ICWA
LETTERS

Institute of Current World Affairs
The Crane-Rogers Foundation
Four West Wheelock Street
Hanover, New Hampshire 03755 U.S.A.

JGW-17
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.

Pliocene Park
Water Sources Shrink. Elephant Numbers Expand. Uh, Oh.

James G. Workman

JULY 15, 2003

UGAB RIVER, Namibia – We veered west down the dry riverbed, where locals said they had heard shooting, and came across two sets of tracks. The second set, left by the wheels of heavy government vehicles, rolled over the first, left by the feet of two equally heavy elephants. Their front and back prints were spaced apart, revealing a fast pace. In the day that had lapsed, no wind had blurred the indications, and it was still possible for us to reconstruct flashes of the endgame. Here behind a mopane tree an elephant paused in apparent distress, kicking up sand, ripping branches. There in the middle of the riverbed, one elephant stood like a shield between her wounded cousin and their unrelenting pursuers. Up on the banks it looked like an elephant tried a mock charge against a truck to scare it off, to no avail.

I visualized the animals' headshakes, their frantic slapping ears, and could easily imagine the screeching before gunshots silenced them. I examined one oval footprint where it had been pressed flat in fine silt powder. The pattern of ridges and veins on the soft, thick sole leaves a mark as unique to each individual beast as a human fingerprint, and these were among her last willful impressions on the earth.

Olifant on the Move: *In a quarter century this pachyderm's populations increased: in South Africa 7,000 to 13,000; Zimbabwe 45,000 to 80,000; Botswana 20,000 to 75,000; Namibia 2,300 to 10,000. Concurrently, rural water tables and sources have diminished.*

Majority and Basson (two Damara locals) and I split up our search in three directions. We walked slowly, following the signs, each of us dragged forth by hunger, resentment or curiosity, respectively. Minutes later I inhaled the cloying smell of drying blood, saw dark stains on the sand, called the others over. Flies swarmed up in the heat. We approached the massive pile of elephant dung, cut from stomachs, with butterflies perched atop to extract moisture from the muck. We found no corpses, but to the north drag

Guzzle, Don't Sip: *Matriarch shows her brood how to drink properly. Populations up; water supplies down. Motive for conflict?*

marks lead to the tracks of a flatbed tow-truck. Dead end.

"I have never eaten elephant," said Majority in a quiet voice as we drove back up the river. "I don't know what it would taste like. But I'm willing to try it if there is any available from what happened."

But what *had* happened? I tried to think with a forensic mind, seeking not to judge 'whodunnit' (which I knew, along with when and where) but to comprehend how and why. Two small-tusked females in their late teens had been shot to death. This alone was no shock; rifles gunned down Africa's elephant population from 10 million in the late 1800s to 1.3 million in 1979, then half that again during the 1980s. I considered the usual suspects: 'Poachers' shoot for ivory; 'hunters' shoot for sport and wall trophies; 'cullers' shoot elephant where enclosed park wardens can't tolerate the untidy pachyderm's concentrated impact. However abhorrent, each death procured profit for its organizers.

Not here. None of those profiles fit this grisly scene. No poachers had been roaming, no hunters unregulated. And rather than cull, Namibia desired its local herds of "desert-adapted" elephant population to multiply and fuel the tourism economy that orbits around them. Yet all that 'good news' to boosters created complications for others. Since this shooting was not premeditated, not economic-imperative, not official government policy, something else was going on. A provocation between man and elephant, falling somewhere between involuntary manslaughter and self-defense.

So what triggered the triggers during the subcontinent's age of post-independent, post-apartheid, post-war photo-tourism? A key clue: After 1979, as many of Central and East Africa's elephants plunged further toward the abyss, southern Africa's pachyderm population rebounded splendidly. Managed as engines for tourist revenue, elephant herds quietly doubled in South Africa, trebled in Botswana, and quadrupled in Namibia. Part of this growth took place on communal and commercial land; for vast stretches outside Etosha Park, from the sea to the Zambezi, no fences restrict movement, concentrate numbers or guide migrations.

Then I focused on more subtle common denominators. First, shootings took place during the peak of a severe drought in which 400,000 human residents (25 percent of the nation) needed food-aid distribution from the country's Emergency Management Unit. That meant that, second, Elephants' daily distances to find 200 kilograms of food and 300 liters of water had widened exponentially, increasing stress. Third, this incident had been touched off with a conflict and 'accidental' wounding at a tribal borehole pump. Fourth, thousands of pumps like that one had, over the last decade, artificially sucked water from underground, then exported and stored it into individual points for human consumption; cumulatively, these lowered the overall natural water table beneath the basin. Fifth, despite vast stretches of land here, human and elephant populations were both expanding, overlapping, reclaiming previously 'unoccupied' space, and competing almost exclusively with each other for finite resources — especially water.

