

Conservation Amid Change: Community, Culture, and Values in Congo's Rainforests.

East Africa in Transition: Communities, Cultures, Change
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Introduction

Alarmed by the rapid disappearance of tropical forests, the American biologist Daniel Janzen recently warned his colleagues that "if biologists want a tropics in which to biologize, they are going to have to buy it with care, energy, effort, strategy, tactics, time, and cash." In response to this rather blatant exhortation, the Indian ecologist Ramachandra Guha had this to say: "This frankly imperialist manifesto . . . seriously compounds the neglect by the American [environmental] movement of far more pressing environmental problems within the Third World. But perhaps more importantly, and in a more insidious fashion, . . . [t]he wholesale transfer of a movement culturally rooted in American conservation history can only result in the social uprooting of human populations in other parts of the globe."¹

My paper today centers around several key dilemmas hinted at in this exchange that are crucial to address in any attempt to bridge traditional ecological knowledge and ecosystem science: (1) The world's richest biodiversity is often found in areas of great human poverty and socio-economic deterioration; and (2) Environmental conflicts are deeply moored in metaphysics, in the fundamentally different ways that people perceive and value the natural world.

Using the case of the *Reserve de Faune à Okapis* (RFO), one of the largest rainforest reserves in all of Central Africa located in the Ituri Forest of northeastern Congo, one of the poorest countries in the world, I will touch briefly on each of these dilemmas. One theme of this talk is the practical and ethical quandaries posed by doing conservation work among people who have so little and depend on the forest for so much. A second topic or purpose is to share with you how people living in or adjacent to the reserve perceive and value the forest and how their perceptions contrast with a Western scientific approach to rainforest conservation. I will conclude with some of the implications the traditional ecological knowledge of Central African forest peoples holds for environmental theory and for actual grounded environmental projects in the region.

Background: The Ituri Forest and the RFO

The Ituri Forest, approximately 70,000 km², has no clear boundaries, but refers to the area roughly outlined by the watershed of the Ituri River, one of the Congo's many tributaries. As part of the largest forest refugia remaining from the Pleistocene epoch, it is particularly noted for its high species endemism and diversity.² The Ituri holds over 13 different species of primates as well

as an array of large terrestrial mammals including the forest elephant (*Loxidonta africana cyclotis*), forest buffalo (*Syncerus caffer nanus*), giant forest hog (*Hylochoerus meinertzhageni*), and the okapi (*Okapia johnstoni*), a rainforest giraffe endemic to Congo and most abundant in the central Ituri. Other interesting and little known fauna include the Congo clawless otter (*Aonyx [Paraonyx] congica*) and the water chevrotain (*Hyemoschus aquaticus*). Botanically the Ituri is of interest because of its large extent of *mbau* forests, a monodominant forest type in which *Gilbertiodendron dewevrei* (*mbau*) constitute 90 per cent of the canopy, a feature quite rare in the tropical realm.³

Besides its biological richness, the Ituri is also the home of a rich cultural array of forest-dwelling peoples. Various groups of foraging peoples, collectively known as the Mbuti, are very likely to have been the first people to live in the Ituri. But for much longer than was once thought, they have been living in complex interdependent relationship with various Bantu and Nilotic farming peoples. The relationship is based on a rich configuration of economic, political, social, and religious exchanges that goes beyond the purely material. Besides exchanging meat and other forest products for cultivated starches grown in farmers' gardens, the Mbuti may often play important and necessary roles in various ceremonies the farmers hold. Similarly, various Mbuti ceremonies will incorporate farmers.⁴

Due in part to this high level of biodiversity, the Ituri has from early on also attracted the attention of the Western conservation community. In the early 1950's the Belgians set up an Okapi Capture Station at Epulu for the capture, breeding, and export of okapi to western zoos. In 1987 this work was taken up by the Gilman Investment Company (GIC), a private American conservation firm funded by a paper magnate who as a hobby collects and conserves rare species of animals. Since 1985 the New York Zoological Society (NYZS) has also been involved in a wide spectrum of ecological research and conservation initiatives in the Ituri through its field research organization, The Wildlife Conservation Society (WCS). Most recently WCS has established the *Centre de Formation et Recherche en Conservation Forestière* (CEFRECOF) at Epulu, a research center set up to train Congolese students in field ecology and conservation management. From 1987 to 1994, the World Wildlife Fund joined the conservation efforts at Epulu and together with GIC, WCS, and the *Institut Congolais pour la Conservation de la Nature* (ICCN) worked to have more than 13,000 km² of the Ituri's rainforest officially gazetted in May of 1992 as the *Réserve de Faune à Okapis*.

The RFO was founded as a human-inhabited multiuse conservation area. Having gotten the area officially gazetted, ICCN, GIC, and WCS, the three groups jointly managing the reserve, are now grappling with what exactly this designation means. All three groups are actively seeking ways to properly manage this vast protected area through programs of exploration, monitoring, social and ecological research, conservation education, enforcement of park policies, and for lack of a better term, community relations.

All of this is taking place within the context of a region, if not an entire country, that is undergoing serious socioeconomic decay. Over the last ten to fifteen years, the Ituri has experienced a sort of social and economic devolution on numerous fronts. Much of the region's roads have become nearly impassable triggering a cascade of other impacts each taking its toll on the region's human communities. Rather than experiencing the population explosion that is so much a stereotype of African countries, significant areas of the Ituri have witnessed an actual population decline as the infrastructure on which people depend ceases to function.

One of the most disheartening impacts of this depopulation has been the devolution of the educational system. As late as 1975, nearly every village along the roads leading out in all four directions from Mambasa, one of the Ituri's major towns of around 10,000 people, had primary schools. Now, heading west, you find a school twenty-five kilometers down the road at Banana.

