SPECIAL ISSUE: AFRICA
VOLUME 22 NUMBER 2 JUNE 2004

PERC REPORTS

PROPERTY AND ENVIRONMENT RESEARCH CENTER

PERC REPORTS

VOLUME 22 NO. 2 JUNE 2004

PERC
Property and Environment Research Center
2048 Analysis Drive, Suite A
Bozeman, Montana 59718-6829
Ph: (406) 587-9591 Fax:(406) 586-7555
perc@perc.org www.perc.org

PERC Reports

Editor
Jane S. Shaw

Associate Editor
Linda E. Platts

Production Manager
Dianna L. Rienhart

Art Director
Mandy-Scott Bachelier

ISSN 1095-3779.

Cover Image: Africa c. 1618 (detail); renowned map by Willem Baleu; courtesy of The Map House/Digital Vision, Ltd.

FROM THE EDITOR

AFRICA'S EXAMPLE





From top: Child and son, Singleton, Mwangi, Brough, and Kimenyi.

Many North Americans have trouble grasping how private property rights encourage environmental protection. To see this process at work, they need only take a look at Africa. Over the past two decades, the continent has experienced a resurgence of property rights in wildlife. As a result, the numbers of wild animals such as elephants, buffalo, and leopards have rebounded from sometimes dangerously low levels.

Setting the pace has been the CAMPFIRE program, which started in Zimbabwe and has expanded to Zambia. (CAMPFIRE stands for Communal Area Management For Indigenous Resources.) In this issue, one of the program's chief architects, Brian Child, gives its definitive history.

CAMPFIRE has become world-famous because it changed the incentives of communal villagers. Wild animals were previously viewed as hated intruders; but today they are a valued resource. Child also offers up-to-date information on how the program has withstood the political turmoil and land invasions in Zimbabwe.

Although PERC has reported on the CAMPFIRE program for many years, it was only last September that we learned from Brian Child that a small book by PERC associates, published in 1983, helped inspire its design. We are truly proud.

Also in this issue, Terry Anderson, PERC's executive director, compares wildlife management in Africa to the United States—making it clear that we can learn a lot from Africa's experiences. Elizabeth Singleton, a policy officer with the Sand County Foundation's program for community-based wildlife management in Tanzania, discusses the obstacles to a CAMPFIRE-like program, but also how a few communities are overcoming them.

Not all property rights stories have happy endings. Esther Mwangi studied the efforts to turn Maasai communal land into private, titled parcels in Kenya. The goal was accomplished, but questions of equity were not resolved. Wayne T. Brough and Mwangi S. Kimenyi focus on the arid and poverty-stricken Sahel region, exploring how the weakening of traditional customs, including customary property rights, has contributed to the region's poverty.

Finally, Linda Platts' popular Greener Pastures column appears in this issue, featuring stories from South Africa. Daniel K. Benjamin's Tangents column will return in our next issue.

Jane S. Shaw

BUILDING THE CAMPFIRE PARADIGM

Previously, wildlife was hugely undervalued. Landholders were not permitted to use wildlife commercially, so they gave free hunting to friends, while the state provided cheap hunting almost as a social service. Without value to landholders, wildlife disappeared.

Helping Villagers Protect African Wildlife

By Brian Child

www.photostogo.com

My father, Graham Child, was a pioneer conservationist, and to him I owe my desire to conserve healthy, interesting ecosystems. As the director of Zimbabwe's wildlife agency, he championed legislation that began a revolution in conservation and land use in southern Africa. Recognizing that state control of wildlife was leading landholders to replace it with livestock and agriculture, he initiated the process of devolving use rights to private landholders in 1975. This caused a massive increase in wildlife numbers and species, as landholders developed hunting and tourism enterprises.

Although he set in place the legislation to do so, my father failed to achieve the same on communal lands only because of the racial politics of the time. He passed this baton on to me.

At the time, the landscape was dominated—and often degraded—by cattle, which were supported by massive subsidies. My father and I both believed that Africa's indigenous fauna had ecological and economical benefits over cattle monocultures, but wildlife was hugely undervalued. Landholders were still not permitted to use wildlife commercially, so they gave free hunting to friends, while the state provided cheap hunting almost as a social service. Without value to landholders, wildlife disappeared.

After landholders became effective owners of wildlife on their property, the true value of wildlife began to emerge.

Leveling the Playing Field

In the early 1980s, the wildlife department set about leveling the playing field between wildlife and livestock ranching. Against much opposition from the powerful hunting lobby, Child senior began to raise the government-set hunting prices. Soon, bids and auctions completely replaced administrative pricing and allocation by lottery, and the constant lobbying of government officials by hunters and outfitters was replaced by the cooperative forces of the marketplace.

To make wildlife more competitive, wildlife officials (I was one) removed all monitoring or regulatory requirements that did not add value, such as government-ap-

Courtesy of Brian Child

Under the CAMPFIRE program, each member of Chikwarakwara Village was entitled to $200 from hunting, a significant sum in the late 1980s.

proved quotas or permits. We encouraged all uses of wildlife, provided they were humane, and lobbied to remove policies that disadvantaged wildlife. We legally empowered communities of private landholders to control any abuse of wildlife (and other natural resources) by their member individuals. This meant that most problems were solved socially rather than bureaucratically.

Politically, it was difficult to attack the millions of dollars of free veterinary and marketing services provided to ranchers by the national government. But we argued that cattle ranching was unprofitable and ecologically destructive. We opposed the costs and environmental consequences of spraying against the tsetse fly, opposed the elimination of buffalo (which, on weak scientific evidence, was said to transmit foot-and-mouth disease to cattle), and opposed subsidies for the export of beef.

By the 1990s wildlife was ecologically, financially, and economically more viable than livestock, according to academic research, including my own. This information convinced many landholders to add wildlife enterprises or to switch completely to wildlife. In the end, wildlife enterprises enabled many former cattle ranchers to stay on the land.