A footnote in a dated sociological survey on the Kunene region mentioned "an increasing conflict between elephant and communal farmers…much of the current elephant problems are due to water development, which may play the unwitting role of attracting elephants. The elephants like clear water." They sure do. Yet that observation came a decade ago. Since then, Kunene's 'desert-adapted' elephant have increased from 200 to 900 toward a goal of 3,000. Human populations have also quadrupled, diverting and pumping millions of cubic meters of water from the ground, damming ephemeral rivers, and drying up springs and aquifers. This one incident would be classified under 'management of problem elephants.' But that word *problem* is itself problematic, and such 'management' is turning out to be neither as rare nor accidental as wildlife enthusiasts, tourism boosters and government officials may like to believe.

The new reality is that elephants and humans are now

The Triggered Trigger: *Exhibit 'A' in a silent, unresolved trial, the headman's .303 rifle may be seen as the only proven tool of self-defense or an assault weapon that ratchets up tensions and future conflict between species.*

both competing to the death for the same finite and scarce water supplies, and there seems neither the will nor any plan to curtail the growth of either species. How darkly poetic that this shooting occurred near a parched settlement named, in Afrikaans, 'Twyfelfontein' or 'unreliable spring.'

* * *

In Namibia two regions, Kunene and Caprivi (see map), have the most frequent, increasing and densely concentrated human vs. free-roaming elephant conflicts over water. Each week such conflicts take two forms: elephants plunder 'people's' water itself at boreholes and storage tanks and/or they gobble up water-intensive subsistence crops. Two perspectives result. The generally 'nonwhite' view from the rural hut historically regards elephant as marauding terrorists who should be jailed inside fenced-off islands as 'the government's cows' to 'let our more valuable cattle and farms expand.' The typically 'white' view from the ecotourism lobby historically sees elephants as 'gentle giants' who seem far more remarkable and beautiful and noble than some of our office co-workers, and who need vast open spaces to interbreed for a healthy gene pool, and whose mere existence generates more foreign exchange as 'wild roaming ambassadors for African tourism' than any living species, man included. Precariously caught in the middle sit Africa's new democracies. Their swing voters — tribal subsistence farmers — could thrive thanks primarily to the last century's slaughter of elephants and ivory sales; yet their current tax revenues depend on bringing elephants back, safe and secure.

Over the months, I interviewed dozens of authorities from both sides, seeking conciliation; innovative approaches had only recently begun to emerge. A keystone involved a creative approach that held potential involved a pilot scheme for what I'll call 'elephant-and-water insurance,' in which the ecotourism lobby helps subsidize the cost of insuring rural water infrastructure, crops, lives and livelihoods. Its sliding scale would be structured in a way that compensated communities who suffered losses or damages despite — and after — taking responsible preventive measures, but their rates would rise with each claim. If monitored by stakeholders or outsiders together, this insurance scheme could ideally create self-regulating pressure and incentives for all parties to learn to live with this landlocked leviathan.

Trouble is, unlike insurance policies in the developed world (which wiped out bothersome behemoths 13,000 years ago), there are no predictive actuarial tables for assessing and dealing with elephants. No molds or models. No precedents. No certainty as to age, gender or behavioral risk, or what 'preventive measures' can work. So to succeed, this pilot scheme will need more than the perspective of black rural farmers and white NGOs and insurance companies. It will need to take into account a third, thirsty perspective. Babar's. Jumbo's. The Elephant Child's. And, um, that titanic tusker up ahead.

* * *

Cowering in the scout's seat perched on the front bumper of a safari vehicle, I was desperately racing to recall 'bush lessons' from last year's game-ranger course

Too Close for Comfort: *Our vehicle accidentally drove between this thirsty, big-nosed galoot and his favorite watering hole. Big mistake.*

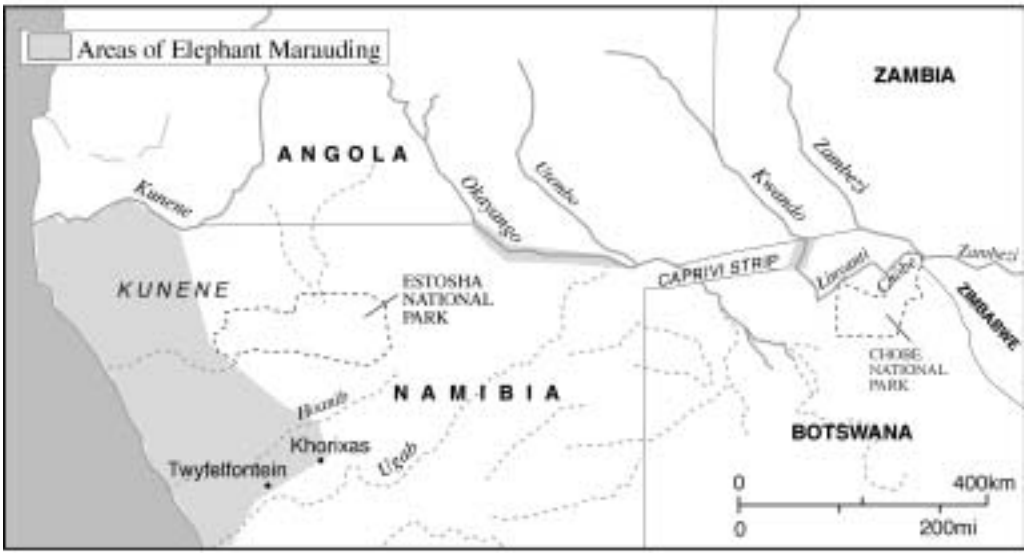
(JGW-4). Let's see: When near water, rhino and buffalo always run away from the water when startled at close range. Threatened hippo and crocodiles always return to water. So which way does an irritated and dehydrated elephant run? The manual didn't say, and the big testy bull we had surprised meters in front of me couldn't make up his mind. His ears flared, he shifted his considerable weight left, right, left. He glanced thirstily toward the river, where he had been headed to drink. He looked away at the safety of the dry bush. Then he glared at us. It was dusk and we had crossed his 'comfort,' 'alert,' and 'warning' zones and were, by my rough calculations, somewhere near his 'critical' zone.