The next one is at Epulu, forty-five kilometers further. To the north there is a primary school twelve kilometers up the road but not until Nduye, sixty kilometers from Mambasa, will you find the next. After leaving the school at Mandima, nine kilometers to the east, you have to travel another fifty kilometers to reach the next school at Lolwa. And the first school you reach heading south from Mambasa is at Maiyowani, forty kilometers toward Beni. Given such spacing, it becomes impossible for the significant numbers of children whose parents choose to remain in the village to ever go to school, to ever learn to read or write and get at least a foot in the door toward being able to cope with the bigger, wider, rapidly changing world that yet affects and penetrates their lives. Not to mention the affects such scholastic devolution, which is happening in other places besides the Ituri, will have for the future of this country -- a whole generation seriously impeded in the skills needed to help Congo manage itself within the complex webs of global political-economy.

A similar devolution is taking place within the health care system. Clinics once spread evenly throughout the region, each stocked with medicines now sit idle with empty shelves or cease to function altogether. The sick of Badengaido, one of the villages in which I conducted my research, must now travel fifty-five kilometers over horrendous roads to the town of Nia-Nia to receive any medical care.

Tied in to this complex devolutionary process (depopulation, fewer schools, diminished health care) one also finds dramatic decreases in local agricultural production. In his most recent work with the Mbo people in and around the village of Basiri just south and west of Badengaido, anthropologist Michael Roesler has found agricultural production to be as much as sixty per cent less than what he measured in the late 1980s.⁵ Part of this can be traced to depopulation, but many farmers also talk about how deteriorating road conditions have made marketing any produce nearly impossible. Producing purely for subsistence may decrease pressure on the forest, but it also precludes a major means by which villagers obtain the small amounts of cash they need today to buy clothing, kerosene, soap, and salt, as well as to pay for medicines and schooling when and if they are available.

That this area, marked by such dramatic signs of socioeconomic decay, is also the home of one of the largest rainforest reserves in all of Central Africa is more than a coincidence. Throughout the world one finds that regions rich in biodiversity are often poor socio-economically. Frequently they suffer from severe infrastructural deterioration and neglect as well.⁶ This juxtaposition of rich biodiversity and poor people raises thorny practical problems for conservation programs, but the ethical and moral dilemmas it poses are of equal import. At one extreme, it is not difficult to imagine a conservation policy that surreptitiously condones this socioeconomic deterioration since it results in less pressure being placed on the forest. At the other extreme is the expectation that conservation organizations should launch full-scale socioeconomic development programs hand in hand with their conservation work. Neither of these options can be easily justified on both moral and practical grounds. Situated somewhere dialectically between these two extreme positions is a third that asks the more fruitful but also more difficult question: how can authentic **ecojustice**, entailing doing justice on behalf of both the forest and its human inhabitants, be put into practice on the ground in such 'real-life' terrains as the RFO?

Ecojustice as a Conservation/Development Guideline

What is the meaning of ecojustice? Volumes have been written on this question and I will not attempt a summary. Instead let me briefly mention three key points about the concept that apply to our purposes here. From the perspective of ecojustice:

- It is impossible to separate environmental concerns from concerns for social justice.

- To heal or protect the earth, we must not simply develop ecological consciousness or conserve nature but also work to change the social systems of injustice and domination that are at the root of ecological and social destruction.
- Therefore, conservation work must also be socially just if it is finally to succeed.

In order to arrive at any answers to the question of how ecojustice can be put into practice within the RFO, it is necessary to first gain a fuller understanding of how people living in or adjacent to the reserve perceive and relate to the forest, both currently and historically. It is also important to understand more fully how they view the reserve and the impacts it has had on their lives.

Traditional Ecological Knowledge and Practice in the Ituri

Many people came to learn about the people of the Ituri from the anthropologist Colin Turnbull through his classic *The Forest People*.⁷ Although Turnbull is rightfully respected for his skills as both a writer and an anthropologist, his depiction of both the Mbuti and their village farming partners is a bit simplistic. The former he tends to romanticize, while he disparages the latter as people afraid of the forest and as bumbling neophytes when it comes to forest skills. However, my own research, as well as that of others, has indicated that the Ituri's farming peoples are in no way strangers to the forest who possess little forest acumen. Like the Mbuti, they are very much forest peoples who have adapted quite well to the forest environment and hold much local ecological knowledge. It is also important to avoid the false impression that the Mbuti are somehow paragons of ecological virtue. It is neither fair nor accurate to consider the Mbuti, any more than any other people, as angelic environmental stewards.

Thus, my research in the Ituri was with both farmer/villagers and the Mbuti. With both I held detailed conversations, recording their responses to my question "What does it mean for you to live well on the land?" Of course, this question propelled our conversations into often long and involved talk of the meaning of land, of the ancestors and their ways of taking care of the land, of the different forces causing the ruin of the land, of the Western organizations acting under a different approach to how land is to be cared for and the difficulties such different approaches hold for them.

Based on this fieldwork and on the work of various Central African historians, I will first present an overview of some of the key perceptions, values, and practices Central African peoples have held, and to varying degrees continue to hold, with regard to the land and forests from which they live.

Drawing upon their cultural foundations, the various groups of Central African forest peoples have coexisted more or less harmoniously with the environment for the better part of their history. This relative balance between human needs and the needs of non-human nature (wildlife, flora, etc.) has stemmed from several factors but key have been the following practices, ideas, and values.

Diversification of the Household Economy

For most of the farmers I worked with, tilling the soil is only one of several ways of making a living from the land. In addition to farming, many also engage in trapping, hunting, fishing, and gathering various forest foods. Although the extent of specialized production for the market is increasing, historically this diversification has kept people from engaging in any one activity full time so as to undermine the environmental foundation on which their livelihoods stood.

Each of these means of livelihood was itself diversified and remains so today, consisting of a wide variety of techniques correlated to particular seasons and to particular species of plants and animals. The number of different species harvested from the forest is truly amazing. During my earlier research in the Ituri, members of one household named forty-one different items they obtained from the forest.⁸ To take gathering alone, the Aka living in the forests of Central African Republic are representative of many other forest peoples in the variety of species they routinely harvest: nine types of fruit, eight types of snails, thirteen types of termites, twenty-two types of caterpillars, two types of honey, and thirty-two different types of mushrooms.⁹

One result of such two-tiered diversification -- both in the variety of economic activities engaged in by any one household, and secondly, in the variety of species utilized by any one activity -- is a wide distribution of the weight of human impact on the natural fabric of life. If all that weight were concentrated in only a few activities, as is the case in economies of specialization, or if people sought out only a few particular species, as happened for example in North America's early fur trade, inevitably the fabric would tear. By distributing their weight across numerous points of contact, Central African peoples increased the chances that the fabric of life would be able to bear their weight without suffering too severe a rent.