Working with Communal Lands

The proliferation of wildlife on private land due to these changes strengthened our conviction that communal lands could benefit from changes in economic signals, too. Most land in Africa is inhabited by villagers living under a system of communal tenure where in effect the state still owns the land.

These areas often had better wildlife to start with, but with the increase in human populations and poaching and the fact that people were not legally allowed to manage their wildlife, wild animals had declined in numbers. We were excited by the property rights literature, not least by Richard Stroup and John Baden's *Natural Resources: Bureaucratic Myths and Environmental Management.* Norman Reynold, a colleague in the Ministry of Economic Development, also stimulated our thinking with the concept of village companies. Rowan Martin, master of acronyms, formally pulled these ideas together and named them the Communal Areas Management Programme for Indigenous Resources, and thus was CAMPFIRE formally born.

At the time I was the wildlife official responsible for working with private landholders, but increasingly I camped out "across the fence" talking to rural villagers. Several aid workers, academics, and conservationists could foresee the powerful political, economic and conservation consequences of giving ordinary Africans control over wildlife and a source of their own money. We formed the

CAMPFIRE Collaborative Group, a small group of innovative, dedicated people who began fighting for the rights of rural people to benefit from the wildlife that surrounded them.

My personal insight was that if wildlife provided only public benefits, no matter how many schools and clinics were built this would never achieve conservation. It was how wildlife affected the money in their pockets that would ultimately determine how individual farmers viewed wildlife. At the same time, I also realized that every single person in a village affected the way land was used, and every one of them would need to participate in the benefit and decision streams.

Around the campfire and talking to villagers in remote parts of the Beitbridge district in southern Zimbabwe, I worked out the details for translating theory into practice with four highly motivated community leaders. Our ideas faced considerable opposition from the authorities and even from non-governmental organizations (NGOs). The government and the NGOs were content to spend revenues on behalf of communities rather than allow the communities to spend revenues themselves.

Economically speaking, we converted wildlife into a private good, shifting the power to make decisions from the center (the capital city or district headquarters) to ordinary people. This was no small achievement.

Outfitters were sold hunting concessions on community land. They paid the community all fees for elephant, buffalo, and other animals that were shot. At the end of the season, this money was allocated to the villages in whose areas the game was shot. The critical revenue distribution process, briefly, was as follows.

Representing the wildlife department, I insisted that decisions were made locally and democratically and that the process was transparent, thus avoiding the common problem of what we call "elite capture." First, we provided a list of all animals shot by the international hunters in each village area, noting how much they were worth. The value of wildlife elicited deep surprise among villagers who had never until then received anything legally from wildlife.

Next, we defined the community responsible for the hunting area. With 150 households in Chikwarakwara Village, where we made the initial breakthrough, we announced that each member was entitled to $200 from hunting, then a significant sum.

We emphasized that revenue from wildlife should be treated in exactly the same manner as that from livestock or crops and that each household was entitled to take its share as cash. The community sat down for two days to debate how to use their money, and decided to invest in a grinding mill, provide funds to a school, and retain almost half as cash.

A ceremony was then called at which $60,000 was carried into a public meeting of the whole village. With much fanfare, music, and dance, it was placed in prominent view on a table. To signify their right to choose, each member came forward and received his or her full share in cash. Then, as they had agreed communally, the members put money into buckets signifying the projects they had chosen and pocketed the remaining cash.

So powerful was the process that within a year it had spread across the country, aided by photographs and other promotional material. District and community leaders were animated by the scope they saw for rural empowerment. They recognized that if wildlife populations and income were to grow, private incentives were essential.

Within three years—much against the bureaucratic impulse—some 73 percent of revenues were reaching the community level. CAMPFIRE became famous because of this. Human nature being what it is, however, some districts deliberately monopolized wildlife revenues, and not all communities received their due share.

CAMPFIRE's Achievements

The community revenue distribution, our first innovation, provided direct tangible benefits to individuals. Our second powerful innovation was to help communities bargain directly with hunting or tourism outfitters. Ivan Bond, a colleague from the

Worldwide Fund for Nature, and I advised communities on pricing and negotiation skills.

The results surprised even us. Communities proved highly adept at bargaining—and wildlife prices immediately doubled. The villagers' increased skill, and the fact that they were selling "their" wildlife, completely changed their relationship with outfitters, who formerly had dealt only with government officials in Harare.

The third critical innovation was ensuring that communities, not outsiders, set quotas for the number of animals that could be taken each season. Communities gathered together and charted data such as trends in trophy quality, wildlife populations, and the relative prices of wildlife in different uses. (Many were astounded that Westerners would pay for horns twenty times what the meat was worth, and yet outfitters could still deliver the majority of the carcass to the community.)

The data allowed villagers to adjust their quotas for elephant and buffalo, lion, leopard, antelope, and zebra and allocate them to the uses they valued most. Given the shortage of cash, trophy hunting usually won out. The quotas enabled the community to know what money to expect. This helped them to budget and to hold outfitters and district officials more accountable for making sure the money got back to them. With time, communities began to invest in their wildlife, employing game guards, managing fire, counting animals, and fencing crops or homesteads to reduce human-wildlife conflict.

Departure and Return

I spent six intensive years working in this invigorating environment. But eventually, patronage and racial politics within the wildlife department tore apart what had been a world-leading organization. I left to implement a similar program in the Luangwa Valley in Zambia. There, equally impressive results validated what had come to be known as the CAMPFIRE principles.

Eight years later, in 2003, I returned to evaluate CAMPFIRE in Zimbabwe. I did this with some trepidation, given the political uncertainty of Zimbabwe and its land invasions. I saw that the central institutions had all but collapsed in function and, fueled by vast amounts of donor money especially from the U.S. Agency for International Development, had become bloated in form. A few champions, however, labored on.

What I found was not as bad as I had expected. Almost half the money generated from the sale of wildlife was still getting to the communities, albeit this was down from about three-quarters in previous years. What really inspired me was how robust the system was at the village level. Communities were still meeting to allocate money, doing projects, setting quotas, and managing their wildlife.