Two minutes passed in silence. I felt mildly confident, knowing that the driver was my former instructor, Bruce Lawson, now guiding, rangering and compiling elephant 'identikits' along the Kwando River in Namibia's Caprivi Strip. He knew elephant behavior better than people. While driving he kept his rifle zipped up in a case, without a single round of ammunition. He did not like to back up, as it might stimulate a charge. Yet even in reverse we could not escape this bull if it charged on its own, threatened by our having interrupted his drinking; the first thing it would flatten would be your trusty correspondent, who, as it happened, wondered how elephants reacted when denied water.

I wouldn't have been the first casualty. In one study along this Kwando segment, locals reported 80-100 cases of elephant damage to crops each year. Several men had been trampled to death in the past two years — a mirror of the elephant deaths I had traced in that Ugab riverbed. Back when we were hunter-gatherers and nomadic pastoralists, we coexisted just fine with elephant, but ever since we cultivated and irrigated agriculture there has been little to no natural affinity between us. For good reason, most elephant steer clear of human settlements, and most humans avoid stumbling too close to feeding and sleeping and breeding elephants. But neither side can go three days without water, creating an intersection where outcomes grow chancy.

An elephant's body language changes conspicuously as it approaches water; the slow, ponderous, loping stroll of feeding suddenly quickens. The trunk, rather than dangling casually, coiling around grass or branches, smells the moisture in the air and reaches forward like a hand extended to an old friend. The legs bounce and swagger, causing ears to flip loosely. Water is to elephant what martini is to man; while drinking you can see it shrug off the pent-up worries of the day, and unwind.

So it would be an understatement to say that elephants love water. They *live* water. They play, spray, guzzle, bubble, splash, squirt, loll, roll, slop, flop, wade and wallow. Water regulates body temperature, and thus mood. It drives them 50 kilometers nonstop through deserts to find a small spring remembered from years



Twisted Trunk: *A drowsy elephant rests his nose on his right tooth at 'Pump Pan' in Chobe Game Reserve. Note impala waiting impatiently in background. Southern African rangers artificially pump water not so much for tourist ease, but to slake the desperately thirsty, crowded elephants and restrain them (without fences) from seeking human-developed water elsewhere.*

before. Superb swimmers, they cross 23-mile wide lakes without missing a stroke, supporting theoretical evolutionary links with whales. Elephant have a high success rate in seeking and finding subterranean water, both in dry riverbeds and out in the open, either smelling water percolating up, or using other senses including — some have suggested — built-in divining rods in the form of their tusks, or a sonar system based on the echoes of their feet as they walk. Elephant apparently also retain a small 'use-only-in-emergency' supply of water that rests somewhere in their throats; they reserve it to spray onto ears (their radiators) or into the mouths of parched infants on the verge of collapse.

I have watched them for hours and hours on end drink at water holes and riverbanks with fascination and wonder. But while spellbound, I couldn't help but notice something. Unlike every other creature at a water hole that sips neatly, alertly, cautiously, quietly and economically, elephants are magnificent slobs. They plunge in and slurp up. Water trickles back out of their trunks, it dribbles and drips from their mouths like leaky faucets, 'wasting' (as one study showed) 13 percent of their water. They miss the target completely when playful, or distracted by the opposite sex. I have seen them doze off while standing ankle deep in water, seeming to forget why they came to the rivers edge.

Even so, they remain finicky drinkers and prefer clear sweet water to that which is the slightest bit muddy or saline. And their growing numbers compound efforts to quench this demanding thirst. Each elephant drinks 100 to 200 times what humans do and 10 to 20 times what a cow does, which means a two-decade expansion of herds from 200 to 3,000 in Kunene, or 2,000 to 10,000 in Caprivi, translates to 600,000 to 2 million liters a day that humans can't use, assuming they can manage to approach the water at all between elephant drinking binges. Even in the Namib, that precious amount has been tolerated as long as water remained distributed naturally and equitably across the subcontinent.

