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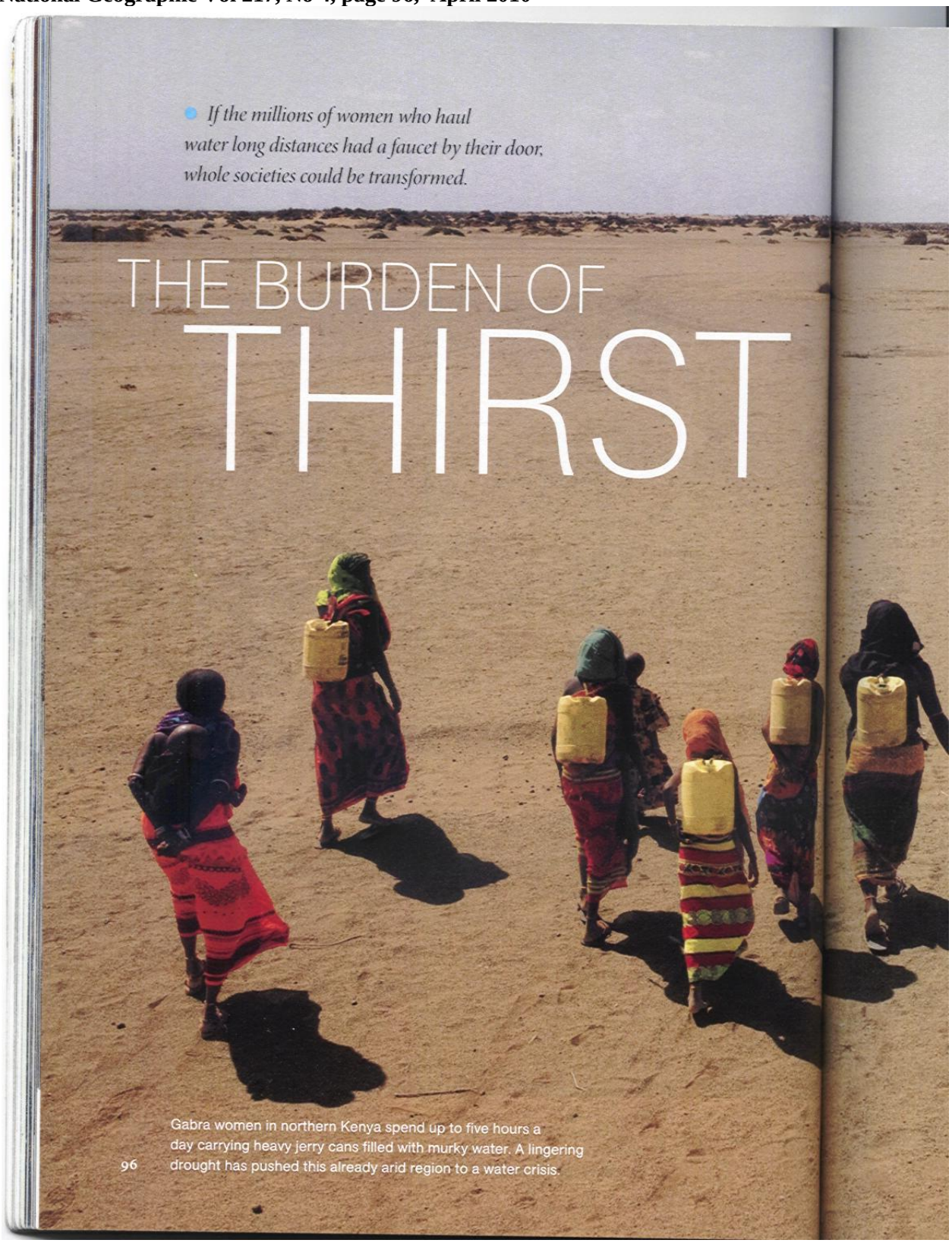
If the millions of women who haul water long distances had a faucet by their door, whole societies could be transformed.

