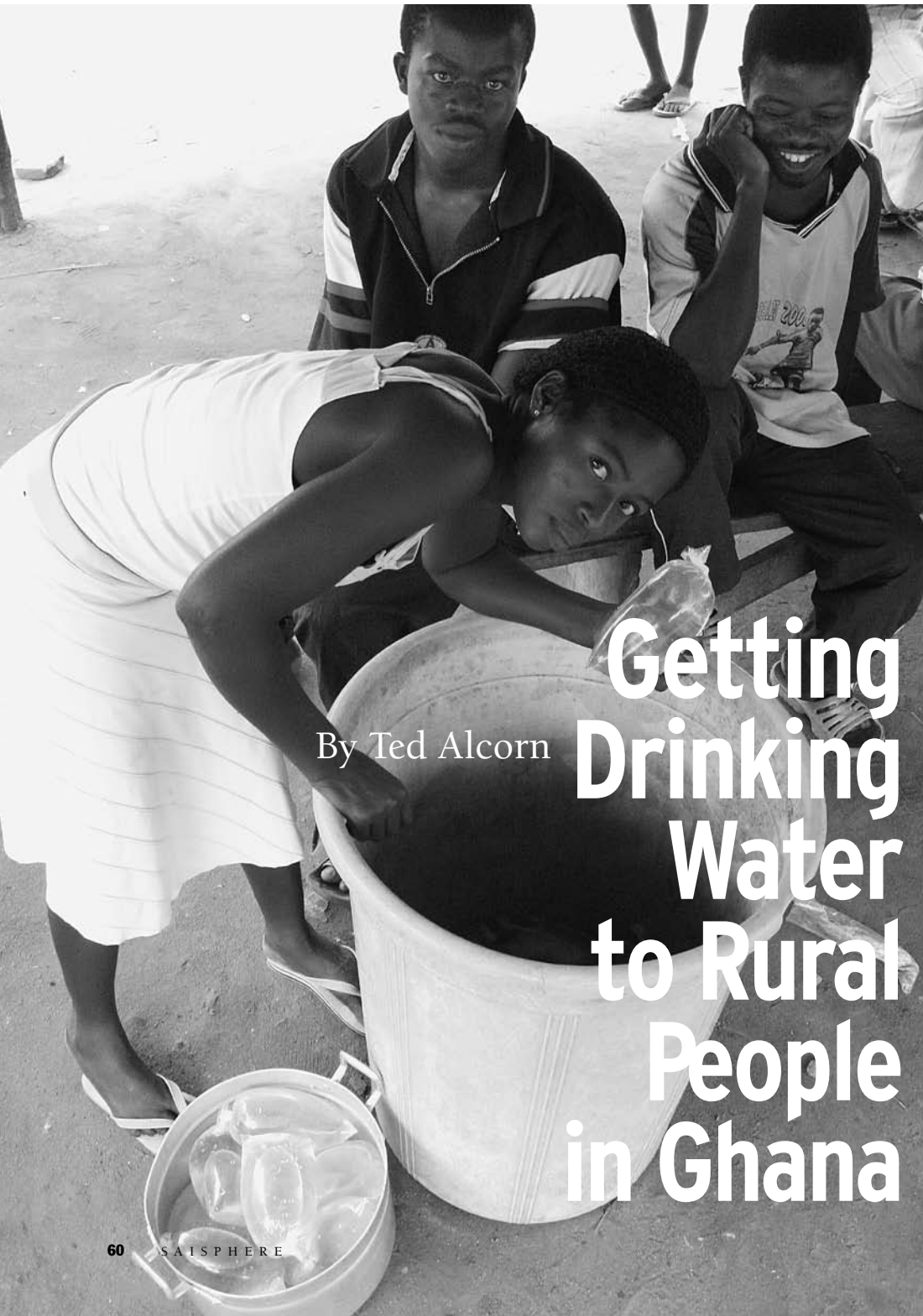


In Africa, water is the fluid of extremes. You can have it either way: Like Doctor Kurtz, the antihero in Joseph Conrad's classic, *The Heart of Darkness*, you may make one trip too many upstream the Congo and lose your mind at *A Bend in the River*, in Kisangani, where V.S. Naipaul rooted Mobutu Sese Seko's power-crazed kleptocracy. But you may also plod endlessly through desert land and parch

your brains until your eccentricity will own you the invidious excuse of "having been to Tombouctou." For my part, many years after a laborious trek to the medieval center of learning in the Malian desert, I chose the Congo River as a new, alternative element for a folly. In spring 2002, I embarked on the *Mabe zero* ("never zero," meaning never without passengers or freight), a 50-foot long dug-out canoe.

The point of departure was Maluku, an "outpost of civilization" set up by Henry Morton Stanley in the late 19th century a few miles upstream Kinshasa, then Leopoldville in honor of the Belgian king who funded the Welsh-born American explorer. Aboard the *Mabe zero*, freight and passengers were indeed plentiful. Pushed by a 15-horsepower outboard motor, the craft, overloaded and overcrowded with 73 passengers on



By Ted Alcorn

Getting Drinking Water to Rural People in Ghana

Clean drinking water and effective sanitation are so ubiquitous in America that it is hard to grasp the magnitude of their impact on the public's health. But in their absence, water-related disease causes more death and illness than any single cause. The advent of municipal water treatment in the early 20th century is probably responsible for greater gains in life expectancy than any other advance in Western medicine.