Increasingly, it isn't. In addition to the 'natural' droughts of the past come local 'man-made droughts' caused by diversions, dams, evaporation, over-pumping and depletion. Humans in Africa hoarded water at roughly the scale and pace that they mowed down elephant. Now elephant are all the rage, back in demand by those in power, but the water is no longer there to welcome them home. No species can both vocally and physically complain about *Homo sapiens'* abuse of water, none except *Loxodonta africana*. And it does. That is when the dark side of the elephant's festive, amusing thirst turns ugly, becomes a 'drinking problem.' It's like a bar closing early; martini withdrawal leads to abuse. Approaching "last call" around a favorite watering hole de-

Elbow Room: *Human and elephant species are both fiercely, violently possessive of water. Demographers argue that Africa is in fact underpopulated, that it can accommodate much higher densities of earth's thirstiest land mammal and its most consumptive primate. Perhaps. But as wells dry up, tributaries stop flowing and boreholes fail, the nerves of both species fray. Impatience and intolerance mount, leading to casualties on both on both sides of the species divide.*

mands a very strict hierarchy in who drinks with whom and who gets to go first. Ill-timed eye contact with the wrong thick-necked, long-nosed, big-eared galoot can provoke violent, sometimes lethal fights, like one that raged on for hours near my tent one sleepless night near Tsumkwe.

"As water grows scarce they get stressed, show anger," confirmed Lawson, my instructor/ranger as we watched dozens of elephant rush through hundreds of buffalo and hippo to quench their thirst in the Kwando. The Kwando was full here, and they appeared content. But the river had been drying downstream, where it became the Linyanti and then Chobe; stress there pushed elephant, along with hippo, to migrate north in higher concentrations.

To Shoot or Not to Shoot: *Abraham Gariseb, left, recalls his agonizing night to a sympathetic translator, Jacobus Basson. Was it nobler to suffer the trunks and tusks of outrageous fortune, or take lock, stock and barrel against a sea of troublesome elephants and by opposing, end some?*

"Drought. Yeah, that's when the bulls start fighting," continued Lawson. "They shake heads, look long and hard at the water, seem to sense that it's vanishing and try to calculate their next move. They screech and get impatient. You hear a lot of rumbling. They jostle and shove; you start to see tusk marks on skin. They chase hippos out of the water, and the hippos fight back. Crocs too, snapping trunks. Elephants keep any other creatures away from the hole, at bay, as long as possible. There is a lot more digging, especially in dry riverbeds and valleys. But as the water table drops too deep, out of reach of the young trunks, they start to panic. They get extremely vulnerable, trying to keep the family structure together at all costs, but they have to move long distances, resulting in high infant mortality."

Stressed, anxious, bullying, frustrated, panicky, protective, possessive, infuriated, impatient, scared, tired, weak, hungry and perhaps childless: in this condition elephant leave conservation areas and appear in a human settlement, demanding a drink.

'Majority' Doesn't Rule: *She lacks the means to move or defend her family, food, or water when the dry season comes, as the area's longest 'rulers' swagger into her yard.*

A human settlement like Majority's, who was riding in my passenger seat. Majority, a 19-year-old local Damara-speaker, spent her days fetching water from a distant well and taking it to a dusty hut where she used it to cook, drink, wash and bathe her fatherless infant baby and wifeless elderly father. It would be pleasant to think she might somehow suddenly improve her prospects and escape her rut, but the odds were stacked against her. No money, no education, no skills, no freedom, no mobility. What Majority did have, for better or worse, was elephant. She knew elephants intimately.

Not in the eager way that safari guides, wildlife officials, trophy hunters or conservation scientists do, from the safety and comfort of a 4-by-4 or airplane using high-caliber rifles, darts, genetic DNA samples or radio-collar tracking. No. Majority knew elephants because they arrived at her shack every other day. In the rainy season they just passed through, feeding harmlessly. But in the long dry months, things grew tense, sometimes desperate. Her meager water supply became a regular target. Overseas clients paid $300-per-day each for a chance to stare raptly at such an enchanting creature. Majority scraped by on less than that amount each year, and her respect for the giants is mixed with hunger. She felt ambivalent about the value they might bring her.

Or a settlement like Jacobus Basson's. "I've tried elephant meat, and it tastes very good," said Basson, 36, another unemployed Damara friend I hired to help me track down the story and translate. Twice he had watched elephant knock down his windmill pump, helpless to in-

tervene, helpless to fix it until the government showed up months later. He saw them toss aside rocks meant to deter pachyderms and protect water tanks. Basson, a former teacher, acknowledged that elephant-linked tourist dollars might eventually trickle down to locals. But he grew impatient at waiting, bearing the burden of living with leviathan while watching tourist-serving others (often foreign, white, or in government) skim off the benefits.

"We can't do anything," he said. "Just stay out of their way. It is like tying goats and dogs to the same stake, with water as the rope, and asking them to live together in peace. They, the NGOs and government, they are treating us and the elephants like an experiment. We can't pull the elephant your way, nor can it pull you. And you cannot cut the rope."