Integration and Periodicity of Resource Use

Engaging in a diversity of household economic activities may simply spell increased levels of busyness and exploitation if those activities are left unintegrated. The genius in these Central African ways of making a living from the forest is their total integration into a single system of food procurement. Farming was, and in some cases still is, correlated with trapping, hunting with gathering in a manner bearing enough flexibility to dramatically decrease the risks (much greater in unintegrated or undiversified systems) of going hungry.

The complex and intricate system of correlating shifting cultivation with trapping developed by Central African forest-dwellers over hundreds of years of experiment and experience illustrates the ecological benefits of the holistic system particularly well. Not only did such trapping systems serve to control animal damage to people's crops; they also allowed farmers to obtain sources of protein close to home, thus, indirectly leaving large areas of forest further afield unexploited. Vansina¹⁰ and Koch¹¹ both document how complex these systems were. Throughout the gardening cycle, farmers would change the type of traps they used according to the type of crop being planted and harvested. For example, the planting of forest yams was correlated with setting large traps around the perimeter of the gardens to catch forest pigs, the yams' primary ravager. Smaller and larger animals might very well escape these specialized traps, just as during other periods of the gardening cycle, pigs would likely escape the traps set for monkeys and baboons. Trapping's specialization, periodicity, and complex correlation with farming contributed to the sustainability of these human-inhabited forest ecosystems.

Rotational Harvesting of Game and Fish

In addition to rotating their use of resources over time (periodicity), Central African peoples also rotated their use of the forest across space, from one area to another. The system of shifting cultivation contemporary forest peoples have inherited from their forebears continues to serve as a means of maintaining food production on poor rainforest soils. Such rotational agriculture also allows the forest to regenerate and where sufficient fallow periods are observed, keeps the forest from reverting to savanna. In fact, researchers have found that rainforest rotational agriculture has created a patchwork of primary and secondary forest habitats that can be even more productive than primary forest in both plant and animal species.¹²

The details of shifting cultivation have been written about extensively and are well known.¹³ Less well known are the rotational systems that governed hunting, fishing, and even village settlement itself. Central Africa's various groups of hunter-gatherers have perfected this rotational style of hunting, shifting their forest camps from one area to the next when yields from hunting begin to decrease, as one of them explains to me: "We will take off and go into the forest and make our camp over there. There we might stay for perhaps two weeks. Then the hunting starts to not be so good there, and it's necessary that we go on to look for another area where there is peace."

In the same way that fallow periods allow soils to regenerate, abandoning hunting grounds permits fauna to replenish an area prior to the return of the band to hunt there again another season. Of course, low population densities make such rotation possible, but they do not cause it. Hunting peoples choose to move for a wide variety of reasons, not the least of which is to optimize returns on their labor, an explanation of mobility favored by Western anthropologists. But many of those I worked with also indicated that they observe rotational harvesting so as to preserve animals for the future. In any case, the result again is that human impacts are more evenly distributed across the land, decreasing the chances of total degradation.

At a larger scale of organization, whole villages also shifted from one locale to another when after years of rotational use, resources of soil, game, and fish began to be too depleted or too distant. Also it was common for villages that became too populous to split. People would move to new, less congested areas resulting in a more even distribution of environmental impacts across the landscape.¹⁴

Sanctions Against Waste

Using the forest rotationally takes lots of skill, planning, and thought. To engage in such rotations *pamba pamba* (without purpose, in a disorderly fashion) is considered a waste and heavily discouraged. Especially frowned upon is cutting but not planting, killing an animal but not using it.

Pindwa, one of the farmers I worked with expresses the concern his people, the Mbuja, feel about wasting the forest. "There were rules for cutting gardens," he says. "If you cut a garden but did not plant it, it was considered very bad luck. They did not approve of things like that. You would really be laughed at in the village. You would be seen as a person who has no meaning among the people because, what wisdom is there in this going to ruin forest for nothing like this, to leave it useless and to keep from using it? . . . If a person cut but did not plant a thing, it is like he ruined that forest for nothing, because he was in a position to receive something, and he didn't receive a thing. . . . So, they said that if you do not want to cut a garden, leave the forest to sit there like it is."

"For whom?" I ask.

"For the future . . ."

Optimizing, Not Maximizing, Production

Among Central African forest peoples, sanctions against wasting force, forest, or game were part of a larger strategy of resource use characterized not by maximizing but by optimizing production. According to Vansina, Central Africans were constantly improving their tools for harvesting nature's provisions. "The drive to improve," he writes, "was rooted in a desire to achieve higher returns, but not at any cost. The available evidence shows what almost amounts to an obsession to achieve optimal, not maximal returns".¹⁵

Unlike the conventional directive within market economies to maximize production and profits oftentimes regardless of the costs, optimizing production required balancing a variety of costs and benefits, not all of which were material in nature. Maximizing production in Central African societies held significant social and cosmological costs. Wealth gained through such production made one stand out within the community, increasing one's vulnerability to accusations of sorcery.

At other times maximization was rejected because it resulted in a less efficient use of labor. Drawing on Koch's research among the Djue of southeastern Cameroun, Vansina offers the following example of this principle of optimal returns:

The Djue . . . had the choice between building highly effective trapping systems with palisades crossing whole valleys from ridge to ridge or forgoing the barricades and placing only flimsy traps instead. The former solution yielded more meat but took more time and collective labor to set up than the alternative. A single expert could do that in a day or two. Most Djue used the first technique, yet the virtuoso trappers used the second. The loners obtained a higher return of meat per person working than their fellows, and they spent less time on the project. The expert solution was the optimal one. In terms of returns, the flimsy work made more sense than the fine trap and the sturdy palisade .¹⁶

Whether to economize labor or to avoid certain social and cosmological costs, the drive to optimize rather than maximize production meant that more of nature was left unexploited and implicitly conserved.