In lower-income countries that still lack such services, waterborne parasites, diarrhea and resultant malnutrition account for much of the burden of disease, particularly in children under 5 years. As a joint-degree student at The Johns Hopkins University Bloomberg School of Public Health, I can't remember taking a class that didn't at some point acknowledge the importance and intractability of water-related problems. Improving the accessibility of clean water, I was instructed, was a preeminent task of public health.

In the summer of 2008, I landed a research fellowship to go to Ghana with the Johns Hopkins Center for Water and Health. Typical of low-income countries in West Africa, Ghana's water sector is burdened by rapid

top of agricultural produce and crates of beer, would glide at an average of 2.5 mph with its gunwales merely 2 inches above the water level. At such “speed,” surrounded for more than three weeks by the muddy floods of the Congo, you had to fix on an object on the riverbanks to sense the almost unquantifiable progress the boat was making. And you would have hours to contemplate the mouth of the Alima, the confluence

that allowed the Franco-Italian rival of Stanley, Pierre Savorgnan de Brazza, to penetrate the interior of the continent. The philanthropic alter ego of the Anglo-Saxon “rock smasher,” *boula matari*, is the sole discoverer whose name is still born by an African capital. Notwithstanding, in naming the Alima, Savorgnan de Brazza fell victim to a tell-tale misunderstanding with his native guide: In Téké language, *anza malima*

simply means “here is the water.”

“*I went a little bit further, always a little bit further—until I had gone so far that I would no longer know how I could ever return.*” Kurtz’s incremental insanity equally struck “The Man of the River,” the self-styled title Mobutu was most proud of during his long reign, from 1965 to 1997. Aboard his 300-foot-long luxury yacht, the *Kamanyola*, the dictator paced up- and downstream each

urbanization and frail infrastructure, and nearly half of the capital city, Accra, can’t rely on regular drinking water. The rural population is, for reasons of geography and politics, even less likely to be reached. Supplying them with drinking water was the objective of our work.

The project was being implemented by the private corporation WaterHealth International. WHI describes itself as a firm of “social entrepreneurs.” The company partners with rural communities lacking access to clean water and subsisting on untreated river water. They install a small water-filtration and purification facility to produce clean water, and sell it by the bucketful at a low cost. The “WaterHealth Center” is managed over an eight-year period, until the initial investment is recovered, then ownership of the facility is transferred to the community. Thereafter, WHI earns revenues by maintaining this network of kiosks, but all additional profits on water sales accrue to the village.

During my stay, I divided my time between tracking down policymakers in the capital and living in the villages that would pilot the project. But the more I learned, the more my attention drifted from the water itself to the systems that

ought to have been providing it. Local people knew the health risks the river was exposing them to and were willing to pay for clean water. Why couldn’t the government deliver it—or why didn’t an adequate private market for water exist? I had come expecting to find a public health problem; instead, I seemed to be facing a problem of economics.

Government officials I spoke with had a simple explanation for why the public sector wasn’t providing water in rural areas: It is unaffordable. Extending pipelines and upgrading treatment facilities in urban areas consume much of the government’s resources and attention. The private sector doesn’t allow this vacuum to go completely unfilled, however; a scattered industry of small-scale providers has sprung up to serve those who can pay. Tanker trucks rumble down the streets ferrying thousands of gallons of water from public taps to wealthier homes that lie off the piped network, and vendors hawk bagged water from the median to passing motorists.

But performance of these providers illustrates the weaknesses of private sector distribution. The providers don’t enjoy the economies of scale of a centralized public system, so the water they

sell is more costly than piped water. And because these services are thinly regulated, there are valid fears about water quality. Furthermore, private sector providers turn a profit by cherry-picking customers, supplying water in areas connected by good roads and to people who can afford their exorbitant rates. The poor and the remote are not served at all.

Social entrepreneurship charts a middle course, attempting to harness the strengths of a planned network with the decentralization of the private sector. But achieving broad coverage of the population remains a challenge. For every person I met purchasing water at the kiosk, two others would pass down the path to the old collection point on the river, where the water was filthy but free. From WHI’s perspective, achieving a sustainable level of business spells success, but will the community’s health be significantly improved as a result, when even a single lapse from using clean water can result in disease? And how can a private company be made accountable for health outcomes, equality of service and coverage of the population? Faced with the sheer difficulties of providing clean water, I tire of the moralists’ poetic but empty slogan that

“water is life” and therefore shouldn’t bear a price. But a true solution for rural water supply can’t, in solving the economics of the project, forget the original public health objectives that it set out to achieve.

On my last day in Accra, I accompanied a tanker driver on his rounds. After the final delivery, some water remained in the truck, and he offered it to the neighborhood. As families poured from their homes with buckets and plastic basins, racing to collect those final few gallons, I thought about all of the intangible benefits of dependable, clean, plentiful water: The ability to drink and bathe without fear of disease, the hours liberated from the regular toil of collection, and the simple confidence that water will continue to run clean and pure in the days that follow—a confidence most of us have grown so accustomed to that we hardly recognize it.

The world may not yet be able to provide water to all of its residents, but we have an obligation, I think, to invent a new world where that can be achieved. ■

Ted Alcorn is an International Policy concentrator in the SAIS/Bloomberg School of Public Health joint-degree program.