"We can't do anything," he said. "Just stay out of their way. It is like tying goats and dogs to the same stake, with water as the rope, and asking them to live together in peace. They, the NGOs and government, they are treating us and the elephants like an experiment. We can't pull the elephant your way, nor can it pull you. And you cannot cut the rope."

Majority and Basson and a dozen other locals all expressed to me the frustration of what they saw as a two-tiered conservation and tourism economy. They want to lash out, unable to put up with the suppression by elephant that has come in the wake of a new democratic government. But they can't. Elephant have grown too important, too valuable — as cultural icons, as ecological keystone species, as emotive mysteries, and as a socio-economic force — to foreigners, to business-people, to donors and NGOS and to democratic Namibian officials. None of these latter doubt elephant are worth more alive than dead: Africa's governments recognize that while ivory used to generate $50 million a year for the continent, elephant tourism brings $200 million for individual nations.

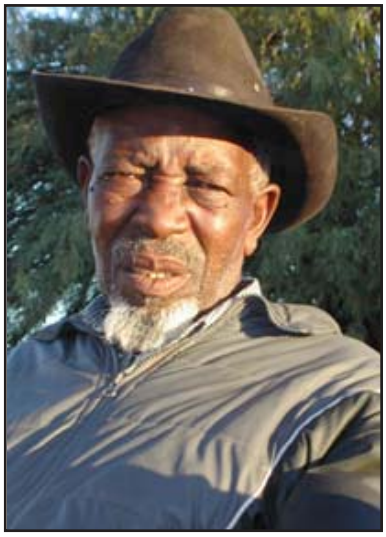
The pachyderm's profit-recognition brought something akin to Rome's conversion to Christianity. The persecuted became the savior. Newly erected fences were dismantled with celebrations rivaling the fall of the Berlin Wall. Decades of culling ended in South Africa's Kruger National Park. Translocation became a growth industry. Post-war Angola and Mozambique can't import elephant fast enough. Contraception was deemed unnecessary. A subcontinental anthem might have an alleluia chorus: *Joyful, joyful, triumphal elephant, carrying us all on its broad back to prosperity!*

Africa's newly converted elephant proselytizers acknowledged that in rural areas, edges of conservation areas and arid pockets, expanding and recovering elephant populations still presented a pest problem for subsistence farmers. But they typically belittled and underestimated the severity of the conflicts and impact until communal-area voters and traditional authorities (tribal chiefs) flexed their muscle and anger and began to demand compensation and rights.

In 1996, Namibia passed progressive legislation giving communal-area dwellers the same constitutional rights over wildlife that white commercial farmers had enjoyed since the 1970s. The creation of 'Conservancies' allowed wildlife-generated benefits to go directly to local communities rather than to regional or national governments. These benefits included campsites, trophy hunting, medicine, safari tours, employment, game harvest, and lodge concessions. The shift took place not only in Namibia, but also in Zimbabwe, Zambia, Botswana, Tanzania and Malawi. It worked best in arid regions. One Kunene conservancy member remarked, 'It was as if we are farming wild animals but instead of getting meat and skins form them, we get the money tourists pay to see them.'

That's the plan, at least, and a good one. But the common thread of such legislation in all these countries was devolution of responsibility for and rights over natural resources to the local users, for the first time. Yet devolution comes often incompletely, or without training wheels, leading to mistrust and paralysis. Also, locals were expected to pay for, and draw benefits from, both boreholes and breeding herds, the two resources that have proven the most notoriously slippery to harness or control, even by full-time trained professionals. Worse, since one resource was finite while the other expanded, rural locals were losing access to the benefits to both. Finally, half-assed devolution of authority conveniently allows the government to shrug off the messy burden of compensation or accountability while still reaping benefits of tourism. At a workshop on Namibia's community-based resource management, I listened as the deputy minister for the environment boast at length of rapid progress under Conservancies. He

Sign of the Times: *Migrating elephant are an increased likelihood on Southern Africa's roads. But whether this caution generates smiles, anticipation, dread or loathing depends on whether the viewer travels by fuel-injection, donkey cart, livestock herd, or foot.*



The Headman's Tale: *Vigilantly protected, secure elephant populations will never stop growing and seeking water. "So," says Abraham Gariseb, "You must tell me. Who now do you think must be forced to leave this area — the elephants or us? My family, my tribe?"*

glossed over stumbling blocks raised by conservancy members: "There is no big problem."

Mid-speech, cell phones went off. Officials rushed out, and word trickled back in. Whispers: there had been a slight problem. A tribal chief reported that he had accidentally shot an elephant that had been splintering his water pump and cracking open his water tank.

What followed was telling. When a black rural African is shot, one local policeman might investigate within a day. When a white man or tourist is shot, police and private security firms investigate within a few hours. But when an elephant is shot, four cars packed with six federal officials from different branches drop what they are doing and race off immediately.

