electric pumps have accelerated the problem, enabling farmers and others to squeeze out far more groundwater than they had been able to draw by hand for hundreds of years.

The spread of free or vastly discounted electricity has not helped, either. A favorite boon of politicians courting the rural vote, the low rates have encouraged farmers, especially those with large landholdings, to pump out groundwater with abandon.

“We forgot that water is a costly item,” lamented K. P. Singh, regional director of the Central Groundwater Board, in his office in the city of Jaipur. “Our feeling about proper, judicious use of water vanished.”

The Politics of Water

With the proliferation of electric pumps, he added, it took only 20 years for Rajasthan’s groundwater reserves to sink to their current levels. Twenty more years of the same policy could be catastrophic.

The central government has been coaxing states to require the harvesting of rainwater, for instance by installing tanks or digging ponds, so the water will seep into the earth and recharge the aquifers.

Other solutions are politically trickier. Prime Minister Manmohan Singh has warned of the consequences of free or cheap electricity and urged state officials to crack down on pumping. But state officials, attuned to potential backlash, have been slow to respond.

Tighter restrictions would in any case run up against one of the government's top priorities, one that India has long considered vital for its independence: the goal of growing its own food.

The fear now, among those who study Indian agriculture, is that without a careful review of water policy and a switch to crops that use less water, India stands to imperil its food production.

Here in the dust bowl of Rajasthan, desperate water times have already called for desperate water measures.

On a parched, hot morning not far from Mr. Yadav's home, a train pulled into the railway station at a village called Peeplee Ka Bas. Here, the wells have run dry and the water table fallen so low that it is too salty even to irrigate the fields.

The train came bearing precious cargo: 15 tankers loaded with nearly 120,000 gallons of clean, sweet drinking water.

The water regularly travels more than 150 miles, taking nearly two days, by pipeline and then by rail, so that the residents of a small neighboring town can fill their buckets with water for 15 minutes every 48 hours.

It is a logistically complicated, absurdly expensive proposition. Bringing the water here costs the state about a penny a gallon; the state charges the consumer a monthly flat rate of 58 cents for about 5,300 gallons, absorbing the loss.

A Parched Village

The growing water shortage has transformed life in Peeplee Ka Bas. Its men left long ago to seek work elsewhere. The women remain to spend the blistering summer mornings digging ponds in the barren earth, hoping to catch monsoon rains.

Where farming once provided a livelihood, now digging puts food on the table. For a day's labor, under this public works program intended to help the poorest families, each woman is paid the equivalent of 40 cents, along with 24 pounds of wheat.

It was not always this way. Once farming made sense. Many of the women digging on a recent morning remembered growing their own food — peas, tomatoes, chili peppers, watermelons — and selling it, too, at the nearest town market.

Year by year, the wells began to run dry. And there were several years of little to no rain.

Meera, a mother of three who uses only one name, who is lucky enough to come from a landowning family, still watched her husband leave the village to find work in a cement factory.

There were times, she acknowledged, when it became difficult to feed the children. Now she finds herself digging ponds for a bag of wheat. And praying for rain. "Our life is not life," Meera said. "Only when it rains,

there's life.”

A half-hour's drive along a narrow country road, just next door to Mr. Yadav's water farm, live a pair of brothers, Nandalal and Jeevanlal Chowdhury.

They have so far resisted following Mr. Yadav's lead in selling what water is left under their land, mainly because it requires a hefty investment to buy pumps. This year, the water in their well dropped to 130 feet, twice as deep as 10 years ago.

Only millet grows here now, a crop that takes relatively little water, and cattle fodder. Their last vegetable harvest was five years ago.

They know they will not go on farming forever. The water will not last. They will search for other work, elsewhere. Jeevanlal Chowdhury was vague on what prospects the land would hold for his children.

“We are close to the finishing point,” he said. His daughter, a sixth grader, listened intently to the conversation. “The water is almost gone.”

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