THE BURDEN OF THIRST



Gabra women in northern Kenya spend up to five hours a day carrying heavy jerry cans filled with murky water. A lingering drought has pushed this already arid region to a water crisis.

BY TINA ROSENBERG
PHOTOGRAPHS BY LYNN JOHNSON

AYLITO BINAYO'S FEET KNOW THE MOUNTAIN.

Even at four in the morning she can run down the rocks to the river by starlight alone and climb the steep mountain back up to her village with 50 pounds of water on her back. She has made this journey three times a day for nearly all her 25 years. So has every other woman in her village of Foro, in the Konso district of southwestern Ethiopia. Binayo dropped out of school when she was eight years old, in part because she had to help her mother fetch water from the Toiro River. The water is dirty and unsafe to drink; every year that the ongoing drought continues, the once mighty river grows more exhausted. But it is the only water Foro has ever had.

The task of fetching water defines life for Binayo. She must also help her husband grow cassava and beans in their fields, gather grass for their goats, dry grain and take it to the mill for grinding into flour, cook meals, keep the family compound clean, and take care of her three small sons. None of these jobs is as important or as consuming as the eight hours or so she spends each day fetching water.

In wealthy parts of the world, people turn on a faucet and out pours abundant, clean water. Yet nearly 900 million people in the world have no access to clean water, and 2.5 billion people have no safe way to dispose of human waste—many defecate in open fields or near the same rivers they drink from. Dirty water and lack of a toilet and proper hygiene kill 3.3 million people around the world annually, most of them children under age five. Here in southern Ethiopia, and in northern Kenya, a lack of rain over the past few years has made even dirty water elusive.

Where clean water is scarcest, fetching it is almost always women's work. In Konso a man hauls water only during the few weeks following the birth of a baby. Very young boys fetch water, but only up to the age of seven or eight. The rule is enforced fiercely—by men and women. "If the boys are older, people gossip that the woman is lazy," Binayo says. The reputation of a woman in Konso, she says, rests on hard work: "If I sit and stay at home and do nothing, nobody likes me. But if I run up and down to get water, they say I'm a clever woman and work hard."

In much of the developing world, lack of water is at the center of a vicious circle of inequality. Some women in Foro come down to the river five times a day—with one or two of the trips devoted to getting water to make a beer-style home brew for their husbands. When I first came to Foro, some 60 men were sitting in the shade of a metal-roofed building, drinking and talking. It was midmorning. Women, says Binayo, "never get five seconds to sit down and rest."

On a hot late afternoon I go with her to the river, carrying an empty jerry can. The trail is steep and in places slippery. We scramble down large rocks alongside cacti and thornbushes. After 50 minutes we reach the river—or what is a river at certain times of the year. Now it is a series of black, muddy pools, some barely puddles. The banks and rocks are littered with the excrement of donkeys and cows. There are about 40 people at the river, enough so that Binayo

decides that the wait might be shorter upstream. The wait is especially long early in the morning, so Binayo usually makes her first trip before it is light, leaving her son Kumacho, a serious-faced little man who looks even younger than his four years, in charge of his younger brothers.

We walk another ten minutes upstream, and Binayo claims a perch next to a good pool, one fed not only by a dirty puddle just above but also a cleaner stream to the side. Children are jumping on the banks, squishing mud through their feet and stirring up the water. "Please don't jump," Binayo admonishes them. "It makes the water dirtier." A donkey steps in to drink from the puddle feeding Binayo's pool. When the donkey leaves, the women at the puddle scoop out some water to clear it, sending the dirty water down to Binayo, who scolds them.

After half an hour it is her turn. She takes her first jerry can and her yellow plastic scoop. Just as she puts her scoop in the water, she looks up to see another donkey plunk its hoof into the pool feeding hers. She grimaces. But she cannot wait any longer. She does not have the luxury of time.