The long-term results of CAMPFIRE spoke for themselves, and hinted at what could be achieved if central authority truly embraced the principles of devolution. Between 1990 and 2003, the population of elephants on communal lands doubled, even though human population doubled at the same time. Other wildlife increased fifty percent, and trophy size was maintained. The greatly increased revenues meant that land that would have been settled or cultivated was protected for wildlife. At the community level, the democratic process was usually strong. Villagers were fighting hard to maintain honest relationships with reliable operators rather than accept the corrupt arrangements that politicians were trying to foist on them.

CAMPFIRE and its related community wildlife programs provide a rare, even unique, glimpse of the power of village-level fiscal devolution in Africa. This offers a view of the rapid development that can occur when rights to land and resources are vested in individuals and communities.

Brian Child spent twelve years working for Zimbabwe's Department of National Parks and Wildlife Management and is now helping the Zambia Wildlife Authority restore its national parks. He can be reached at bchild@zamnet.zm.

MY LOVE AFFAIR WITH AFRICA

In Africa I never wonder whether I will see abundant amounts of game or birds. I never worry whether someone else will blunder into my hunting territory and spoil my stalk. I see few signs of modern life other than the lodge where I stay.

Passion and Property Rights

Terry L. Anderson

My love affair with Africa started in 1992. Before that I only dreamed of Africa or wrote about it in books and articles. In 1992, I was invited to give a week-long lecture tour in South Africa on water markets. I seized the opportunity to add on two weeks of touring with my wife, Janet. On that trip we archery-hunted, canoed the Zambezi with its crocs and hippos, and toured Victoria Falls. Since then, I have been hooked, returning eight times and looking forward to many more visits.


Courtesy of Terry Anderson

Why my passion for Africa? Anyone who knows how much I love archery hunting will know that this is a driving force. Trophies killed with a bow include everything from a warthog to a kudu to a Cape buffalo. The adrenaline rush after waiting for the right animal to cautiously approach the water hole where you have been sitting in a blind for eight hours or after stalking within 30 yards of a Cape buffalo is indescribable.

I also hunt in North America, but the African experience is different. In Africa I never wonder whether I will see abundant amounts of game or birds. I never worry whether someone else will blunder into my hunting territory and spoil my stalk. I see few signs of modern life other than the lodge where I stay.

The reasons for the differences can be captured in two words—property rights. Although property rights in Africa are generally more tenuous than in the United States, property rights to wildlands and wildlife, especially in southern Africa, are strong. In South Africa, for example, once private land is game-fenced (that is, enclosed by 10-foot-high fences with 12 strands of high-tensile wire), the animals within the fence are the property of the landowners. Hence, landowners have an incentive to manage the wild animals as they might their cattle, paying close attention to carrying capacity, habitat, and water. This stands in sharp contrast to the United States where landowners cannot capture the benefits of wildlife and consider it more of a nuisance than an asset.

Even where African animals are not privately owned, hunting and tourism concessions are secure enough to give owners an incentive to capitalize on wildlife values. George Hughes, former chief executive of the Natal Parks Board in South Africa, has described how the parks board evolved from a “traditional nature conservation organization . . . to a modern body dedicated to making biodiversity relevant to all sectors of society" (Hughes 2001, 40). Parks in Natal earn revenues from selling their rare white rhinoceros to other parks, from ecotourism, and from hunting. In the words of free market environmentalism, "if it pays, it stays."

Contrast national park management in southern Africa and in the United States. In researching an upcoming trip to Marakele National Park, I found the South Africa National Parks (SANParks) Web site, which documented a contractual agreement with a neighboring land. The neighboring area was former ranchland undergoing rehabilitation, with the goal of providing wildlife lodges. Although SANParks guests would not be able to enter the contractual area, the site notes that "the real benefits lie in the biodiversity benefits from being part of a larger conservation area" (SANParks 2004).

Terry Anderson

In contrast, private lands within or on the border of federal lands in the United States are considered a problem rather than an opportunity. For example, the Mantle Ranch is a private holding within the borders of Dinosaur National Monument in Colorado that has been a working cattle operation for four generations. In congressional testimony, rancher Renée Daniels-Mantle (2001) noted that "not only does the ranch possess incredible beauty, it boasts one of the largest collections of privately owned petroglyphs in the United States." Although the Mantle family has protected the range for cattle, wildlife, and the historic assets, the park service is trying to regulate it out of existence and periodically threatens to condemn it.

Property rights are not always secure in southern Africa, however. President Robert Mugabe's tyranny in Zimbabwe, which has destroyed the country's economy, is also destroying its wildlife assets. On the private Bubiana Conservancy, 20,000 trees have been felled, 22 buildings razed, staff assaulted, and 50 percent of the wildlife killed. Twenty-seven ranches in one region reported 2,761 animals killed and 26,292 snares collected. The value of animals lost is put at $1.5 million. Civil wars in Mozambique, Rwanda, and Angola have had similar results.

In a recently published book from the Hoover Institution, PERC Julian Simon Fellow Seth Norton (2004) documents the importance of secure property rights and the rule of law to environmental quality. He finds that countries with stable legal and economic institutions are more likely to have less poverty, cleaner water, and less deforestation. My experiences in Africa show that private ownership and a focus on rewarding good stewardship are the key to protecting wildlife habitat and wildlife populations. Policy makers in the United States would be well-served to take a page from southern African institutions.

REFERENCES

Daniels-Mantle, Renée. 2001. Testimony, House Resources Committee, U.S. Capitol, Washington, D.C. June 20. Available: www.landrights.org/OCS/HR701_Daniels_Mantle.htm.

Hughes, George. 2001. The Natal Parks Board Experience in South Africa. In *The Politics and Economics of Park Management*, ed. Terry L. Anderson and Alexander James. Rowman & Littlefield Publishers, 31–41.

Norton, Seth. 2004. Population Growth, Economic Freedom, and the Rule of Law. In *You Have to Admit It's Getting Better*, ed. Terry L. Anderson. Stanford, CA: Hoover Institution, 143–72.

