JGW-5 SOUTHERN AFRICA

James Workman is a Donors' Fellow of the Institute studying the use, misuse, accretion and depletion of fresh-water supplies in southern Africa.

Women's Water Quest: Long Day's Journey into Clouds

By James G. Workman

WELVERDIEN 'A' VILLAGE, South Africa – To get here take R531 east hurtling 90 miles per hour down straight smooth asphalt toward a Kruger Park that beckons one million visitors a year to 'Return to Eden' decades after the Powers that Be evicted all former tribal inhabitants from that Garden's streams, dumped them into dense former "Bantustan homelands" of Lebowa and Gazankulu, and left them to subdue the dusty earth and fruitfully multiply at a 2.4 percent growth rate until half a million 'rural' blacks subsist in poverty just out of sight of this apartheid-era highway.

Slow down. Put your turn signal on. A few miles before hitting the Park entrance, stop. Veer off south down an unmarked dogleg across a cattle guard onto a rutted dirt track that winds through this area west of Eden and roll down your window. The morning feels cold, blustery, overcast but dry. It is June 21, winter solstice, the shortest day of the year.

You encounter no signs, no grids, no cars. While its population and density rivals San Francisco the AA and tourist maps show this whole District as blank. It's easy to get lost, though everyone else knows his or her way. They readily offer directions, though some roads become footpaths too narrow for vehicles. Back-track. You're running late for your tutorial but don't speed. Take it in. Rolling through dozens of incongruously named villages — Champagne (67 percent unemployment), London (pop. 1,923) Croquet Lawn (average household income:



'Well withdrawl' (From well to one liter bowl to...)

ICWA LETTERS

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Institute of Current World Affairs The Crane-Rogers Foundation Four West Wheelock Street Hanover, New Hampshire 03755 U.S.A. \$57 per month) — you pass dozens of men *en route* to migrant work (or to seek it). You pass hundreds of waving children wearing clean school uniforms. And you pass the women. Thousands of women. They emerge through low doors of small cinderblock houses and orient themselves like a compass needle toward whatever place offers the best chance of encountering water.

That chance fluctuates from hour to hour. Despite high stakes and long distances the odds of success range from coming up dry, to finding a dribble (in 'Merry Pebble Stream' village the sole spigot trickles out 1.5 gallons per hour), to waiting hours for a turn at a crowded tap. Yet the task can't be avoided. So they laugh, sweep their hard dirt porches, shiver themselves warm then grab empty buckets.

"Not buckets," corrects Kgaugelo Morale, 39, when you finally arrive at her two-room house. "They're called *sturuturu*." She shows how to arrange three of the 25-liter sealed plastic (far superior to metal or clay) containers in a neighbor's wheelbarrow, how to push it without bouncing them off (not easy, empty or full). She may





'Water transfer scheme' (...eight liter buckets to...)

teach you how to balance one on your head, although that method, she warns, is slow, heavy and inefficient. Such is your arrangement: she instructs you in the timeless art of fetching water; in exchange you bring firewood and lend your weak back to the chore.

Why bother? What's so special about her perspective? And isn't this a bit akin to, um, slumming? Perhaps. But compared with any self-help books or life/gender/ career-enhancement seminars, for 70 cents worth of fuel Kgaugelo (pronounced how-HEY-loh) offers the most exclusive (2:1 teacher-student ratio, several hours a day), vital (who doesn't require this service or commodity?) and experienced (three decades of almost daily practice under her belt) anywhere around.

Understanding her work has broader and deeper implications. Fetching water is a task shared by more than 1 million women in South Africa alone, or 200 million women worldwide. Calculating an average of 50 liters per trip it means these women — and they are almost all women — carry 3.65 billion cubic meters of water each year, by hand (20 times the storage of Africa's Lake Kariba Dam, one of the largest reservoirs in the world). On a personal level her tutorial offers a window into human nature, self-reliance, geography, gender roles and political institutions, revealing the distance between global information and local wisdom.

* * *

This morning Kgaugelo leads you northeast up a dirt path where she lives with her sister Tshegofatso and their children. She's bound for Welverdien B, where there is a tap. "Yes" she says. "But I don't know if we will find water."