An hour after we arrive at the river, she has filled two jerry cans—one for her to carry back up, one for me to carry for her. She ties a leather strap around my can and puts it on my back. I am grateful for the smooth leather—Binayo herself uses a coarse rope. Still, the straps cut into my shoulders. The plastic can is full to the top, and the 50-pound load bounces off my spine as I walk. With difficulty, I make it halfway up. But where the trail turns steepest I can go no farther. Sheepishly, I trade cans with a girl who looks to be about eight, carrying a jerry can half the size of mine. She struggles with the heavier can, and about ten minutes from the top it is too much for her. Binayo takes the heavy jerry can from the girl and puts it on her own back, on top of the one she is carrying. She shoots us both a look of disgust and continues up the mountain, now with nearly 12 gallons of water—a hundred pounds—on her back.

"When we are born, we know that we will have a hard life," Binayo says, sitting outside a hut in her compound, in front of the cassava she is drying on a goatskin, holding Kumacho, who wears no pants. "It is the culture of Konso from a long time before us." She has never questioned this life, never expected anything different. But soon, for the first time, things are going to change.

WHEN YOU SPEND HOURS hauling water long distances, you measure every drop. The average American uses a hundred gallons of water just at home every day; Aylito Binayo makes do with two and a half gallons. Persuading people to use their water for washing is far more difficult when that water is carried up a mountain. And yet sanitation and hygiene matter—proper hand washing alone can cut diarrheal diseases by some 45 percent. Binayo washes her hands with water "maybe once a day," she says. She washes clothes once a year. "We don't even have enough water for drinking—how can we wash our clothes?" she says. She washes her own body only occasionally. A 2007 survey found that not a single Konso household had water with soap or ash (a decent cleanser) near their latrines to wash their hands. Binayo's family recently dug a latrine but cannot afford to buy soap.

Much of the cash they do have goes for four- to eight-dollar visits to the village health clinic to cure the boys of diarrhea caused by bacteria and parasites they regularly get from the lack of proper hygiene and sanitation and from drinking untreated river water. At the clinic, nurse Israel Estiphanos said that in normal times 70 percent of his patients suffer waterborne diseases—and now the area was in the midst of a particularly severe outbreak. Next to the clinic a white tent had arisen for these patients. By my next visit, Estiphanos was attending to his patients wearing high rubber boots.

Sixteen miles away at the district health center in Konso's capital, almost half the 500 patients treated daily were sick with waterborne diseases. Yet the health center itself lacked clean water. On the walls of the staff rooms were posters

listing the principles of infection control. But for four months a year, the water feeding their taps would run out, said Birhane Borale, the head nurse, so the government would truck in river water. "We use water then only to give to patients to drink or swallow medicine," he said. "We have HIV patients and hepatitis B patients. They are bleeding, and these diseases are easily transmittable—we need water to disinfect. But we can clean rooms only once a month."

Even medical personnel weren't in the habit of washing hands between patients, as working taps existed at only a few points in the building—most of the examining rooms had taps, but they were not connected. Tsega Hagos, a nurse, said she had gotten spattered with blood taking out a patient's IV. But even though there was water that day, she had not washed her hands afterward. "I just put on a different glove," she said. "I wash my hands when I get home after work."

When clean water *becomes plentiful, all the hours previously spent hauling water can be used to grow more food, raise more animals, or even start income-producing businesses.*

BRINGING CLEAN WATER close to people's homes is key to reversing the cycle of misery. Communities where clean water becomes accessible and plentiful are transformed. All the hours previously spent hauling water can be used to grow more food, raise more animals, or even start income-producing businesses. Families no longer drink microbe soup, so they spend less time sick or caring for loved ones stricken with waterborne diseases. Most important, freedom from water slavery means girls can go to school and choose a better life. The need to fetch water for the family, or to take care of younger siblings while their mother goes, is the main reason very few women in Konso have attended school. Binayo is one of only a handful of women I met who even know how old they are.