SANParks. 2004. Marakele National Park. Online: www.parks-sa.co.za/frames.asp?mainurl=parks/national_parks.html

Terry L. Anderson is executive director of PERC and a senior fellow at the Hoover Institution.

OVERCOMING GOVERNMENT OBSTACLES

Although over 25 percent of Tanzania's land area is set aside as parks and reserves, wildlife moves in and out of these areas during seasonal migrations, so it is difficult to safeguard whole ecosystems adequately by relying solely on protected sites.

Some Tanzanian Communities Manage Wildlife

By Elizabeth Singleton

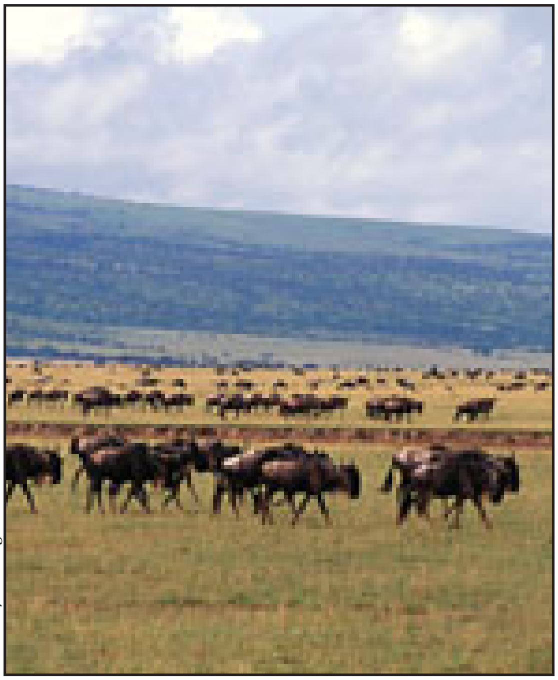

Terry Anderson

Tanzania possesses some of the most spectacular wildlife populations in the world, as well as internationally renowned habitats such as the Serengeti and Mount Kilimanjaro. Although over 25 percent of Tanzania's land area is set aside as parks and reserves, wildlife moves in and out of these areas during seasonal migrations, so it is difficult to safeguard whole ecosystems adequately by relying solely on protected sites.

Yet Tanzania's conservation system, a legacy of the colonial period's centralized command-and-control, does not provide incentives for rural landowners to protect wildlife on their land. Partly due to this lack of incentives, wildlife outside of parks is declining in some critical habitats. Recent estimates place the ungulate population of Tarangire National Park at approximately 60 percent of what it was a decade ago.[1] Such declines represent a serious threat to Tanzania's wildlife resource, which makes significant contributions to national income and government revenue through tourism, as well as providing food for much of the rural population.

Besides overreliance on protected areas, Tanzania's conservation efforts lack collaboration between government sectors, and, most importantly, do not engage rural communities to help protect animals as they move from place to place. Wildlife is more of a burden to rural people in Tanzania than the bounty it can potentially be. Wild animals often destroy crops and make daily chores such as fetching water and firewood risky.

Wildlife outside of national parks falls under the jurisdiction of the 1974 Wildlife Conservation Act, which vests the power to control this wildlife in the hands of the Director of Wildlife. The director holds all the cards when it comes to utilizing wildlife in Tanzania. The director approves hunting blocks (areas of land leased for tourist hunting), issues



www.photostogo.com

Wildebeests migrate near Serengeti National Park. Opportunities are emerging for Tanzanian communities to earn income from wildlife through tourism.

regulations for wildlife management, and must approve any type of wildlife utilization outside national parks, including photographic tourism.

Currently, the central government captures the vast majority of benefits from wildlife and invests little of that into either village welfare or conservation. Village lands often overlap with hunting blocks, but communities are given no control over hunting on their land and receive paltry benefits. Only 25 percent of hunting fees are retained by the district government; the rest goes to the central treasury. Of the 25 percent retained by the district, very little reaches individual communities, which are often in dire need of basic services, such as schools, potable water, and basic medicines.

None of the three primary ways in which wildlife is used—photographic tourism, tourist hunting, and resident hunting—provides significant benefits to communities when conducted under government approval. Even hunting under the resident hunting system is prohibitively expensive to the average rural villager because it requires costly modern weapons. Thus many villagers are effectively barred from legally using wildlife as a source of protein.

Such centralized control contradicts Tanzania's Wildlife Policy, issued in 1998, which advocates devolution of control over wildlife resources outside protected areas. The avowed goal is to engage communities in conservation and to empower them by giving them user rights to wildlife and management opportunities and responsibilities.

Despite this impasse, some important opportunities are emerging for communities to benefit from wildlife through tourism. Some villages have entered into contracts with safari companies and are earning from $5,000 to more than $50,000 annually.

Ololosokwan village in Ngorongoro District earned $55,000 in the 2002–2003 tourist season from photographic tourism ventures on village land, marking a new high in earnings over the past few years. This village borders Serengeti National Park and Kenya's Maasai Mara, and thus is a critical dispersal area for wildlife, as well as part of the yearly wildebeest migration route. Although the companies operating in this area do not have government approval for their activities, they are making significant financial and infrastructure contributions to the village (such as financing a clinic). In turn, the village has dedicated a large portion of its land to shared use by wildlife and cattle. The village also helps support four village game scouts, who monitor the use of this area.

Ololosokwan provides an example of community-based wildlife management generating win-win situations. The villages clearly benefit from the financial and infrastructure inputs, but they also benefit by securing areas that can be used for grazing and conservation, and they increase their knowledge through interactions with outfitting companies and non-governmental organizations. The companies gain exquisite wildlife viewing and wilderness camping in a unique area. The government gains the protection of a national resource, as well as a share of revenues from increased tourism. And lastly, the wildlife gains protected habitat.

The success of Ololosokwan reflects its wealth of resources, astute village government, and firm knowledge of villagers' land rights. Not every village in Tanzania has similar resources, skills, or knowledge. Before these methods can truly be put to the test across Tanzania, communities must be given user rights to wildlife, have clear title to their land, and develop their management capacity. At that point, rural communities can start using these resources without fear that gains will be commandeered by the central government.