Carry on. Pass the round, thatched huts where Mozambican refugees stoop around morning fires and cast-iron *potjies* set on open, three-stone hearths. Along the path chickens, dogs, goats, cows make their respective noises then lurch aside. Two women with log mortars and pestles vigorously pound corn into meal in their front yard. Minutes later you stop. Something seems amiss. After two miles Tshegofatso has set down her wheelbarrow and turned with an anxious look. "No one has passed us in the opposite direction," she points out. True enough. By this time of the morning you should have seen at least one woman and/or child returning home with full loads of water. Kgaugelo considers this and squints ahead. She thinks she sees women in the distance heading for the same destination, and offers, "Maybe people are starting late because it is cold."

Not faith in man, however, but despite him. Powerful white men in international institutions have such sympathy for Kgaugelo's drudgery that for decades they have tried desperately to expunge water-fetching from the face of the earth. They raise and spend \$40 billion each year on her behalf. They then pay 80 cents of every aid dollar to themselves or to other white male international engineers and consultants (ahem, like your correspondent, the previous two years) to write reports or design centralized water schemes that primarily benefit factories and crops that men own and where men work.

That's not to say women's needs are utterly neglected. But of the 20 cents left of water-aid projects that trickle down to rural areas, not much remains for training, upkeep and operation. The result? Kgaugelo's nearest (half a mile) manmade borehole hasn't produced water for months due to a faulty machine the male mechanic hasn't come to repair. Another borehole fails to pump because men took its fuel for their own truck engines. A third electric generator sits silent since a gang of five men stole its copper wires (The gang's now down to four after one was recently electrocuted attempting a similar heist, to the quiet joy of those he'd deprived of power). Last night in a neighboring village several young men stole 47 faucets from pipe ends (arrested when they tried to fence them); another group ripped the engine off a borehole, irreparably damaging the pipe in the process (they remain at large). The well she resorted to yesterday will be off-limits to women, reserved for a month-long ritual in which boys undergo their circumcision ceremony into manhood.

This raises an issue about the destination tap. "Yesterday no water came when you turn the handle," Kgaugelo says. Why not? "For some reason the man paid to be in charge of the pump decided not to come turn it on. Yes. He just went away somewhere."

Hence the edge in her voice when she speaks of the contrast between priorities of women grasping water and men grasping power. Her edge is softened by her only child, a son, who in a few years will be old enough to help carry water. But one day in his early teens he₂ too₂ will refuse. "What can I say to him?" she asks with a shrug. "If he continued he would be teased; fetching wa-

ter is not something men do unless they are alone." At which point the man has daily incentives to pay a *lobola* to purchase his neighbor's daughter as his lover, wife, mother of his children and, of course, as his cook and water-fetcher, which is included in that bride-price of up to ten cows (which chug 50 liters a day and compete with the women for water access).

"But Kgaugelo, you serve no man," you point out to this single mother.

"No, that is true," she answers with a half-smile and a voice that is hard to read.

A youth passes in the opposite direction. He glances at you, then her, then at the wheelbarrow and hunches his shoulders with a shudder. "Look at him put his hands in his pockets, doing nothing as we go to fetch," Kgaugelo whispers mockingly. Other young men tease her (and you indirectly) saying she shouldn't let a man do a woman's work. The women tease you (and her, indirectly) saying you will feel sick and sore tomorrow.

Of course, you have a choice, as will her son. Kgaugelo does not, at least not yet. For the world is what it is; woman today carries water because she has always carried water since... Genesis doesn't say how Adam and Eve got water once they were evicted from *their* Garden's waters. But they must have done something within three days or perish of thirst.

Adam: "Look, I was perfectly content drinking from



Kgaugelo's temporary triumph at a distant tap. (...25 *liter* sturuturu *to...*)

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'A Boy's and woman's task, not a man's.' (...sturuturu in wheelbarrows to...)

the streams now denied us. If I have to get bread through the sweat of my brow, you have to fetch water."

Eve: "Hold on. I don't see that anywhere in His contract. You get your *clothes* dirty to require washing (3 liters a day). Your house needs cleaning (1 liter a day). So do your dishes (2 liters) and cooking and drinking (3 liters) and — phew, that sweat is coming off more than your brow. You need a bath (16 liters per day)!"

Officials consider those 25 liters per person per day — roughly two flushes, or one *sturuturu* — as the Basic Human Needs Requirement (BHNR). Under its progressive new constitution, South Africa, alone among all nations, reserves and guarantees access to that amount as a human right. Going one step further it has attempted to install a street tap within 200 meters of all 14 million citizens who had no fresh water access in 1994. To its credit, it's halfway there.

