

WAR WITH IRAN? CHINA'S JAPANESE DISEASE

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GIVING GLOBALLY

How to Heal The World

(Or at least make a real difference)

PHOTOGRAPH BY SHAUL SCHWARZ

Cecilia Nakabu with daughter Jennifer at the Kintampo Health Research Centre, Ghana

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Cool, Clear Water

The forgotten virtues of Chinese foot pumps, buried aqueducts and other ancient water-supply technologies

BY CHRISTIAN CARYL

THE PEOPLE OF QARA HAD written off their town's buried assets. More than 1,500 years earlier, residents had dug stone-lined aqueducts—*qanats*—deep below the arid ground. The water-supply system had been developed in Persia centuries before. But by the time Joshka Wessels arrived in Qara, some 60 miles northeast of Damascus, in 2004, its ancient qanats were in ruins. The Dutch-born anthropologist turned development worker found few takers for the hard, dangerous job of clearing the tunnels—until she talked to the head of a local Syrian Ortho-

dams often create more problems than they solve. Instead, Wessels and other development specialists are rediscovering water technologies so old, they're practically forgotten. "Part of solving the problems we have now might be to look at some of these traditional methods instead of building megaprojects," says Larry Mays, an engineering professor at Arizona State University. In many cases, he says, the old ways are more dependable and sustainable than modern technologies.

New programs all over the world are proving the usefulness of "primitive" water systems. Architect Pietro Laureano has led the restoration of an ancient community

Low tech is paying off big in western India. In the Rajasthan desert, where the dry season lasts from September to June, generations of women have carried water for their families, sometimes trudging for hours in blistering heat. "Ask for blood, we'll readily give it to you," says Prema Ram, a retired soldier who now heads a village council there. "But don't ask for water, because our lives depend on every drop that falls from the sky." Now an innovative aid group supported by the United Nations and the Italian government has begun quenching the region's chronic thirst. For the past five years, the Jal Bhagirathi Foundation (JBF) has been reviving centuries-old techniques to gather and store Rajasthan's brief and fitful monsoon rains.

To the desert dwellers, it's a miracle. Thanks to the JBF, the 60 or so families of Prema Ram's village have a new *tanka*—a covered tank surrounded by a sloping gravel catchment area—to give them drinking water for nearly half the dry season. The people of Khinchiyon Ki Dahipada village, some 40 miles away, consider them-



QUENCHER:
A *talab* in Rajasthan's desert

dox convent. "Could I get some information on funding?" the mother superior asked. The sisters mobilized the largely Muslim local farmers association, along with decision makers in Damascus, and today pistachios and fruit trees are flourishing again in Qara, watered by a technology that was perfected while the Iron Age was reaching Europe.

Humanity is facing an urgent water crisis. Climate change, population growth and spreading deserts are only adding to the thirst of a planet where more than 1 billion people live without safe drinking water. Twentieth-century solutions like giant

in the southern Italian city of Matera, where dwellings were designed to collect and store rainwater. Farmers and anthropologists in Peru have collaborated to recreate an irrigation network that evolved there 1,000 years ago. In southern Africa the relief organization Pump Aid is providing farmers with foot-powered devices based on a 2,000-year-old Chinese design. The pumps are easy to build and cheap to run—no gasoline required. Motorized pumps may move water much faster, but they do so at the risk of depleting groundwater and raising its salinity. The old ways are more ecofriendly, Laureano says.

ones even more blessed. The JBF has helped them to deepen their community's *talab* (the local term for a small reservoir with a raised embankment) and increase its catchment area. This year they expect their stored water to last all the way until the rains return in July. Public-health officials say Rajasthan's infant mortality is dropping, women's literacy is climbing and stomach and skin ailments, once widespread, are improving. The ancient systems may never entirely supplant modern, mechanized solutions. But don't write them off. Just ask the people of Qara.

With SUDIP MAZUMDAR in Rajasthan