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#21 — Sustainable Financing of Protected Areas The Role of User Fees

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Key Concepts

- For local people and national governments, the perceived intangible global heritage value of tropical forest plants and animals rarely, if ever, exceeds the short-term exploitation value of these resources.
- Biodiversity conservation usually requires that present generations forego some direct uses of, and benefit from, natural resources.

- Biodiversity conservation rarely pays for itself in full. Rather, it results in both direct management costs and indirect opportunity costs to local and national economies.
- Biodiversity conservation is not synonymous with economic development and donor attempts to invest in the former to attain the latter, may perversely achieve neither.
- In the Central African region tourism, research, safari hunting and even a 10% income tax are unlikely to cover a significant portion of protected area costs at present.
- Insecurity, geographic isolation of parks and reserves, paucity of reliably observable animals, absence of a customer service mentality, and intense, well organized competition from eastern and southern Africa, severely limit tourism potential in the region at present.
- If the international community values the biological diversity contained within the forest of Central Africa then they must contribute significantly to minimizing the economic impact of biodiversity conservation on local and national economies.

Protected Areas and Biodiversity Conservation

Protected areas are critical for the conservation of (1) large mammals that would otherwise be in direct competition with humans for space and resources; and (2) plant and animal species that are threatened elsewhere by commercial exploitation, or by conversion of habitat to other land-uses such as agriculture. In Central Africa, like other regions of the world, as populations grow and economies expand, wild habitats will progressively be converted to anthropogenic land uses. Protected areas will increasingly become the principal bastions of forest resource conservation, because only within protected areas is biodiversity conservation the primary land use.

Protected Areas Are Not Free

Unlike landscapes where agriculture, mining, and logging are the principal land uses, protected areas do not generate significant revenues for Central African countries. As a result, they are often a net cost to local and national economies. That parks and reserves in Central Africa cost money to establish and manage is not atypical for Africa, nor for the rest of the world. Setting aside areas to be managed as biodiversity reserves, where resource conservation is the primary land use, imposes direct costs to establish and maintain a management infrastructure costs that must be covered every year. Designating an area for biodiversity conservation also means, typically, that the land can no longer be used for agriculture, or logging, or strip mining. The costs of these lost opportunities can have a severe impact on both local and national economies. In Central Africa the opportunity costs of not logging in protected areas amount to millions of dollars per year.

Sources of Protected Area Finance

Securing sustained financing to pay the direct management costs, and to provide compensation for the opportunity costs of establishing and maintaining protected areas is critical if poor nations are to set aside and manage protected areas to conserve forest biodiversity over the long-term. Monies for protected areas can be derived from (1) government funds, (2) donor grants, and (3) user fees and environmental taxes earmarked for conservation. In high per capita GNP nations, environmental taxes and government funds derived from general sales, wealth, inheritance and income taxation are the most significant contributors to protected area financing. In low per capita GNP nations with a weak tax base, donor grants and user fees are often more important.

Present Financing of Protected Areas in Central Africa

In the Congo Basin it would cost about \$30 million per year to manage the present protected area system at a level sufficient to ensure the long-term survival of the plants and animals the parks were established to protect. This cost is likely to increase as more areas are being gazetted. Donors and governments are currently spending less than 30% of that amount. Furthermore, no nation in the Congo Basin receives any financial compensation from the international community, nor pays compensation to its citizens, for the opportunity costs of conserving biodiversity of global and national heritage value. In contrast, in the United States ranchers are paid for livestock killed by predators that stray from national parks, and land owners receive tax breaks for conserving wetlands. Maybe surprisingly, when measured as a percentage of overall government expenditures, Congo Basin government spending on protected areas is comparable to that of high per capita GNP nations (Table 1). However, government investment per square kilometer is on average a mere \$14, less than 6% of the average spent by other African nations, and less than 0.5% of that spent by nations in Europe and North America, even after controlling for national differences in purchasing power. As a result, most protected areas suffer substantial management spending shortfalls. If park managers are unable to hire enough staff, at salary levels that discourage corruption, and provide the equipment and training needed, it is not surprising that they are often unable to effectively control illegal access to, and use of protected resources.

Paying for Parks with User Fees

User fees can be roughly divided into two large categories: (1) visitor charges targeted primarily at foreign tourists to parks and reserves, but could also include a sliding scale for national tourists; and (2) fees and taxes that apply primarily to individuals or businesses resident in the nation.