There is an informal water 'law' — of diminishing returns — that makes connecting the next 7 million to water take longer than the first. But the words in the official Water Act work in the opposite direction. As rural women learn their right to have access to water in proximity to home, they grow restless. They speak up for the first time in their lives. They spread news of the law through villages faster than rumors that a tap is working. A few months ago, after a group of women were forced to wait 24 hours at a tap to serve 8,000 people some sleeping overnight against their sturuturu — Kgaugelo began to organize a women's-empowerment circle in the local Community Development Forum.

The meetings are not exclusive, she says. They're aimed at solving problems and networking. "Men are welcome to sit in and take part. But men do not feel the water problem as we do. They don't do enough. Men are not the ones waiting for hours and carrying the water."

At least not here, not today. Why? If the Bible fails to explain why Jesus found Mary Magdalen fetching water from the well instead of, say, Luke, John or Matthew, social anthropologists fare only slightly better. They offer evolutionary theories, such as men using their physical advantage and independence from offspring to hunt and herd leaving women to nurture and gather and cook close to home by the river. In Africa, the birthplace of humankind, *homo sapiens'* first tools included hollow ostrich shells or animal skins to carry and store water, allowing him (and her) to venture farther from those rivers. Over the last century, of course, few Africans ventured away voluntarily.

Here they were forced onto the driest lands, evicted from and sandwiched between two offlimits Edens. Upstream, tree plantations inhale a third of the rivers' water while lush irrigated orchards suck up another quarter of it. Downstream, game farms and the Kruger Park demands another 36 percent. That leaves six percent for thirsty villages to seek, gather and use, if they can. In drought years (one out of three) all these midstream tributaries and even the main-stem rivers — where they live — run dry.

You descend into one such tributary, the Banana River. Your wheelbarrow drags in the dry, deep sand. Last week an old woman here recalled how, as a child, it flowed regularly, down through a fence into the Manyaleti and later the Sand. Back then women didn't have to collect water over long distances for anything but cooking. They could wash everything else in the river, together, as a clean fresh current swirled past. Today a woman is digging in a three-foot-deep well, scrubbing her clothes with a few pints of dirty water. Push past her, ascend the dry banks on the other side and enter the outskirts of the second village.

As you cross from one boundary to another, questions of jurisdiction and accountability arise. "Do other villages resent that you come to take 'their' water?" you ask.

"Not if we come on foot," Kgaugelo replies. "They may need to use our water someday if theirs does not work. But if you come in a car they will turn you away, or make you pay."

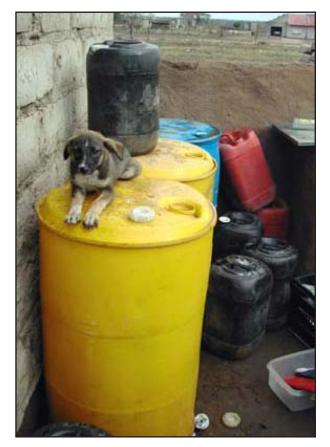
"Pay what, money?"

"Yes," she answers, puzzled at the question. Then she lays it out. In some villages you informally contribute 5 rands (55 cents) for diesel fuel for a borehole that doesn't come supplied. Or you pay someone .50 rands for a full *sturuturu*. Or you pay 50 rand (\$5.50) to water vendors who deliver three (225-liter) drums. "Sometimes it's easier. More secure, especially if you're sick or can't get out."

Since they can consume a tenth of an average household pension or income, these rates seem mildly obscene. What's more, here they pay roughly five times as much for water as rates that made Cape Town residents (with reliable indoor plumbing) rise up at barricades in angry protest. Perhaps most revealing, however, is the extent to which an informal water-vendor system has arisen to exploit where government fails to deliver.

Perhaps you equate "Third-World water-privatization schemes" with the nefarious agendas of multinational conglomerates. You've read how industrial giants — Vivendi of France, Thames Water of England, RWE in Germany, and Bechtel in the U.S. — pore over maps, carving up continents like their geopolitical colonial predecessors, snapping up water rights and water systems from incompetent governments, plotting control and provision of water delivery and charging extortionist rates to those who can least afford it.