Benign Technologies

In contrast to the technologies that have been introduced into the forest through contact with other parts of the world (guns, cable snares, nylon fishing nets, spotlights, manufactured poisons), the harvesting technologies Central Africans have invented out of locally available materials are relatively benign in their impact on the environment. Bows and arrows and spears are not as accurate or as deadly as guns; nets and snares using twine made from the *kusa* (*Manniophyton fulvum*) vine and other botanical sources can rot, and thus are not as durable or as strong as those made with cable or nylon; botanically derived poisons used to stun fish are not lethal and wear off relatively quickly; and torches made from the sap of the *ndibili* tree (*Canarium schweinfurthii*) provide enough light for walking but not for hunting at night.

Another farmer named Libeka shares with me his thoughts on technology and its role in both limiting and exacerbating environmental damage: "We didn't have the means to kill a lot of [animals]," he says. "Only a spear. If you threw it . . . sometimes you would hunt and hunt and in the course of an entire year you would only kill one of them. . . . [Other peoples] had their arrows and bows. That's what they would use to do their hunting. They would kill some game with them

but not a lot. For a person to kill five [animals] in the course of a year was pretty difficult. Because we didn't have the things made for killing a lot [of game]. And that is why these rifles, these guns that have come now -- they have finished off the animals since they can kill beyond any limits. It kills simply to kill. . . . If it were in the time of the ancestors they would not condone it. Their words, what was often spoken between them was that if there are no more animals, how will our children and our grandchildren ever be able to know animals? Such things were clear. . . . The thing that has finished off the animals is the gun. It is the gun; nothing else but the gun."

Production for Consumption more than for Markets

Many of the farmers I worked with emphasized that their ancestors farmed, hunted, trapped and fished primarily to meet the immediate needs of their households. Buying and selling were uncommon. According to one farmer, the diversification of each villager's occupations meant that "you have some meat in your house, and I also have some meat in mine. . . . There was no need for someone to come and buy from his friend."

In their minds, this absence of production for commercial markets is one of the key reasons why up until recently, forest, fish, and animals have remained abundant. Conversely, they link the entrance of commercial markets for forest and garden products to numerous other changes that have degraded the land -- much larger fields, longer trap lines, full-time hunting specialists, no limits to the number of game killed, and the use of agricultural poisons to kill fish.

Bill Lundeen, a missionary working in northwestern Congo, tells me about a man hunting for market near the town of Bumba. The man happened to be a soldier. Armed with a machine gun, he killed over sixty Red Colobus monkeys in a single day. When I bring up this example in my conversations with farmers, they invariably respond that it is not good; it is not the way the ancestors taught. One farmer in particular responds, "Even in one year he couldn't eat all those!" It is striking that in an age when market hunting is on the rise, this farmer still expresses disgust over the waste of killing far beyond what one can eat, rather than admiration or envy over how much money the soldier will earn from selling such booty.

Controls on Population Growth

Low population densities have of course played a huge role in enabling Central African peoples to make a living in the forest without causing severe ecological damage. But low population densities did not just happen. In the rainforest as elsewhere people had to cope with the problem of becoming too abundant. And so they developed ways to control their population growth. "Conscious demographic policies were followed in equatorial Africa, and population was controlled," writes Vansina. In some societies, after giving birth a woman was not allowed to resume intercourse until her child had mastered walking at ± 2 years of age.¹⁷ Breast-feeding, a natural form of birth control used by women in many different societies, also provided space between one child and the next.

Further, as mentioned above, when an area became too congested, some people chose to leave and find new settlements in areas of lower density, diffusing the pressure large settlements placed on the land. The causes of such relocations were not limited to changes in the natural world; i.e., people did not simply wait to move until the soils, game, and fish began to be impoverished. Settlement divisions could also be spurred by social events such as conflicts between senior and junior members of the community.¹⁸ Stemming from multiple causes, relocations and population divisions may likely have been frequent and may have often preempted severe ecological degradation.

A bit more traumatic, warfare between different groups also had the effect of limiting population growth within Central African societies. Lila, an informant to historian Robert Harms in his work among the Nunu, puts it bluntly: "In the past people didn't die as much as they do now. The people noticed that they had become too numerous. It was necessary for some to go and die in wars".¹⁹ Although popular images of African "tribal warfare" depict violence and devastation, the actual numbers of people killed in such wars is not clear. Oral traditions of warfare may overestimate the number of deaths to stress one group's superiority over another. Thus Harms notes that whereas Nunu oral traditions recount wars between settlements involving deaths of up to 160 men on a single side, one of his informants stated that a typical battle would end after "about two people had been killed on each side".²⁰

Vansina documents that two types of warfare existed in the region. The more frequent "restricted war" was governed by a stringent set of rules that limited the extent of fighting. Elders called a halt to these conflicts usually after one or two men had been killed. The purpose of "destructive war", a second type of warfare, was to truly destroy one's enemy. It involved burning villages, plundering land and wealth, and often taking captives. However, Vansina notes that "in recent centuries they were infrequent, and in early times they may have been even rarer, because competition for resources was less marked".²¹

Thus one may surmise that warfare reduced local population growth as much or more through the threat of killing than through actual killing itself. The very real threat of warfare meant that one needed to be ready at all times to rapidly mobilize and flee. Having lots of young children to carry would definitely slow you down. Thus although he likely exaggerates the spacing of children, one farmer informs me that among his ancestors, "a woman would give birth to a child, and after the child had reached ten years of age, she would have another. They did not give birth to a lot of children like we do. It was necessary that the first child know how to walk and know how to flee from the wars before they gave birth to another."

Colonial campaigns to end such conflicts, misnamed "pacification campaigns", used warfare themselves, often of a much deadlier variety. After the many years that it took for colonial powers to subdue native peoples, the "peace" these campaigns gained through such tactics as resettling people in roadside villages and appointing erroneous leaders as "chiefs", not only opened the door to new types of conflicts; it also removed a relatively benign means by which Central Africans had limited their population growth for generations.