Access to water is not solely a rural problem. All over the developing world, many urban slum dwellers spend much of the day waiting in line at a pump. But the challenges of bringing water to remote villages like those in Konso are overwhelming. Binayo's village of Foro sits atop a mountain. Many villages in the tropics were built high in the hills, where it is cooler and less malarious and easier to see when the enemy is coming. But Konso's mountaintop villages do not have easy access to water. Drought and deforestation keep pushing the water table lower—in some parts of Konso it is more than 400 feet belowground. The best that can be done in some villages is to put in a well near the river. The water is no closer, but at least it is reliable, easier to extract, and more likely to be clean.

Yet in many poor nations, vast numbers of villages where wells are feasible do not have them. Boring deep holes requires geological know-how and expensive heavy machinery. Water in many countries, as in Ethiopia, is the responsibility of each district, and these local governments have little expertise or money. "People who live in slums and rural areas with no access to drinking water are the same people who don't have access to politicians," says Paul Faeth, president of Global Water Challenge, a consortium of 24 nongovernmental groups that's based in Washington, D.C. So the effort to make clean water accessible falls largely to charity groups, with mixed success.

The villages of Konso are littered with the ghosts of water projects past. In Konsos around the developing world, the biggest problem with water schemes is that about half of them fall into disrepair soon after the groups that built them move on. Sometimes technology is used that can't be repaired locally, or spare parts are available only in the capital. But other reasons are achingly trivial: The villagers can't raise money for a three-dollar part or don't trust anyone to make the purchase with their pooled funds. The 2007 survey of Konso found that only

At a streetside laundry business in an Addis Ababa slum, Muntaha Umer earns a dollar a day washing men's clothes—only men can afford to pay—in filthy water.

nine projects out of 35 built were functioning.

Today a U.K.-based international nonprofit organization called WaterAid, one of the world's largest water-and-sanitation charities, is tackling the job of bringing water to the most forgotten villages of Konso. At the time of my visit, WaterAid had repaired five projects and set up committees in those villages to manage them, and it was working to revive three others. At the health center in Konso's capital, it was installing gutters on the sloped roofs of the buildings to conduct rainwater to a covered tank. The water is now being treated and used in the health center.

WaterAid is also working in villages like Foro, where no one has successfully brought water before. Their approach combines technologies proven to last—such as building a sand dam to capture and filter rainwater that would otherwise drain away—with new ideas like installing toilets that also generate methane gas for a new communal kitchen. But the real innovation is that WaterAid treats technology as only part of the solution. Just as important is involving the local community in designing, building, and maintaining new water projects. Before beginning any project, WaterAid asks the community to form a WASH (water, sanitation, hygiene) committee of seven people—four of whom must be women. The committee works with WaterAid to plan projects and involve the village in construction. Then it maintains and runs the project.

The people of Konso, who grow their crops on terraces they have painstakingly dug into the sides of mountains, are famous for hard work, and they are an asset—one of Konso's few—in the quest for water. In the village of Orbesho, residents even built a road themselves so that

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Writer Tina Rosenberg and photographer Lynn Johnson reported on India's village health workers in the December 2008 issue.

"We can do anything," sing villagers as they dig a trench for pipes near Ticho. Their efforts—with help from WaterAid—will soon provide running water.

drilling machinery could come in. Last summer their pump, installed by the river, was being motorized to push its water to a newly built reservoir on top of a nearby mountain. From there, gravity would pipe it down to villages on the other side of the mountain. Residents of those villages had contributed a few cents apiece to help fund the project, made concrete, and collected stones for the structures, and now they were digging trenches to lay pipes.

From a distance they looked like a riotously colored snake: 200 people, mostly women in rainbow-striped peplum skirts and red or green T-shirts, forming a wavy line up the side of the mountain from the pump to the reservoir. Some men were helping lay fat pipes in the trench. The scene was almost festive with the taste of progress. Hundreds of people had come every day for four days to spend their mornings digging. The trench was about half finished, and each day the snake moved farther up the mountain.