The longer it takes government to create institutions that generate true community-level incentives, the more loss of habitat and wildlife Tanzania will incur. In the meantime, besides losing the valuable wildlife resource, many rural Tanzanians are missing out on the opportunity to capitalize on their resources, thus losing not only potential earnings, but the social and financial capital that could be created for tomorrow.

Maasai families will benefit if they can use wildlife resources without fear that gains will be commandeered by the central government of Tanzania.

www.photostogo.com

NOTE

1. Personal conversation with Charles Foley, head of the Tarangire Elephant Research Project, April 14, 2004, in Arusha, Tanzania.

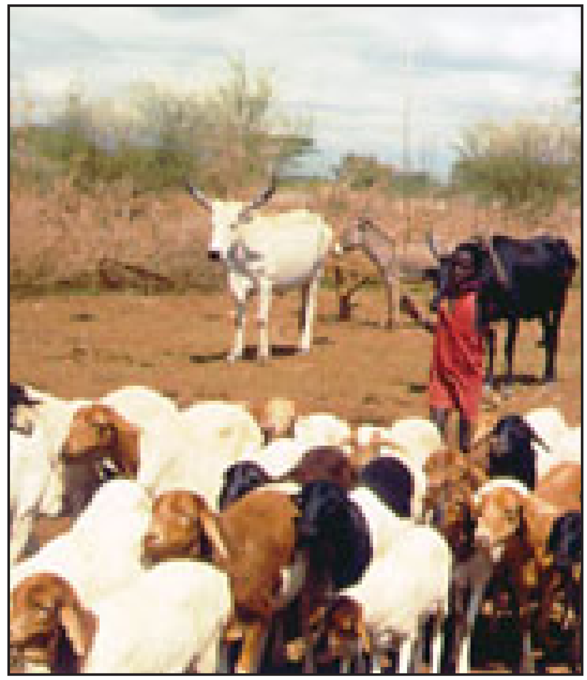
Elizabeth Singleton is a policy officer with the Sand County Foundation Community Based Conservation Network, Arusha, Tanzania. In 2001, she was a fellow at the Kinship Conservation Institute conducted annually by PERC.

PITFALLS FOR PRIVATIZATION

In 1968, the Kenya government established group ranches in Kenya's semiarid areas, a collectivization widely viewed as a failure. Maasai pastoralists have long sought subdivision of the ranches into individual, titled parcels.

"Fingers on the Hand Are Not Equal"

By Esther Mwangi



Peter Ndirangu, Kajiado District, Kenya

In *The Mystery of Capital*, Hernando de Soto (2000) emphasizes that formal land titles can improve the livelihoods of the world's poor. He, along with others, has argued that formal, individualized property rights can enhance investment, productivity, and sustainability.

But the process by which private property comes into existence faces problems of equity and efficiency. This fact is illustrated by the transformation of community property rights among Maasai herders in the Kajiado district of Kenya into private rights during the 1980s and 1990s.

In 1968, the Kenya government established group ranches in Kenya's semiarid areas to control environmental degradation and to increase herd productivity. Group ranches are land that has been demarcated and legally allocated to a group such as a tribe, a clan, section, or family (Kenya 1968). The members jointly own legal title to the land and elect a management committee to coordinate and implement development projects on the ranch. Individuals retain certain rights, such as residency rights, and the group as a corporate body retains some rights, such as control over grazing rights, tillage, and water resources.

This collectivization is widely viewed as a failure, however. Demands by Maasai pastoralists for subdivision into individual, titled parcels gained momentum in the 1980s. Among other things, the members wanted to use their land as collateral for loans that could be invested in ranch development. Although this interest in privatization has been widely documented (see, for example, Galaty 1999; Mwangi 2003; Rutten 1992), little has been written about the process of subdivision. As a graduate student in public policy at Indiana University, I studied the subdivision process in four group ranches.

When making the decision to subdivide, members of the group ranches agreed that parcels following subdivision must be roughly equal. They agreed that an elected management committee would oversee the division, assisted by a demarcation committee, and that group ranch members would register their preference for parcel location either verbally or in writing to the official management committee.

The group ranch committee, on behalf of its members, was expected to formally apply for subdivision to the Registrar and then the Land Control Board. The final duty of the Land Control Board was to confirm that all registered group members have been allocated parcels that are relatively equal.

Although group ranch members endorsed the oversight of the management committee, they did not determine ways of bringing the committee to account in case it failed to fulfill their expectations. However, they did select to the committee those individuals they perceived to be honest and industrious. Some committee members were also drawn from the Maasai customary leadership structure. The demarcation committee, constituted to assist the official committee, was also chosen on the basis of personal integrity as well as with the aim of achieving clan and age balance and ensuring that all residential areas in each group ranch were represented in decision making.

Peter Ndirangu, Kajiado District, Kenya

Contrary to members' expectations, however, the subdivision did not result in equal parcels—quite the opposite. In the group ranches Enkaroni, Meto, and Nentanai, two-thirds or more of the registered members received below-average parcels. Nine percent of their registered members ended up owning more than 25 percent of the land. Moreover, committee members ended up owning between 25 and 35 percent of the land that they were entrusted to subdivide.

For example, the average size of the Enkaroni committee members' parcels was 100 hectares, compared with an Enkaroni average of 36 hectares. Meto committee members received parcels that averaged 113 hectares, compared to a Meto average of 50 hectares. Nentanai committee parcels averaged 133 hectares, compared to a 72-hectare average for Nentanai. Committee parcels were frequently more than twice the average size of ordinary members' parcels. Committee members allocated large parcels to themselves, their friends, and relatives. Wealthy individuals with large herds also received large parcels. Poor livestock herders and widows ended up with smaller parcels.

Attempts were made to reject these allocations. In the Enkaroni group ranch, for instance, about 50 individuals, including widows, organized to challenge the committee's skewed allocation. They approached the committee to renegotiate parcel sizes but were told that "the fingers on one hand are not equal," so how did they expect everyone to get equal-sized parcels? This response, of course, violated the stated aim of creating equal-sized parcels in the subdivision.