Tourism charges can include: park entry fees; airport arrival or departure taxes; scenic-road tolls; hotel surcharges; protected area activity fees (diving, hiking, wildlife tracking, etc.); and hunting and fishing licenses and fees. National resource use fees within and outside of protected areas include: leasing fees for mineral and timber concessions; fees for watershed protection; resource degradation and pollution fines; and carbon emission charges.

In many regions of the world, user fees have generated substantial revenues, earmarked for conservation. Whether or not user fees can raise significant revenues depends on the size and wealth of the user base. Thus, they are more likely to be effective in high GNP nations or in nations that can capture a portion of the wealth of such nations. Moreover, whether user generated revenues contribute to biodiversity conservation depends on how governments decide to spend them.



Protected areas are critical for conservation of wildlife that compete with humans for space and resources.

Is Tourism Realistic in Central Africa?

Fewer than 15,000 foreign tourists visit protected areas in Central Africa each year, and most do so to see gorillas or chimpanzees. In contrast, over one million tourists visit New Hampshire state parks that cover less than 0.1% of the area of protected areas in Central Africa. Tourism in the region is economically viable only in easily accessible parks, that are relatively safe, and that offer visitors an intimate viewing experience with apes. Tourism to observe Central Africa's forest elephant, elusive duikers, and endemic birds that are heard but less often seen, is by nature's design difficult. As such, wildlife tourism in most protected areas in Central Africa cannot compete with the sheer number, diversity, and visibility of wildlife in east and southern African parks. Moreover, the greater security, ease of access and level of customer service readily available to tourists in East and Southern Africa, is in stark contrast with the rough and often hazardous conditions that tourists must face to visit Central African parks.

In the United States user fees cover only 33% of the budgets of state parks, and a mere 7.5% of national parks. New Hampshire claims to cover state park operating expenses of \$5 million solely from user fees. However, the backlog of foregone maintenance and capital improvements exceeds \$2 million per year and is growing. In Rwanda, Uganda and Congo tourists are willing to pay \$200 per day to see gorillas. Yet, even if all tourists to Central African parks paid that amount and spent two days, gross revenues from entrance fees would only cover 20% of park operating costs. Consequently, in the near-term, and particularly until security and park access improves, tourism in Central Africa cannot be relied upon to contribute more than a small portion of the management and opportunity costs of maintaining protected areas.

Safari hunting in Central Africa offer hunters access to trophies such as bongo, giant forest hog, and forest elephant that are not available elsewhere. However, the range of desirable species and overall costs again cannot compete with those offered in East and Southern Africa. Moreover, trophy hunting in the region is dependent on roads built and financed by logging companies. Paucity of information on (1) the number of safari hunters visiting the region; (2) the number of animals harvested by safari hunters each year; and (3) the revenues generated from safari hunting leave governments, donors and international conservation NGOs uncertain as to the ecological and economic sustainability of trophy hunting, and its role as a tool for financing biodiversity conservation in the region.

What About Taxes on Individuals and Corporations?

Natural resource use fees and general wealth, income and consumption taxes on corporations and the citizens of Central African nations may not generate significant revenues for resource conservation because (1) per capita income is typically low and thus capacity and willingness-to-pay for conservation is extremely limited, (2) the size of domestic economies is typically small, as is consequently the tax base, (3) private land ownership is either non-existent or found only in congested urban areas, limiting the scope for real estate taxation, and (4) much of the economy is run on cash and barter, and thus difficult to tax.

If taxes on individuals and corporations were set at a highly optimistic average rate of 10% of income Central African governments could raise over \$1.6 billion in tax revenues — 14 times present revenues from income tax. If governments continue to allocate, on average, 0.17% of expenditures to finance protected areas, then national governments could raise a total of \$2.7 million for conservation. Yet, with these tax revenues alone, no nation in Central Africa would be able to fully finance the recurring costs of managing its parks and reserves, let alone the much higher opportunity costs. Taxes would contribute on average 9% (range 1% and 25%) of protected area recurring costs. Moreover, whether citizens and the private sector of Central African nations would be willing to trust government sufficiently to pay taxes, and whether government would be willing to earmark tax revenues for conservation, remains an open question.