Which of course they are. But while berating such plots, you'd overlook how a vast network of small, oneor-two-man (and they are invariably men) operations are quietly doing exactly the same thing beneath the 'antiglobalization' radar. They work out of the back of a truck. They promise drinkable water. They meet local demand.



'Securing Kgaugelo's water reserve' (...225 liter drums to...)

They maneuver in an unregulated, unregistered, unmonitored, tax-free black market and turn profits.

You immediately question whether either of these water privatization 'competitive free-market business' model is accountable to anyone, or whether the water is clean. Walking alongside you, Kgaugelo's immediate question is how to afford it.

For her hours consumed fetching water could be invested in generating income. Her water-consumed time could be invested in making her ventures grow. But doing so involves a quantum leap from 'consumptive uses' of water to 'productive uses' of water.

It requires economic efficiency, where no water is wasted but rather gets sorted according to purpose. She may use gray water from bathing to water fruit trees and subsistence gardens in the yard. Or use clear water from a well to drink or boil for tea. Salty water from a bad borehole washes dishes and the house. Any water left over after gross consumption becomes profit. In other words, based on global standards, that means that if she skips a bath five days in a row, she'll have 90 extra liters that could be invested in, say, homebrewing traditional marula beer to be sold at a profit.

"Water is life," says Kgaugelo. "Our women's empowerment group discusses ways to raise money to pay for it." Invariably the most common low-level income-generating activity depends, in turn, on water. Construction, brewing beer, hair salons, fruit trees, vegetable gardens and livestock are impossible without it. Perhaps more than any other factor, including education, the level and reliability of access to fresh water determines whether women like Kgaugelo stay on or get off the poverty treadmill.

One women's co-op bread-baking operation failed after months of growth. It had skilled labor, flour and ovens. But it lacked steady water delivery to meet demand, and could not afford to pay other women to fetch it. A recent local study¹ documented that, on average, people in villages who reliably get 25-40 more liters of fresh water a day generate 2.5 times more income (\$63 per year) for productive uses than those who don't (\$25 per year). These water-dependent businesses primarily involve women. Says Kgaugelo, "Even traditional beer. Yes. It is the women who make it." She pauses. "The men drink it."

After an hour of walking, turn left down the main dirt street of the village and look up. There it is in the distance, the holy grail of your daily pilgrimage. The water point.

At the risk of gross gender-alization, throughout his-

¹ Economics of productive uses for domestic water in rural areas; De Mendiguren, JC & Mabelane, M ; Association for Water and Rural Development, July 2001

tory designs involving water transport have sprung primarily from the inventive minds of men. Water wheels. Suction pumps. Internal combustion generators. Boreholes. Hydro-turbines. Aqueducts. Plastic PVC piping. Duct tape. Porcelain flush toilets. Concave arch ferroconcrete dam walls with massive inter-basin transfer schemes. Typically these designs seek ways to 'harness' rivers and underground aquifers to 'liberate' civilized man from what drudgery he hasn't already foisted off on his wife. All seek to bring water from farther and farther away (until, in the most exalted projects, water actually flows uphill) and we are duly grateful to these men for such convenient symbols of 'development.'

But that masculine ego may also genetically incline toward the most complex, vainglorious, intricate and expensive technical designs. The more parts, distance and money involved up front, the greater the odds of something going wrong later on. In Africa that means: stolen fixtures, wires, cement bags and pipes; illegal connections; 'missing' parts; bribery and corruption etc. With men in power, there's not much glory or profit in rectifying these problems or seeking a simpler, cheaper approach. Especially if women are willing to find water regardless of what men design.

Increasingly, they aren't. In a subtle process emerging beneath the surface of African politics, women like Kgaugelo are starting to flex for political power, to put other women in charge of the borehole generator switches, to let women oversee the delivery of bulk water supplies, to approaches water transport from fresh angles. It seems the currency of water has a gender, and that gender is no longer content with its subordinate position.

First, they organize people, both formally in committees and while they are waiting in line at water points. Kgaugelo's group involves 200 women, 20 per village from 10 villages. Their target: male politicians sitting in almost all of the 36 ward councils of Bushbuckridge District. She insists the aim is simply to empower women and put water at the top of the agenda but acknowledges that this just might involve political casualties, vowing "This year we're going to challenge men and push women in."