In addition, Belgian colonial policy regarding Congolese child-rearing practices generally favored an early weaning of children while discouraging various indigenous birth spacing customs. The reason for such policies was, in part, to increase the labor population of the colony after a perceived demographic decline in the 1920s. Nancy Rose Hunt provides some dramatic documentation of the ways in which the colonial regime "entered into some of the most intimate aspects of African women's lives: the birthing process, breast feeding, weaning, dietary choices, and sexual activity" in order "to increase the birthrate, promote infant and maternal clinics, and socialize African women as biological reproducers and mothers." Although the extent to which Congolese women cooperated with such programs varied, "by the end of the colonial period . . . the population crisis had diminished, and in fact reversed itself".²² Any discussion of Central Africa's current population problems must not ignore such historical factors.

Turning from these material considerations involved in making a living from the land to the social and cosmological contexts within which Central African peoples have interacted with nature, we find additional contributions to the maintenance of ecological sustainability stemming from certain cultural values and beliefs shared by many forest dwellers.

African Communalism

Any attempt to understand traditional ecological knowledge of Central African peoples must first gain a deeper sense of the nature of African **communalism**, the base that supports all African traditions, according to Jimoh Omo-Fadaka. The African community is not composed of a group of individuals "clinging together to eke out an existence".²³ Nor is it, as Malidoma Somé has described community in the West, "a conglomeration of individuals who are so self-centered and isolated that there is a kind of suspicion of the other, simply because there isn't enough knowledge of the other to remove that suspicion".²⁴

Rather, in Africa the community is imbued with a certain bondedness. Harvey Sindima captures the fullness of the African understanding of community in the following passage:

The African idea of community refers to bondedness, the act of sharing and living in one common symbol -- life -- which enables people to live in communion and communication with each other and nature. Living in communication allows other's stories or life experience to become one's own. Sharing of life experiences affirms people and prepares them for understanding each other. To understand is to be open to the life experiences of others, to be influenced by the world of others, and this is fundamental in living together as a community. Bondedness to others and the cosmos makes one aware that there are selves other than oneself yet all are united by one creation, one life. This calls for a sense of justice or "just-ness, a correct insertion and reciprocity, in respect toward what is 'ourselves otherwise' ".²⁵

Communal Land Tenure

Pre-Westernized systems of land tenure in Central African forests illustrate well how Central African communalism plays itself out on the land. Unlike our Western emphasis on individual ownership and on seeing land as a commodity, under Central African tenure systems, the goals, aspirations, and property of the individual and those of the community exist hand in hand within a total system in which the two ideals are held in some degree of balance. Land is neither private property, nor is it communally owned and worked in a socialist sense. Rather, land in most cases is held in communal trust, it belongs to the group, to all members of the community, extending usually at least to the level of the clan. In general, such a communal arrangement means that no one who wants and needs land goes without. As Parker Shipton states in a review of African land tenure systems, "Access to land should go to those who need and can use it, and no one should starve for special want of it, at least not within a group whose members consider themselves the same people, which usually has meant a kin group or ethnic group".²⁶

However, within such forms of common property ownership, each individual at the same time has their own piece of land that truly 'belongs' to them. It is land to which they and they alone have usufruct, and for which they and they alone (including family and extended family) are responsible. One's rights to that land are to be respected by other members of the community and one is prohibited from crossing the boundary into another person's land or fishing area without their permission.

Under such methods, the community does not forego the benefits of individual responsibility, effort, care, and motivation that come through individual 'ownership' (but an ownership very different from our Western sense of 'private property'). At the same time, the community keeps individualism from getting out of hand by preserving a communal sense and communal systems whereby the land belongs to everyone. With individual usufruct comes

communal responsibilities and various social leveling mechanisms that keep individuals mindful of their obligations to others. If an individual or another group is found violating these responsibilities, the community heavily discourages their behavior and can take action to set things right.

With regard to ecological benefits, the fact that Central African communal tenure systems allow room for land to 'belong' to individuals also enhances a sense of responsibility to take care of one's land and to manage it properly. Furthermore, since one 'owns' a particular area of land within the communal domain, one is entitled to pass that land on to one's children, adding extra incentive to leave the land in good shape for one's future offspring. If all land was 'owned' and worked communally, it might be easy for people to depend on others to do the caretaking; or there might be less motivation for any one individual to invest in proper management of the land, not to mention the confusion it would leave for matters of inheritance.

By providing a check on individual 'ownership' of land, the communal nature of Central African land tenure in turn discourages individuals from abusing land that is considered the trust of the entire community. For instance, there is a great disdain within the community if an individual starts land-grabbing, laying claim to areas of forest by clearing here and there but then leaving the area unworked. Not only do such practices disturb the balance of land distribution within the community, they are also ecologically wasteful, clearing forest for nothing. Parker Shipton reminds us that throughout much of Africa land-grabbing is referred to as "eating someone -- the person as well as the possession".²⁷ Although land-grabbing, the resultant unequal distribution of land, and the host of negative environmental impacts that ensue²⁸ are surely taking place in Central Africa, compared to other parts of the world, they are generally much more limited.²⁹ Such a situation can be attributed to numerous factors but it is well to include among them the strong communal sanctions against individual abuses of tenure that can be found within the heritages of many African peoples.

Sharing

Another facet of Central African communalism is the highly developed and complex practice of sharing. Much of what one had to share came directly from the natural world. "If you catch [an animal] and eat it alone while your brother is sitting there like that -- you have truly killed him," one elder tells me. It is not a jump to conclude that one result of this social ethic of sharing what one procured from nature was a decrease in the level of exploitation required to maintain the sustenance of the community. By giving a leg of the antelope one has killed to one's brother, one frees him from having to go out and kill another animal to get his own leg of meat. In the same manner as today, sharing meant that a little bit goes a long way.

Extension of the Communal Ethic into both Past and Future

It is also important to underline that Central African communal ethics are not limited to the present. Rather they extend into both the past and the future such that one must think of both ancestors and offspring in one's dealings with the natural world. Thus one restrains one's consumption of natural resources in order to guarantee that those who come after will also have enough. As one farmer puts it to me, "If we kill all the animals, *kesho watoto wetu watakula nini* (tomorrow what will our children eat)?" At the same time, in using the land, one also remembers the admonitions of the ancestors. According to another farmer, one abides by the ancestors' "laws for the purpose of protecting things, . . . whether it concerned fields, or rivers and streams."