* * *

Over subsequent weeks, as I pieced together the chain reaction and interviewed the makeshift jury, the outcome began to seem not haphazard, but inevitable. At around 10pm, Abraham Gariseb, the local headman in the Sorris Sorris Conservancy, had been sitting quietly inside his home with his family, preparing for bed, when he heard a commotion outside. Donkeys brayed, goats bleated, cattle churned in their pens. Then the dogs joined in. Stepping out back he saw the trespassers in the light of the half moon. Seven of them. Huge, quiet, moving with confidence just beyond the fence, then against it, then through it, splintering the wood and flattening the wire "as if it were a cobweb." They explored the livestock's water trough with their trunks, found it damp but empty, and then grew more agitated. Trunks felt along the pipes, pulling now and then uprooting, and gravitating toward the water reservoir in a 10,000-liter tank.

Gariseb and his family did not go gentle into that good night. They raged. They banged pots. They lit fires and threw burning embers toward the elephant, all in vain. It had been too dry, too long; the beasts were too thirsty. Gariseb had encountered elephant before, but they had never come this close, never entered the fence. Thirsty elephant had recently harassed his neighbor, Theophelus Uirab, a goat farmer. They tore up his diesel pump and cracked his reservoir putting his livelihood at risk in the middle of drought. Uirab said he could do nothing but shout and stand by, hoping the elephant would leave. Eventually they left. Now, weeks later, they had returned here to Gariseb's homestead.

Most rural Africans — Uirab, Majority, Basson etc. — can do nothing in such situations, but Gariseb could. As one elephant rose on its hind legs to lean against his water supply, he went to get his old government-issued, bolt-action .303 rifle. He had received it from the apartheid regime as a gift in 1967 as a government gesture of solidarity with tribal authorities. Back then they prescribed it ostensibly as self-defense, for him to protect his family and his neighbors from thieves, and their livestock from lions and leopards. There were no elephant at that time (they had fallen to soldiers). But if this was not self-defense, Gariseb felt, nothing was. After hours of trying to chase off the thirsty elephant he claimed he fired

Work of a Water Vandal: *Elephants bashed this diesel pump that brought water up from where they can no longer reach it, and nearby tanks that stored it. They are not angry, mean or malicious, just terribly, terribly thirsty.*

End of the Game: *Dried blood, undigested dung from the stomach, and drag marks were among the spoor at the grisly scene of the…what? Crime? Management? Solution? Accident? Showdown?*

above and around the herd. One shot. Crack! Then two more. The herd broke up and gradually dispersed. He told me he was aiming high, but the next morning he found blood along the trail of two elephant. He contacted the wildlife officials, who arrived a day later and camped out nearby, not speaking to him, before they took up the trail of the wounded elephant.

"They did not even come and say good morning," he told me. "In fact, you are the first person who has approached me to ask me my side of the story. Please tell me, what happened next? And what will happen to me?"

Wildlife officials debated for several days what to do. Transplanted American biologist Betsy Fox, preaching tolerance, urged them to try to let the elephant heal on her own. "Elephants should come and drink in peace," she told me, "but people get afraid, they get defensive. People take over springs and boreholes and pump water up. And whenever we in conservation install a dam exclusively for elephants, people move in there with their cattle and take it over. Where springs used to be it is dry; where it used to be too dry, now there are these artificial water sources. Where else are the elephant going to go?"

She was overruled. The wounded elephant was deemed a 'problem animal,' a potential threat and menace to society. The Minister of Environment and Tourism himself gave the go-ahead to shoot her, judged guilty, aggressive and endangering other people.

When the officials went out to shoot the wounded elephant in the dry riverbed, however, they found her attended by another female, protecting her. She would not leave her cousin's side, loyal to the end, and when one official impatiently tried to fire a shot off at the first, he accidentally wounded the second. Then both had to be destroyed. "These accidents happen," the regional director would explain to me.

Later, the officials carved up and distributed the elephant meat, but not at the site of the local village. Majority received none. It was given out to people in the nearest small but rapidly expanding (and politically important) city in the region, Khorixas. Khorixas was located on the upstream reaches of the ephemeral rivers. For a decade it had been sucking up and, through leaky pipes, wasting more water than any city in Namibia. It was, I would argue, the primary reason water tables here were dropping, increasing the downstream water stress on the Hoanib and Ugab, forcing the elephant to seek water points elsewhere. Unsurprisingly, it has not paid its water bills for years.

The officials were admirably candid with me in discussing the elephant-human conflicts over water. Some spoke of a Game Products Trust Fund, a precursor of the 'elephant insurance' pilot. GPTF was set up to turn a por-

Return to the Earth: *This recent, vulture-infested corpse was actually an encouraging sight. Though young, it apparently was not killed by man but rather by some naturally occurring disease, its ivory tusks still intact. Elephants mourn their dead kin, sometimes tossing dirt over the body, scattering bones, or return to linger with the trunk passing over the surface. But even then the ivory presents a political risk. And natural death still leaves a 7-10 percent growth rate with nothing to check it besides drought.*

tion of the sale of natural resources into compensation and training. That included proceeds from the legal but divisive sale of ivory, like 12,000 kilograms sold to Japan in 1999. Of 39,000 kilograms of stockpiled ivory, a fifth comes from natural collection or 'management-related causes.' When I asked an official what happened to the two elephants' tusks, he grew testy. "Now you go too far! Too far!"