IF INSTALLING A WATER PUMP is technically challenging, encouraging hygiene is a challenge of a different kind. Wako Lemeta is one of two hygiene promoters whom WaterAid has trained in Foro. Lemeta, rather shy and poker-faced, stops by Binayo's house and asks her husband, Guyo Jalto, if he can check their jerry cans. Jalto leads him to the hut where they are stored, and Lemeta uncovers one and sniffs. He nods approvingly; the family is using WaterGuard, a capful of which purifies a jerry can of drinking water. The government began to hand out WaterGuard at the beginning of the recent outbreak of disease. Lemeta also checks if the family has a latrine and talks to villagers about the advantages of boiling drinking water, hand washing, and bathing twice a week.

Many people have embraced the new practices. Surveys say latrine use has risen from 6 to 25 percent in the area since WaterAid began work in December 2007. But it is a struggle. "When

I tell them to use soap," Lemeta explains, "they usually tell me, 'Give me the money to buy it.'"

Similar barriers must be overcome to keep a program going after the aid group leaves. WaterAid and other successful groups, such as Water.org, CARE, and A Glimmer of Hope, believe that charging user fees—usually a penny per jerry can or less—is key to sustaining a project. The village WASH committee holds the proceeds to pay for spare parts and repairs. But villagers think of water as a gift from God. Should we next pay to breathe air?

Water and money have long been an uneasy mixture. Notoriously, in 1999 Bolivia granted a multinational consortium 40-year rights to provide water and sanitation services to the city of Cochabamba. The ensuing protests over high prices eventually drove out the company and brought global attention to the problems of water privatization. Multinational companies brought in to run public water systems for profit have little incentive to hook up faraway rural households or price water so it is affordable to the poor.

Yet someone has to pay for water. Although water springs from the earth, pipes and pumps, alas, do not. This is why even public utilities charge users for water. And water is often most expensive to provide for those who can least afford it—people in the remote, sparsely populated, drought-stricken villages of the world.

"The key question is, Who decides?" says Global Water Challenge's Faeth. "In Cochabamba nobody was talking to the very poorest. The process was not open to the public." A pump in a rural village, he says, is a different story. "At the local level there is a more direct connection between the people implementing the program and the people getting access to water."

The Konso villagers, for instance, own and control their pumps. Elected committees set fees, which cover maintenance. No one seeks to recoup the installation costs or to make a profit. Villagers told me that, after a few weeks, they realized paying a penny per jerry can is actually cheap, far less than what they were paying through the hours spent hauling water—and the time, money, and lives lost to disease.

HOW WOULD AYLITO BINAYO's life be different if she never had to go to the river for water again? Deep in a gorge far from Foro, there is a well. It is 400 feet deep. During my visit it was nothing much to look at—aboveground it was only a concrete box with a jerry can inverted over it for protection, surrounded by a pyramid of bramble bushes. But here's what was to happen by March: A motorized pump would push the water up the mountain to a reservoir. Then gravity would carry it back down to taps in local villages—including Foro. The village would have two community taps and a shower house for bathing. If all went well, Aylito Binayo would have a faucet with safe water just a three-minute stroll from her front door.

Villagers think of water *as a gift from God. But someone has to pay for it. Although water springs from the earth, pipes and pumps, alas, do not. And water is most expensive to provide for those least able to afford it.*

When I ask her to imagine this easier life, she closes her eyes and reels off a long list of chores. She will go the fields to help her husband, collect grass for the goats, make food for her family, clean the compound. She will be with her sons, instead of leaving a grave little four-year-old in charge of his younger brothers for hours on end. "I don't know whether to believe it will work. We are on top of a mountain, and the water is down below," she says. "But if it works, I will be so happy, so very happy."

I ask her about her hopes for her family, and her answer is heartbreaking in its modesty: to get through the new hunger brought on by the drought, to get through this new wave of disease—to scramble back to the meager life she had known before. She doesn't dream. She has never dared think that someday life could change for the better—that there could arrive a metal spigot, out of the end of which gushed dignity. □