Some of the same sentiments expressed by these Central African farmers have been echoed in the words of African philosophers. Kwasi Wiredu, for example, captures well the ecological significance of this extension of obligations toward past and future members of the community when he writes:

Of all the duties owed to the ancestors none is more imperious than that of husbanding the resources of the land so as to leave it in good shape for posterity. In this moral scheme the rights of the unborn play such a cardinal role that any traditional African would be nonplused by the debate in Western philosophy as to the existence of such rights. In the upshot, there is a two-sided concept of stewardship in the management of the environment involving obligations to both ancestors and descendants which motivates environmental carefulness, all things being equal.³⁰

Vibrant Interconnectedness Between the Cosmological, Social, and Natural Realms

Any examination of Central African traditional ecological knowledge, including this one, continuously gravitates toward relationships -- those between humans and land (in its broadest sense, the natural realm), humans and each other (the social realm), and humans and God (the cosmological realm). However, according to Central African thought we would be mistaken to view any of these sets of relationship in isolation. Rather Central African relationships governing the natural, social, and cosmological realms are thoroughly intertwined. The ways in which Central African peoples impact their natural environment, act towards their neighbors, and view the cosmos are intimately interconnected.

For example, a common facet in the cosmologies of many Central African peoples is the belief that certain parts of nature -- specific animals, artesian springs or waterfalls, areas of forest, or species of trees -- are not simply natural phenomena, but are imbued with symbolic meaning, be it political, spiritual, personal, or otherwise. Often an indirect result of such imbuelement is some degree of conservation of the natural phenomenon. The totemic animal of a clan may incarnate the spirit of an ancestor and therefore must not be killed; a waterfall or area of forest may be the habitation of various nature spirits and therefore must not be visited; certain animals may be emblems of leadership and power and therefore must not be hunted and consumed in any ordinary fashion.

Granted, the extent of nature conserved through such practices may differ significantly from that conserved in the reserves and national parks that hallmark Western conservation. But the beliefs behind such practices intimate a more general cosmological consciousness among many Central Africans, the ecological significance of which may indeed play an important role. As Kwasi Wiredu expresses it, "Any object, living or nonliving, may be within the immediate province of a superhuman force or power, and one has to avoid reckless and, in some cases, unapplied appropriation and use of it".³¹

Thus, according to such consciousness, nature is certainly not considered to be dead matter, nor even simply a living material system, but in many ways, it is spiritually and symbolically charged. Therefore, one must take caution in relating to nature to avoid suffering both social and cosmological consequences. Unlike Western Enlightenment thought that removed much of this symbolic meaning from the natural world, and went so far as to reduce it in some instances to dead matter, in Central African thought and practice, the natural world is alive both physically and spiritually and therefore one must relate to it with discretion.

Another Central African cosmological restraint on the overexploitation of nature lies in "the idea of the limited good", the belief that there is only so much natural wealth to go around such that one person's gain is another's loss. The purpose of such a belief may have been to preserve a sense of equality and cooperation within the community. Since nature's wealth is limited, too much exploitation and accumulation of nature's wealth can give cause for envy and make one susceptible to accusations of sorcery that bear serious consequences one normally would want to avoid.³² Among the Pagabeti people of northwestern Congo, certain techniques believed to increase the number of kills for the individual hunter are still discouraged today since it is believed their use also leads to a "corresponding increase in deaths among the human hunter's kin".³³ Such 'cosmological controls' on human's use of nature can significantly dampen both social and ecological harm.

The painstakingly researched novels of Nigerian writer Chinua Achebe illustrate this vibrant natural, social, and cosmological interconnectedness very well. Achebe's most famous novel *Things Fall Apart*³⁴, clearly reveals how in Igbo tradition, as in that of many other African societies, the way people behaved toward each other had very real consequences for how the land behaved toward them. When Achebe's protagonist Okonkwo accidentally kills his clansman, he commits not only a societal offense but an offense against the earth. To keep the land from being ruined, Okonkwo must go into exile in order to cleanse the earth. If Okonkwo refuses his exile, Ani, the Earth Goddess will spoil the land for the entire community. On another occasion, Okonkwo's best friend chastens him for taking part in the Oracle-pronounced murder of his adopted slave son Ikemefuna: "What you have done will not please the Earth," Obierika tells him. "It is the kind of action for which the goddess wipes out whole families".³⁵

Thus, in many African traditions, the breaking of the social order affects not just the individual committing the offense but the entire social and natural communities. If something goes wrong in society, in relations between people, the effects will also be felt within the natural world. Conversely, if something goes wrong in the natural world, people seek the solution within their relationships with others.

Put another way, in Central Africa the ecological integrity of the land is vitally connected to the relational and metaphysical integrity of the human community; i.e., as the ethical and metaphysical worlds of human communities begin to break down, the effects are also seen on the land. However, just as natural chaos signifies ethical chaos within the society, so natural harmony grows out of the restoration of right social relations.

Humans as Part of Nature Rather than Separate from Nature

Implicit within such interconnections lies one of the primary components of Central African traditional ecological knowledge: human beings are integral parts of nature rather than being separate from nature. They and the natural world are vitally interconnected cosmologically, socially, and naturally.

For much of Central Africa's rainforest dwellers, the metaphysical perception of being part of nature has contributed to practices which, while surely changing nature, also dialectically changed human behavior in response so that together humans and the rest of nature could co-exist within a relatively balanced system. For example, one way rainforest villagers have coped with elephants marauding their gardens has been to simply get out of the way, to move their settlements and gardens out of the elephant corridors.³⁶ What a contrast this presents to the image from my own white American heritage of people like Buffalo Bill Cody massacring the bison that roamed Midwestern prairies to clear the land for Euro-American settlement.