The complainants then approached local elders. The elders' *barazas* or public meetings were unfruitful—but then, the elders had a vested interest in the outcome. More importantly, elders did not have sufficient power to override committee decisions. The group of 50 then forwarded their complaints to officials in the Department of Lands Adjudication and Settlement and to the district officer in charge of the administrative unit under which the Enkaroni group ranch falls. But the government administration had adopted an attitude of noninterference in matters of group ranch subdivision. Many individuals believed that their appeals to government went unheeded because officials had been bribed.[1]

As their final recourse to justice, the Enkaroni complainants appealed to the High Court. They demanded that land be allocated equally and that the subdivision be declared null and void and halted until their suit was heard.[2] The High Court judge dismissed their application. The judge ruled that the plaintiffs must provide evidence showing why it is wrong that they were allocated smaller land parcels than others, and that they must show beyond mere allegation that they had been given smaller portions of land than those given to others.[3] The complainants conceded defeat and did not reorganize to appeal the High Court's ruling.

Meto members chose to confront the committee on an individual basis. However, the committee was unresponsive and threatened to any complainant that his or her parcel would be withdrawn and allocated to other more deserving parties. Dissatisfied individuals in the Nentanai group ranch did not contest their committee's allocation. Many of those affected were very poor and had shifted residence to urban areas.

Quite clearly, well-connected individuals and powerful elites such as wealthy herders and the group ranch management committee will manipulate the privatization process to their advantage at the expense of less powerful and more vulnerable groups such as widows and poor livestock herders. Indeed, when such processes are embedded within an uninterested or unaccountable governance/administrative regime, an inequitable property assignment results. Cultural constraints that would ordinarily have limited individual self-interest are also severely undermined.

Consequently, formal titling programs will not always benefit all potential beneficiaries because of the race to secure and concentrate gains. Similarly, over the long run the costs of competition—for example, the time and effort spent in contesting distributional consequences—may well outweigh the benefits anticipated under a formalized property regime.

How can the outcomes of such transitions be improved? In the absence of trust among the primary rights holders, checks and balances may need to be specified from the outset. In the case of the Maasai group ranches, members and their committee should have specified acceptable minimum and maximum parcel sizes for possible allocation to each member. Variation within this specified range would have been justified by varying family size and wealth distribution.

In Senegal, land of variable quality was subdivided fairly equitably among a heterogeneous community of customary users (Bloch 1993). Slightly larger land units were allocated to larger families, and each family was allocated land in both high and low productivity areas. But there was an important difference. An external, unbiased agent, the U.S. Agency for International Development, administered the allocation.

NOTES

1. Enkaroni Group Ranch Disputes File, Department of Land Adjudication, Kajiado District, Kenya, letter dated February 9, 1990 (unnamed author); Enkaroni Group Ranch Disputes File, Department of Land Adjudication, Kajiado District, Kenya, letter dated April 15, 1992 (unnamed authors).
2. High Court of Kenya, Plaint, Civil Suit 3956, July 22, 1992.
3. High Court of Kenya, Ruling, Civil Case 3956, July 31, 1992.

REFERENCES

Bloch, P. C. 1993. An Egalitarian Project in a Stratified Society: Who Ends Up with the Land? In *Land in African Agrarian Systems*, ed. T. J. Bassett and D. E. Crummey. Madison: University of Wisconsin Press, 222–43.

De Soto, Hernando. 2000. *The Mystery of Capital*. New York: Basic Books.

Galaty, J. G. 1999. Property in the Strict Sense of the Term: The Theory and Practical Rhetoric of Land Tenure in East Africa. ALARM Working Paper No. 4. Kampala, Uganda: Centre for Basic Research, August.

Kenya, Republic of. 1968. The Land Adjudication Act. Chapter 284 of the Laws of Kenya. Nairobi: Government Printer.

Mwangi, Esther. 2003. Institutional Change and Politics: The Transformation of Property Rights in Kenya's Maasailand. Ph.D. dissertation, Indiana University.

Rutten, M. M. E. M. 1992. *Selling Wealth to Buy Poverty: The Process of the Individualization of Landownership Among the Maasai Pastoralists of Kajiado District, Kenya, 1890-1900*. Nijmegen Studies in Development and Cultural Change, vol.10. Saarbrucken, Germany: Verlag Breitenbach.

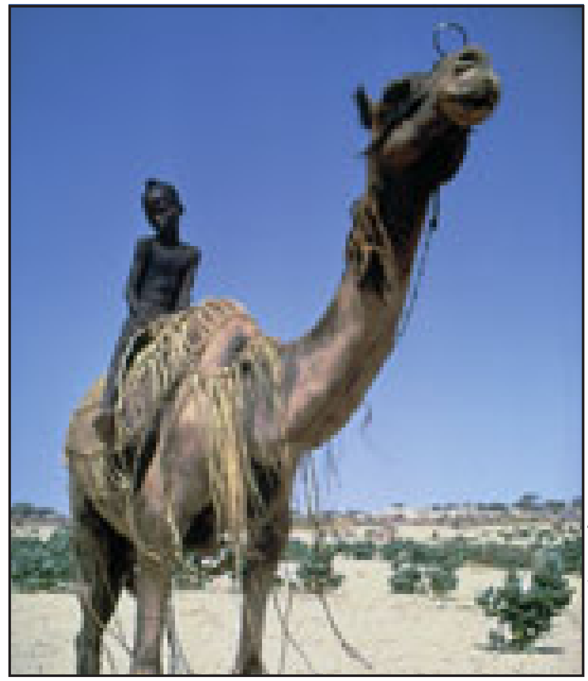
Esther Mwangi is a consultant with the Environmental Services Theme of the World Agroforestry Center based in Nairobi, Kenya.

"DESERTIFICATION" OF THE SAHEL

During the twentieth century, the Sahel—the lands south of the Sahara, including parts of Senegal, Mauritania, Mali, Burkina Faso, Niger, Chad, Sudan, and Ethiopia—was unable to sustain its growing population.