* * *

Second, they organize ideas. One is a deceptively simple, portable, and repairable treadle-pump kit that can be assembled for \$35-\$40 in parts from any hardware store. You can attach it to a disfunctional borehole or broken pipe, and, shifting weight from one pedal to another, draw water up 8-13 meters and pump at .5 to 2 liters per second. It bypasses engines, banks, vendors, motors, mechanics, wires, diesel or...men. Perhaps that's why it took a woman to design it.²

Third, they organize rain. Not long ago corrugated tin or zinc roofs became all the rage in villages throughout Bushbuckridge (indeed throughout of Africa). A traditional thatch grass roof was labor intensive, wore out every 15-20 years and it was old. Metal was flashy and mobile and long-lasting and new. "Thatch was what our grandparents used," says Kgaugelo. "Yes. The metal seemed like a higher class." A status symbol among the \$55-a-month households. But after installation problems rose to the surface, literally. Tin roofs trap heat in the summer; thatch breathes. Tin conducts heat out in the winter; thatch insulates. Not to mention the noise when rain falls in thundershowers.

But that noise gave some women an idea (and it is primarily women who champion and practice it): Why let rain escape, roll and seep off to a distant place we must walk to and carry back each day? Why not trap it before it hits the ground? So they linked the pre-fab metal grooves to gutters, buckets, or ditches to store water for later. Thus 'rainwater harvesting' becomes part of the domestic architecture.

Public buildings become the models. Missions and non-profit organizations — notably here the Save the Sand Project (not coincidently chaired and run by females) — have capitalized on the concept to help villages install larger rainwater-harvesting projects involving several 15,000-liter sealed and locked tanks in schools and other large-roofed public buildings. These act as a practical water buffer, add water security, but mostly raise awareness of alternatives and possibilities. It demonstrates how to break the culture of dependency that the people had grown used to under apartheid.

In the past, water projects (including rainwater-



 $(\dots infinite \ clouds \ to \ countless \ tin \ roofs \ to \ \dots)$

harvesting) failed because they were installed quickly *for* the people in Bushbuckridge villages, rather than gradually *by* and *with* them. Locals did not feel 'ownership' in the process of gathering or using water unless they helped decide where or whether to plan rainwater tanks, who would build and maintain them, and who would benefit.

Any such 'soft, warm and fuzzy' water projects that bypass government, central planning, and vast infrastructure financing are bound to have critics. These critics point out, accurately enough, that for many months of the year rainwater tanks will harvest dry air. One response, as Kgaugelo scrambled this morning to put out buckets



'SSP's School Project.' (...gutters to 10,000-liter rainwater harvesting tank.)

just in case the clouds open up, may be to note that a glass half-empty is also a glass half-full.

* * *

So far, hours into your journey today, the glass is still entirely empty. You depend utterly on that tap, surrounded by hundreds of empty colorful *sturuturu*, each engraved with its owner's name. Kgaugelo interprets: "There was no water here yesterday, so people leave them here as a marker. Yes. It sets their place in line, so they can come and say 'I was here.'"

Right now only the three of you are here. As you approach you see the tap is not even dripping; the ground beneath is dry. Tshegofatso reaches out, grabs the handle. You inhale. Never before have you anticipated water so intently. It is a long walk back, or on to the next village.

She turns the handle. Nothing. Seconds later there is a cough, a sputter, a gurgle, and water. The gush spreads smiles across your faces; the splash reverberates through the village. You start filling and soon there are three, five, dozens of women waiting their turn in line behind you.

It is a good day. You were the first at the quarry, successful in the hunt. Even though the 75-kilogram loads are heavier, and take a few minutes to balance, your step seems lighter as you return triumphant back toward your home and village. Women see you pass and grab their own empty *sturuturus*, spreading the word. You take longer breaks, catch your breath, remove your coat as you sweat. But it is still early in the morning, and cool, and there is much that can be done with the hours that remain ahead.

Tomorrow the days will start to grow longer, brighter, INSTITUTE OF CURRENT WORLD AFFAIRS

warmer, wetter. Perhaps, you think, women can exercise more power up the political pyramid, focus attention on water, control the income derived from water's productive uses, and escape their burden. Kgaugelo talks about running for office herself, maybe this year if she can find time.

You reach her home and replenish the household reserve of water in yellow drums, siphoning water through a tube into larger vessels. She graciously offers tea from this water, and you accept. Her son plays under the table as the mug warms your hands.