The depth of this interconnection between humans and nature was brought home to me most poignantly by the words of one Ituri farmer who told me, "God made us and animals together. If people leave from this forest, the animals will also disappear." His point I believe is that animals and people exist together in relationship. Without animals people will not be able to survive but without people, the animals will also come to an end. Both need each other.

Therefore, Central African forest peoples and the ancestral heritage they hold have much to teach us with respect to learning how to live within the natural systems we are part of, learning how to control ourselves from destroying the natural fabric that sustains us. Here in America, we are proud of an environmental ethic that has spawned one of the most extensive systems of natural preserves, parks, and reserves anywhere on the planet. Yet it is a rare American who looks deeply enough to see that "Creating all these preserves as we do is not so much a sign of success as it is of failure; our preserves simply show that we have not yet learned to live within the natural systems of which we are part. Preserves are confessions that we are unable to control ourselves from destroying the natural fabric that sustains us."³⁷

In contrast, Central African forest peoples and their ancestral heritage uphold not the solution of the human-voided natural reserve, but rather a human-inhabited natural world in which humans, as part of nature, control their use of the resources it offers them since doing otherwise is to bring ruin on both themselves, their future offspring, and the nature that sustains them.

Ecosystem Science and Conservation Management in the Ituri

Now, superimposed upon these local models of land use based on traditional ecological knowledge we find a dualistic model of Western conservation management based on ecosystem science that abstracts human beings out of the nature picture, and manages for a "pristine nature" sans *Homo sapiens*.

Prime examples of such a scientific management model within the RFO include reserve policies that separate the Mbuti from their village farmer partners by prohibiting farmers from following the Mbuti into the forest; policies that limit garden clearing only to areas of secondary forest; and de facto policies that restrict subsistence hunting and traditional means of controlling animal damage to gardens. I realize that these policies operate within a context that has been influenced by external forces such as modern capitalist markets and the recent human immigration from socially and environmentally stressed areas to the east of the Ituri. Nevertheless rather than helping to restore some degree of balance into natural resource use systems, such policies tend to promote a further distancing from the relatively balanced human/environment relationship that existed prior to such influences.

In addition, such policies hold real-life costs for people living within the reserve. For example, many village farmers recounted how the loss of crops to garden-ravaging mangabeys, pigs, and elephants is causing serious economic strife for their households. By removing the means to control animal damage, such policies may in fact force farmers to overexploit other areas of forest in order to regain the household production they've lost from the destruction of their crops. Over the long term, the effects of such policies represent an 'unnatural' upset of the relative balance that had been maintained by the complex resource management systems based on traditional ecological knowledge that I described earlier.

Less clearly articulated than these practical concerns is how policies such as those of the RFO are rooted in a Western dualistic metaphysic that separates people and nature into two distinct camps. It should come as no surprise that such a metaphysic continues to operate in the Ituri and in numerous other African contexts where Western agencies tend to be in control of natural resource

management decisions. The roots of such a metaphysic run deep within our Western heritage and stem from ancient influences including Platonic idealism, Gnosticism, and Enlightenment thought. Such influences lead many Western ecosystem scientists to separate nature and culture, humans and the rest of creation, and then weigh these artificial dualisms normatively such that the human/culture component always comes out in the pejorative.

What conservationists have succeeded doing within certain Western countries (especially the United States) -- socially constructing an idea of wilderness that leaves little room for human beings -- is now being exported to and forced upon cultures and peoples in other parts of the globe deemed desirable for conservation, cultures and peoples whose perceptions of the human/nature relationship are quite dramatically different.

The environmental historian William Cronon has made some astute comments on the consequences of such a process. He writes:

Protecting the rain forest in the eyes of First World environmentalists all too often means protecting it from the people who live there. Those who seek to preserve such "wilderness" from the activities of native peoples run the risk of reproducing the same tragedy . . . that befell American Indians. Third World countries face massive environmental problems and deep social conflicts, but these are not likely to be solved by a cultural myth that encourages us to "preserve" peopleless landscapes that have not existed in such places for millennia. At its worst, as environmentalists are beginning to realize, exporting American notions of wilderness in this way can become an unthinking and self-defeating form of cultural imperialism (1995, 82).³⁸

Finally, especially disturbing is the fact that local and Western natural resource management models (and the world views from which they stem) clash within an unequal power balance under which Western conservation organizations, backed by the State, hold the upper hand. In the ensuing difficulties, many local people stand to be seriously marginalized and further oppressed by reserve policies unless respectful and careful negotiation of such policies with local people takes place immediately.

In the meantime, Central African forest peoples and the ancestral heritage they hold have much to teach us in the West if we but take the time and develop the patience to listen. On both a practical and philosophical level, they can help us learn a great deal about how to live within the natural systems we are part of, rather than separate ourselves from a nature we either iconicize or plunder.

Lessons for Actual Conservation Initiatives from Central African Traditional Ecological Knowledge and Practice

Central African perceptions that humans are 'part of' rather than 'apart from' nature hold certain lessons for conservationists and all of us in the West who are concerned about the disappearance of the world's biodiversity. Such perceptions affirm what some Western ecologists have also come to realize: we are misguided to manage for a "pristine" nature (i.e., no human influence or presence) because nature does not exist "pristinely". We only place our desire for pristineness upon it. Traditional ecological knowledge of Central Africa reminds us that we are nature, we cannot get ourselves out of it.

Furthermore, such a fact also makes us aware that neither can we view nature outside of ourselves. We will always be looking at it through some degree of subjectivity. Therefore, we would do well to examine and know what our own subjectivities are and how they influence what

we see. When we try to manage according to the subjectivity of 'natural pristineness', we often end up moving more against nature's grain than with it, not to mention the damaging effects such management models hold for local people living in management areas.

Thus, Central African traditional ecological knowledge can contribute a corrective to our dualistic ecosystem science and help to amend our disconnection with nature by emphasizing that we must manage for a whole system, humans included. Central Africans certainly recognize the important differences between humans and other parts of nature, but they have less of a tendency than we in the West to come at the two with a cleaver, to lay nature out on the laboratory table and so radically dissect out its human component in order to more "objectively" either conserve or exploit it. Instead Central African peoples remind us that nature and humans are interactive parts of one whole and that any environmental management program must seriously consider the ramifications of such interactions.