Exploring the Role of Property Rights

By Wayne T. Brough and Mwangi S. Kimenyi



www.painetworks.com

The Sahel region along the southern border of the Sahara desert was once the home of vast trading empires. Although drought and famine were unavoidable components of life in this harsh region, the people were relatively prosperous and developed agricultural and livestock practices that allowed local populations to endure and recover from the extremes of nature (Office of Technology Assessment 1986).

That era contrasts sharply with the stark poverty and the barren lands so prominent in the Sahel today. During the twentieth century, the fragile ecological zone was been unable to sustain its growing population. Increased pressure on the land made the inevitable droughts more ruinous, and the dramatic famine of the 1970s prompted urgent calls to reverse the devastating toll of "desertification." Yet science suggests that advances in the desert may be temporary, with vegetation returning as the rains return. Recent scientific studies based on satellite images found that the Sahara is receding in places, making farming viable again in areas lost to the desert in the 1980s (Pearce 2002).

As an operational concept, the term desertification is nebulous, a murky mix of climatological variables and human activities that degrade lands in arid or semiarid regions (Morris 1995). Yet strictly climatic explanations do not offer insight into the real problem, nor do broad assertions that local population pressure has destroyed the region. The failure to cope with drought in the Sahel originated in the French colonial disruption of the indigenous system of property rights and market interactions, followed by independent governments' policies and aid from other nations that intensified pressure on the land.

Traditionally, two distinct populations have inhabited the region: pastoralists (or nomads) and sedentary farmers, each with their own cultures but inextricably bound together by trade. Nomads raised cattle and migrated across the Sahara down to the savanna. An intricate structure of markets and division of labor allowed them to use existing resources without destroying the environment.

The Tuareg, for example, were a nomadic tribe that derived income from cattle and trans-Saharan trade. Water wells were owned by the clan that dug them, and the use of water was strictly regulated. A clan's leader determined the length of time spent at the well and contracted with other clans, granting them rights to use its wells in exchange for rights to use theirs. This provided the Tuareg with a network of wells to support their cattle as they moved along their trade routes.

Although the wells and pasture lands were controlled by the clans, cattle were privately owned. Communal ownership of the pasture led to overgrazing, but limits on the length of time spent at each well constrained the number of cattle that individual households could own. While a system of fully defined property rights was lacking, the system was relatively efficient and insulated its people from natural catastrophes.

As the French dug new wells, they established no clear ownership rights, which led to overgrazing. After the drought of 1968–73, wells continued to be a popular Western aid project, increasing the size of herds and the problem of overgrazing.

The arrival of the French in West Africa in the late nineteenth century altered the agricultural patterns of the Sahel. French policies that emphasized export crops and east-west trade from the interior to Atlantic port cities led more merchants and farmers to abandon trans-Saharan trade.

By the 1920s, the region was showing signs of stagnation. The French implemented a three-pronged development scheme to revitalize the area: digging more wells, conducting veterinary and medical campaigns, and opening new markets in the south (Swift 1977).

As the French dug new wells, they established no clear ownership rights, which led to overgrazing (Sterling 1974). The veterinary and medical campaigns increased the populations of both humans and animals, putting further pressure on the land. With no one to regulate the use of new wells, the larger populations intensified the level of overgrazing. The French hoped that nomads would slaughter more cattle for the market. But to hold on to what wealth they had, the nomads tended to maintain the largest herds possible.

Collectively owned land led to deforestation as well as overgrazing. Forests were depleted as individuals collected wood for burning. Trees and ground cover are necessary to help maintain the soil in the farm lands. Without them, the soil breaks down, gradually turning the area into barren wastelands.

© Ariadne Van Zandbergen

In the 1930s, in an effort to regulate the use of wood, the French nationalized ground cover. The result was the tragedy of the commons. The ground cover was overused and no individuals had an incentive to plant anything more. On gaining independence, the African states maintained this system of nationalized ground cover, with enforcement by forestry officials at the national level. These officials issued permits to cut wood, but enforcement was minimal, and they were open to bribes. The regulated common property, in effect, reverted to an

© Tiziana and Gianni Baldizzone/CORBIS

unregulated common property.

The nomads were forced to move farther south in search of better lands, and the slash-and-burn methods they used damaged more land as they advanced. The farmers in the south were forced to search for new farm lands to replace the eroded fields they were using. This led them to cultivate marginal lands, which in the past had been allowed to lie fallow, sometimes for as long as 20 years (Wade 1974). Increased pressure on the land in turn affected the farmers' ability to grow food. Droughts began to take a greater economic and human toll.

Western aid to the region became more prominent after the drought of 1968 to 1973. Again, medical aid programs intensified the pressure on the land without providing any monitoring system. Wells continued to be a popular aid project. Thousands of wells were dug at $200,000 apiece, increasing the size of herds and the problem of overgrazing. Hundreds of square miles of land were lost from overgrazing and trampling by cattle in search of water and food.

Regulated common property, in effect, reverted to an unregulated common property. The nomads were forced to move farther south in search of better lands, and the slash-and-burn methods they used damaged more land as they advanced.

In the mid-1970s, Norman H. McLeod (1976) examined satellite photos of the Sahel. He discovered a pentagon-shaped region that still held its vegetation at the height of the drought. Upon ground-level examination, the region was found to be a French cattle farm, with a mere strand of barbed wire keeping the desert out. Elsewhere, poor policy making and indiscriminate Western aid have weakened the property rights that promote healthy land-use practices.

REFERENCES

McLeod, Norman H. 1976. Dust in the Sahel: Cause of Drought? In *The Politics of Natural Disaster,* ed. Michael Glantz. New York: Praeger Publishers.

Morris, Julian. 1995. *The Political Economy of Land Degradation*. London: Institute of Economic Affairs.

Office of Technology Assessment. 1986. *Continuing the Commitment: Agricultural Development in the Sahel—Special Report,* OTA-F-308. Washington, DC: U.S. Government Printing Office, August.