I backed off the most controversial wildlife conservation debate in Africa, if not the world. I can't get into the ethics and economics of ivory, other than to whisper the dirty little secret that it is no longer the principal threat to elephant survival in southern Africa. Some say it never was. So what threat eclipsed it? Water scarcity. And will that threat grow in the century ahead?

Undoubtedly. Charles Darwin delighted in the natural selection that shaped the African elephant for all environments, and estimated that, despite slow (22 month gestation) breeding rates, they were equipped to expand from two to 15 million in five hundred years. Little could stop them then, or now. Humans and lions might have preyed on some elephants throughout history. Disease took others. But the only real and constantly pressing mechanism that has kept elephant numbers in check, according to modern studies of their ecology and behavior, has been access to water. Apparently now even ivory-poaching frenzies are seen in retrospect as only a by-product of the real massive die-offs and displacements that occur, and have occurred throughout history, in times of natural or man-made drought.

Grasping this has implications for Southern Africa beyond wildlife agencies. Rather than continue to raise and spend hundreds of millions of dollars in the so-far fruitless 'command and control' of ivory trade, perhaps more could be devoted toward the strategic, coordinated command and control, or democratic incentives, of water.

* * *

When I finished telling him what happened to the two elephants, the headman, Gariseb, nodded, as if he had known this already. He said he felt bad because he didn't intend to kill the elephant. It saddened him that his wounding led to the death of both it and another. "I wounded it in darkness. But the wildlife people…in broad daylight?!"

He grew silent. We spoke of the irony how two innocent animals, which had stood in the background, had died while the true aggressive vandals still roamed at large. Then he took me to his neighbors, who learned of his story and vented their own frustrations in solidarity.

Finally, as the sun began to set, he took me to an experimental area, a large, ten-hectare plot of land where the locals could use a solar pump to draw water up from the ground. They could grow gardens. Feed themselves. Sell surplus wateron the commercial market. They could do all this in complete safety, secure in the knowledge that no thirsty, hungry elephant could come and take what was theirs, what their sweat produced. It was hailed as a successful approach by the government, the locals and the NGOs and donors who sponsored it. It was the first sign of hope I had seen in days. But it came with a catch. Enclosing these communal gardens, and a few huts, was a large electrical, elephant-proof fence, courtesy of the Namibian Nature Foundation.

When I first arrived in Africa I was excited at the conservation proposals that allowed wandering elephants to roam unhindered by fences. This held open the possibility of reversing the anthropocentric tide of exploitation. Rather than islands of biodiversity in a sea of our monoculture development, I envisioned islands of civilization surrounded by the wild. Four years later, here it was. Pliocene Park. And it disturbed me. It seemed that inside Africa's reinforced electrified fences we — the 'developed' world — had begun to substitute one undomesticated species for another.

* * *

Before I dropped Majority off at her home, she said something that lingers in my mind. Yes, she would have liked to try elephant meat. She needed the protein, and nutrition, and her child and father did too. They would grow weak without some kind of meat, and if the only meat available were elephant, well, she would devour it to survive.

After translating this, Basson agreed. "In times of famine, you acquire the taste. For this reason some people even still eat baboon. That's why we would eat elephant."

"But I wouldn't like to do it," Majority added.

"Why not?" I asked.

"Because the elephant is the closest to us in nature of all creatures. They are like our own kind. It would be like eating people."

Scientists have begun confirming exactly that connection. By several measurements, elephant are among the nearest creature to humans — beyond DNA, they ap-

Witness for the Defense: *Unarmed Theophelus Uirab, the nearest neighbor within 10 miles, has more sympathy for fellow goat farmers than untidy pachyderms. They have visited him often and left only mid-drought ruin in their wake.*

Inside Out, Outside In: *Forget Jurassic Park. The dramatic tension act stands not between humans and dinosaurs, but humans and the insatiable prehistoric giants who still roam the earth. Electric fences that once locked elephants in now protect rural farmers' (like Gariseb) water inside, and lock elephants (like the ones that visited him) out.*

pear even closer than gorillas or chimpanzees. Their brain grows the most in capacity from birth, after humans (from 15 percent human, 25 percent elephant, 45 percent chimpanzee) but in scent capacity and memory they surpass humans. They display moods, and cooperate; they recognize themselves in the mirror and even display vanity, which is eerily close to what had seemed 'uniquely human' self-consciousness. Elephants communicate at a subsonic level across great distances. Like humans, they acknowledge death and pay respects to the dead. Like humans, their females live well past fecundity in order to pass down lifelong wisdom through the clan. In this way they learn not just from their own lives, but from their ancestors. They also like the best, sweetest water, and enjoy eating the same water-intensive fruits and vegetables that we do. In vast quantities.