"Now you can devote more time to meetings?" you ask Kgaugelo.

"No. But we must return again later to the tap. Yes. To fill three more *sturuturu*."

"But why? Didn't you say one trip was enough until the weekend?"

" Yes. But this water is not for us. It is for another woman. We passed her house, the one with the tent. Yes. Did you notice it on the corner?"

You recall it. There was no one there. Other than tent fabric flapping in the breeze all was quiet.

"Tomorrow there will be many people, and cooking much food that requires more water. Yes. So the other women must bring water. It is for her funeral. She was young. Our age. She was married to a man who worked in the city."

She falls silent. You sip the last dregs of tea and prepare to leave. There have been many weekend funerals in the villages you drive through, more even than weddings or baptisms. Due to the spread of something no one likes to discuss openly, funeral parlors are becoming a growth industry in Southern Africa. Kgaugelo does not say what the young woman died of. And you do not ask.

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Fellows and their Activities

Martha Farmelo (April 2001- 2003) • ARGENTINA

A Georgetown graduate (major: psychology; minor, Spanish) with a Master's in Public Affairs from the Woodrow Wilson School at Princeton, Martha is the Institute's Suzanne Ecke McColl Fellow studying gender issues in Argentina. Married to an Argentine economist and mother of a small son, she is focusing on both genders, which is immensely important in a land of Italo/Latino machismo. Martha has been involved with Latin America all her professional life, having worked with Catholic Relief Services and the Inter-American Development Bank in Costa Rica, with Human Rights Watch in Ecuador and the Inter-American Foundation in El Salvador, Uruguay and at the UN World Conference on Women in Beijing.

Curt Gabrielson (December 2000 - 2002) • EAST TIMOR

With a Missouri farm background and an MIT degree in physics, Curt is spending two years in East Timor, watching the new nation create an education system of its own out of the ashes of the Indonesian system. Since finishing MIT in 1993, Curt has focused on delivering inexpensive and culturally relevant hands-on science education to minority and low-income students. Based at the Teacher Institute of the Exploratorium in San Francisco, he has worked with youth and teachers in Beijing, Tibet, and the Mexican agricultural town of Watsonville, California.

Andrew D. Rice (May 2002 - 2004) • UGANDA

A former staff writer for the *New York Observer* and a reporter for the *Philadelphia Inquirer* and the Washington Bureau of *Newsday*, Andrew will be spending two years in Uganda, watching, waiting and reporting the possibility that the much-anticipated "African Renaissance" might begin with the administration of President Yoweri Musevene. Andrew won a B.A. in Government from Georgetown (minor: Theology) in 1997 after having spent a semester at Charles University in Prague, where he served as an intern for *Velvet* magazine and later traveled, experienced and wrote about the conflict in the Balkans.

Matthew Z. Wheeler (August 2002-2004) • SOUTHEAST ASIA

A former research assistant for the Rand Corporation specializing in South and Southeast Asia, Matt will spend two years looking into proposals, plans and realities of regional integration (and disintegration) along the Mekong River, from China to the sea at Vietnam. With a B.A. in liberal arts from Sarah Lawrence and an M.A. from Harvard in East Asian studies (as well as a year-long Blakemore Fellowship in Thai language studies) Matt will have to take long- and short-term conflicts in Burma, Thailand, Laos and Cambodia into account as he lives, writes and learns about the region.

James G. Workman (January 2002 - 2004) • SOUTH AFRICA

A policy strategist on national restoration initiatives for Interior Secretary Bruce Babbitt from 1998 to 2000, Jamie is an ICWA Donors' Fellow looking at southern African nations (South Africa, Botswana, Mozambique, Zambia and, maybe, Zimbabwe) through their utilization and conservation of fresh-water supplies. A Yale graduate (History; 1990) who spent his junior year at Oxford, Jamie won a journalism fellowship at the Poynter Institute for Media Studies and wrote for the *New Republic* and *Washington Business Journal* before his six years with Babbitt. Since then he has served as a Senior Advisor for the World Commission on Dams in Cape Town, South Africa. ICWA Letters **(ISSN 1083-429X)** are published by the Institute of Current World Affairs Inc., a 501(c)(3) exempt operating foundation incorporated in New York State with offices located at 4 West Wheelock Street, Hanover, NH 03755. The letters are provided free of charge to members of ICWA and are available to libraries and professional researchers by subscription.

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