Pearce, Fred. 2002. Africa's Deserts Are in "Spectacular" Retreat. *New Scientist Online News*, September 18. Online: www.newscientist.com/hottopics/climate/climate.jsp?id=ns99992811.

Sterling, Claire. 1974. The Making of the Sub-Saharan Wasteland. *Atlantic Monthly,* May, 98–105.

Swift, Jeremy. 1977. Sahelian Pastoralists: Underdevelopment, Desertification, and Famine. *Annual Review of Anthropology* 6: 457–78.

Wade, Nicholas. 1974. Sahelian Drought: No Victory for Western Aid. *Science* 185: 234–37.

Wayne T. Brough is chief economist for Citizens for a Sound Economy in Washington, D.C., and Mwangi S. Kimenyi is executive director of the Kenya Institute for Public Policy Research and Analysis. This essay is excerpted and updated from their joint article in The Revolution in Development Economics*, ed. James A. Dorn, Steve H. Hanke, and Alan A. Walters (Cato Institute 1998).*

GREENER PASTURES

By Linda Platts

Farming Man-Eaters

In Tanzania, the Nile crocodile is probably best known for its threat to human life. Not only does it snatch villagers from the river banks, but it has even made forays onto the lawns of tourist lodges in search of a tasty meal. In other parts of the world, however, it is known for its high quality, durable leather, which is used in handbags, shoes and belts for customers in Japan, Italy and France.

Once widely hunted for its commercial value, the crocodile became so depleted that it was listed as an endangered species. New laws and trading regulations have helped the Nile crocodile recover, but illegal hunting remains a threat to its viability, as does habitat destruction from irrigation projects and human population expansion.

To benefit both the crocodile and local communities, Alison Leslie from the University of Stellenbosch in South Africa is introducing villagers to captive breeding and crocodile ranching. Capturing and transporting the animals are some of the first lessons taught. Leslie proposes returning some of the captive-bred crocodiles to the wild, while selling the skins from others. The skins can be worth as much as $200 to $300. That substantial sum of money could quickly turn species predation into species preservation in many African countries.

—Environmental News Network

From Cattle to Conservation

South Africa is known worldwide for its spectacular national parks, but what is less widely known is the number of private game reserves that have abandoned cattle and crops to concentrate on conserving wildlife (see Terry Anderson's article in this issue). As early as the 1960s, some farms moved out the cattle, tore down the fences, and began to host visitors intrigued by the chance of seeing lions, leopards, rhinos, elephants, and Cape buffalo.

After some 40 years of experience, these reserves can report that the switch has provided a host of benefits. The returns have been 1500 percent greater than if the owners had continued with farming, and employment has increased 2500 percent on these private properties. The success of the early pioneers has had a domino effect as other private landowners gave up conventional farming and turned to wilderness preservation. Now 25 farms belong to the umbrella Waterberg Conservancy, which enables them to combine efforts on fire protection, security, eradication of alien species, and a host of other land-reform projects.

Another sign of changing times is the varying interests of current tourists. Big game species are not necessarily the biggest draw. Many come to see the vast variety of birds, rare plants, and even the delicate rock art created by the Bushmen up to 10,000 years ago.

—Africa Geographic

Linda Platts is PERC's editorial associate and Web site manager (www.perc.org). "Greener Pastures" showcases market approaches to environmental protection and natural resource use.

LETTERS TO THE EDITOR

Jane S. Shaw, a senior associate of PERC, is editor of *PERC Reports*. She believes that vigorous debate about controversial environmental topics furthers understanding and lays the foundation for better policies. Send your letters to her at: *PERC Reports*, 2048 Analysis Drive, Suite A, Bozeman, MT 59718 or shaw@perc.org.

Intellectually Rigorous

Thank you for including David Roodman's essay ("Another Take on Free Market Environmentalism," March 2004), which is very well argued. One of the really fine aspects of PERC is that you entertain an intellectually rigorous dialogue. I look forward to seeing the responses.

Kent W. Gilges
Rochester, NY

Not So Persuasive

The philosophical underpinnings of free-market environmentalism and related policy issues need more extensive discussion than given by the mass media. Thanks for providing that.

The essay by David Roodman was rather typical of inside-the-beltway thinking. He criticizes free-market choices as too limited to deal with pollution and other environmental intrusions. However, viewed from outside the beltway, I believe his dilemma becomes simpler. Taking his own case, he can exercise his free choice to avoid pollution by moving out of the area to more healthy environs.

True, as Roodman asserts, it is sometimes "not easy to determine whose rights to productive enjoyment of property should take precedence." But many conflicts can be more easily resolved than he would assert, given rational people willing to live in the same community. And for difficult conflicts, government does have a role in protecting individual rights in matters of health and economic well-being, and in adjudicating differing claims to those rights.

But the primary answer is to protect and expand individual choices with everything that implies, including unfettered scientific inquiry, technological development, freedom to choose one's schools and medical providers, lower taxation to empower individual wealth, etc. As the range of individual choices expands, our overall quality of life (now an antiquated phrase in this age of environmentalism) improves.

Complex issues require complex solutions, which only the full array of human institutions can provide. Global warming, for example, requires innovative scientific studies to discover the causes of—and unfettered technology to develop remedies for—the measured increases in the planet's temperature. "Sending representatives empowered to make binding decisions" about such issues, as proposed by Roodman, will only result in official bureaucratic edicts that will shackle our most innovative institutions for decades to come (not to mention impairing our economic health).

Kent Leininger
Malvern, PA

PERC REPORTS

This special issue focuses on property rights in Africa, especially on how they can protect wildlife. It features articles about Zimbabwe, Zambia, South Africa, Tanzania, Kenya, and the Sahel region.

Mandy-Scott Bachelier

Inside This Issue

Non-Profit Organization
U.S. POSTAGE
PAID
Permit No. 433
Bozeman MT
59718

PERC
Property and Environment Research Center
2048 Analysis Drive, Suite A
Bozeman, Montana 59718-6829