Elephant made it harder for me to laugh at all animal-rights activists' crusades. It was possible that elephant can learn to adapt to humans just as we could adapt to them. But that prospect remained in the long term. For now, the locals were restless.

Before I left, the headman, Abraham Gariseb, turned to me. "So we cannot both share the same place, it seems." Then he asked, not at all belligerently, but with genuine curiosity. "You must tell me. Who now do you think must be forced to leave this area — the elephants or us? My family, my tribe?"

I told him I still believed there is room for both, but I could not answer definitively, or tell him what to do. I was here voluntarily. I could return to a continent that wiped out all non-human water competitors 16,000 years ago. I hoped he and his countrymen didn't follow our lead, but rather pursued a home-grown course of pragmatic, long-term, incentive-based tolerance for thirst.

There were hopeful signs that they were doing just that. Monitoring. Pilot insurance schemes. Buffer zones. Community Game Guards. Training workshops. Building alternative water points exclusively for elephants and not for humans or livestock. Better communication with neighbors. Even electric fencing — ideally temporary and movable — could help ease the drought-induced tensions and potential conflicts over water. Indeed, perhaps elephant might prove not to be 'problems' after all, but advantages that the developed world lacks. We had no 'early warning' species to remind us when and where we overexploited water. By reserving enough water for elephants, Southern Africa may reserve enough water for people as well.

* * *

Many weeks after my depressing investigation of the human-elephant conflict in the dry Ugab Riverbed, I encamped at a local farm and hand-dug copper mine in the upper reaches of the Hoanib, an ephemeral river to the

African Gothic: *Despite differences in culture, headman Gariseb, a Damara, married his wife, a Herero. On Southern Africa's rural conservancies, all tribes are uniting against, yet trying to marry their futures with, the elephant.*

north of Kunene. It was a quiet, moonless night, with one of those skies that made me realize how much cities and suburbs must sacrifice as a price for their streetlights. The fire's sparks rose up to join stars. Then the dog started barking fiercely and could not be silenced by his master, Marius. A minute later Marius rushed over from his house to my tent and hissed, "Come quickly!"

Without a word I followed him to the edge of his yard, which was surrounded by chicken-wire fence to keep his goats inside. On the other side browsed a solitary elephant, a male. He paid no attention to the dog, or our light, as his trunk pulled down branch after branch, stripping them in his mouth. He was calm, but I was in shock, ready to bolt, and seeing nothing to run behind should he plow through. For some reason an elephant seems different, almost even menacing, at night, especially outside a protected area, when you are both on foot, casting uneven shadows. It feels alarming when the animal approaches you out of the night, defining his terms and comfort zone, rather than you motoring up to him on yours. We watched as the elephant calmly pulled leaves off the mopane, then moved on to the next, then, minutes later, moved off out of the range of our lantern or flashlight. "This is the first elephant I've had in the 18 years I've been here," whispered an equally awe-struck Marius. Then, as a worrying afterthought: "I wonder if he hit my water tanks up the hill." In this case, he hadn't.

In the morning, driving out, I came across his tracks. The space between feet indicated he ambled at a slow, relaxed, pace. He left me a few signature calling cards on the dirt path, still warm, moist and well digested. Part of me wanted to see him moving in daylight, demystified. But he remains locked in that night vision, wild and keeping me properly uneasy. I smiled as his tracks moved off to the barren, sparsely populated and untamable north, heading for open space and fresh-water sources that perhaps only he knew about. My introduction to inter-species conflict over water looked like a dead-end, but the denouement for this one remains open, awaiting words and actions that must be jointly written by Africa's two most dynamic, intelligent, and thirsty species.❑

Thirsty Tusker: *You rarely see teeth (which never stop growing) this big today. But there's hope the next generation will. When describing or discussing livestock or other wild animals, Africans refer to 'it' and use the pronoun 'that' or 'which.' With elephant they tend to slip and say 'he' or 'her' and the pronoun 'who.'*

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 St., Hanover, NH 03755. The letters are provided free of charge to members of ICWA and are available to libraries and professional researchers by subscription.

Phone: (603) 643-5548
E-Mail: ICWA@valley.net
Fax: (603) 643-9599
Web Site: www.icwa.org

Author: Workman, James G
Title: ICWA Letters - Sub-Saharan Africa
ISSN: 1083-429X
Imprint: Institute of Current World Affairs, Hanover, NH
Material Type: Serial
Language: English
Frequency: Monthly
Other Regions: East Asia; South Asia; Mideast/North Africa; Europe/Russia;The Americas

Institute Fellows are chosen on the basis of character, previous experience and promise. They are young professionals funded to spend a minimum of two years carrying out self-designed programs of study and writing outside the United States. The Fellows are required to report their findings and experiences from the field once a month. They can write on any subject, as formally or informally as they wish. The result is a unique form of reporting, analysis and periodic assessment of international events and issues.