One might even propose that the relative ecological balance that has been maintained in places like the Ituri to some degree actually depends on human uses of the environment. As mentioned earlier, the patchwork of primary and secondary forest resulting from human perturbations such as garden clearings provides habitat for a greater number of both plant and animal species than does primary forest. Although much more research is required, it is not out of the question to hypothesize that human perturbations in the rainforest, such as the complex farming/trapping systems described above, are analogous to the perturbations caused by fires (both natural and human-induced) in woodland, prairie, and savanna ecosystems, which ecologists have come to recognize as vital in maintaining the integrity of such systems. Fires are part of the system and not a destructive glitch. Forest-dwelling farmers and their correlated hunting/trapping/farming systems are part of the system, a 'natural' perturbation if you will, and not a destructive glitch. Therefore management models that subtract out the beneficial roles people play in the working of nature can detract from, rather than enhance, the possibilities for fostering the sustainability of the entire ecological system.

Central African traditional ecological knowledge can also do much to clarify that the real problem, the real destructive glitch, is NOT human beings per se, but distinct, human-created socioeconomic institutions that foster unsustainable uses of the environment. Modern capitalist markets, one example of such institutions, interacting with a complex of other forces, including technology and human (African as well as Western) greed, have been and continue to be key factors in destroying the relative balance that has existed between humans and the natural forest environment that has supported them.

One farmer shared with me a poignant example of how these "bad ways" penetrated and changed the relatively balanced systems of land use that existed in the time of his father. "This problem of poison in the waters," he explains, "it came really only with this civilization of the Europeans. They have this poison to put in the soil next to the crops in order to kill pests, but crafty people have taken it and put it in the rivers and streams to kill fish. People took it for a good thing, but it is only ruining our waters, some is even killing people. These ways, they began to change . . . well some of it is due to the whites, those who came to us. It was their knowledge that began to change our knowledge. We saw how much easier it was to get things with these bad ways. We see the ease and we jump into it and even though the rivers may be ruined, I get my fish and I sell it and I get wealthy."

In destroying traditional resource use patterns, this commercialization of nature also succeeded and continues to succeed in destroying the natural ecosystems on which all of life, human and non-human depends.

The RFO, like other Western conservation initiatives, has opted for a management model that, rather than directly restrain this commercialization of nature, establishes State (and in the minds of many of the villagers I talked with, "American") control over vast areas of forest seen by local people as God's gift to them from which they can live. Not only does such a model, in Cronon's words, "privilege some parts of nature at the expense of others"³⁹, it also opens the door for State exploitation of the local population that top-down control has always facilitated.

In short, commercialized use, more than indigenous peoples' use of the forest lies at the root of Africa's, including the Ituri's, environmental problems. Central African traditional ecological knowledge suggests that we would do better to try to control the market forces that lead to overexploitation of the environment rather than unjustly restrict the subsistence practices of people who have lived in these forests much longer than ourselves.

Ecojustice Revisited

I began this talk by suggesting the concept of ecojustice as a guideline for meeting the dilemma of how to conserve biodiversity while meeting neglected human needs. Some possible ecojustice practical solutions for projects such as the RFO might include:

- Undertaking immediate and sustained negotiation of conflicts and differences that exist between the RFO and local communities.
- Creating with local communities authentic institutionalized means for co-management of the forest by its indigenous inhabitants and conservationists.
- Building with local communities alternative means to provide for the resources conservation has taken out of their hands (e.g., rotational agroforestry systems, animal husbandry, captive breeding and export of okapi, aquaculture).
- Beginning on a pilot basis, designing and implementing microprojects that fulfill some of the needs expressed by local villagers (e.g., employing mobile health teams to provide local people with the basic health care they state as being their number one need).
- Making more explicit efforts to control the commercialization of nature by market forces.

Conclusion

In this paper, I have provided only a brief sampling of what Central African perceptions, values, and ways of using the forest have to teach us about living sustainably on the earth. But even at this preliminary level, several features stand out:

First, over a long history of habitation, Central African forest-dwellers have developed complex systems of land use to sustain themselves without jeopardizing the land's ability to provide for future generations. Such knowledge remains alive even though it is being continuously eroded by various market and demographic forces. It behooves us to pay it both attention and respect in our efforts to build sustainability in Central Africa.

Secondly, in Central Africa nature is certainly not considered dead matter, nor even simply a living material system, but in many ways, a socially and spiritually charged entity. Therefore, how one relates to it holds repercussions on numerous fronts. Unlike our own Enlightenment traditions that removed much of this deeper meaning from the natural world, reducing it to inert matter, in Central African thought and practice, the natural world is alive in more ways than one and one must take caution in one's relation to it or bear certain consequences, both social and cosmological.

Thirdly, one's relation to nature cannot be separated from one's relation to the human community to which one belongs. That is to say, that a separate and discrete environmental ethic may be hard to find in Central Africa but not because environmental wisdom does not exist. Rather

wisdom in relating to the environment springs from the wisdom and ethics that Central African cultures have developed to govern the social realm. A deep valuing of social harmony and communalism has real implications for the human/environment relationship. Individual property, desires, needs, and uses of the environment were and are allowed but seldom if ever are they free from the restraints of communal obligations and communal harmony, a harmony that extends to both the past and the future. In one's relation to the environment, one must think of and act with regard to both ancestors and offspring, both one's family and the common good; and one can extract from the natural world only in certain places, and in quantities not to surpass the needs of one's family and one's social obligations. Limits definitely were, and in some cases, still are very real and what is taken from nature must be shared. Thus Central African traditions remind us that the search for environmental solutions requires an elaboration of problems in social as well as ecological terms.

Finally, the environmental wisdom of Central African forest peoples stems from the knowledge and belief that nature and humans are never separate entities but parts of one system. We are part of nature not set apart from it. Nature and culture, humans and environment, social ethics and environmental ethics, ecology and justice go hand in hand. It is not humans or nature that are central; rather it is LIFE that is primary, and that includes the entire community of life, for all of life is important, all of life is bonded, all of life is sacred.

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