Biodiversity Conservation Is an Issue that Mandates Global Sources of Financing

With human population likely to double in 20 years, demand for land and resources will put increasing pressure on the forests of Central Africa. Protected areas will become ever more important for ensuring the long-term survival of Central Africa's unique plants and animals. Establishing and maintaining protected areas costs money, both in terms of management costs, and opportunity costs. Given the region's insecurity, inaccessibility, and economic troubles, very few domestic options exist for financing protected area costs. If the citizens of wealthy nations truly value the biodiversity contained within the forests of the Congo Basin, then they must convince their elected representatives to contribute significantly to their conservation. This includes offsetting protected area management costs, and compensating nations and local communities for the opportunity costs of conservation. At present, there is unfortunately little incentive and capacity for the local communities and poor nations of Central Africa to do so themselves.

Table 1: Protected Area Spending in a Sample of Nations Around the World

| | Total Area | Protected Areas | PA % | PPP | Government Expenditures | PA Spending | % of Budget | Unit Area Spending |
|----------------|-----------------|-----------------|------|-------------|-------------------------|---------------|-------------|-------------------------|
| COUNTRY | km ² | km ² | % | Int\$/US \$ | Int \$ million PPP | Int\$/000 PPP | % | US% PPP/km ² |
| Germany | 356,910 | 58,579 | 16% | 0.68 | \$696,320 | \$45,968 | 0.01% | \$785 |
| Netherlands | 37,330 | 3,500 | 9% | 0.85 | \$144,500 | \$19,635 | 0.01% | \$5,610 |
| United Kingdom | 244,820 | 46,271 | 19% | 0.99 | \$487,674 | \$161,073 | 0.03% | \$3,481 |
| Canada | 9,976,140 | 496,812 | 5% | 1.09 | \$122,734 | \$308,470 | 0.25% | \$621 |
| USA | 9,372,610 | 982,192 | 10% | 0.95 | \$,570,350 | \$1,864,565 | 0.12% | \$1,898 |
| Angola | 1,246,700 | 81,812 | 7% | 1.4 | \$3,500 | \$30 | 0.00% | \$0 |
| Botswana | 600,370 | 100,250 | 17% | 1.1 | \$2,074 | \$5,654 | 0.27% | \$56 |
| Burkina Faso | 274,200 | 31,937 | 12% | 2.19 | \$1,077 | \$261 | 0.02% | \$8 |

| | | | | | | | | |
|-------------------------------------|-----------|---------|-----|------|----------|-----------|-------|---------|
| Cameroon | 475,440 | 25,948 | 5% | 1.2 | \$2,676 | \$771 | 0.03% | \$30 |
| Central Africa Republic | 622,980 | 46,949 | 8% | 1.58 | \$3,002 | \$505 | 0.02% | \$11 |
| Cote d'Ivoire | 322,460 | 19,929 | 6% | 1.8 | \$4,680 | \$2,524 | 0.05% | \$127 |
| Democratic Republic of Congo | 2,345,410 | 100,262 | 4% | 1.9 | \$464 | \$768 | 0.17% | \$8 |
| Ethiopia | 1,221,900 | 32,403 | 3% | 2.6 | \$3,848 | \$4,806 | 0.12% | \$148 |
| Gabon | 267,670 | 18,170 | 7% | 0.72 | \$1,058 | \$178 | 0.02% | \$10 |
| Ghana | 238,540 | 13,049 | 5% | 3.27 | \$4,251 | \$3,011 | 0.07% | \$231 |
| Kenya | 582,650 | 32,726 | 6% | 5.2 | \$14,040 | \$69,685 | 0.05% | \$2,129 |
| Malawi | 118,480 | 10,585 | 9% | 3.08 | \$2,076 | \$2,069 | 0.10% | \$195 |
| Namibia | 824,290 | 112,159 | 14% | 1.8 | \$2,160 | \$14,170 | 0.66% | \$126 |
| Niger | 1,267,000 | 84,163 | 7% | 2.12 | \$784 | \$143 | 0.02% | \$2 |
| Nigeria | 923,770 | 34,218 | 4% | 3.65 | \$50,735 | \$12,310 | 0.02% | \$360 |
| South Africa | 1,221,040 | 57,638 | 5% | 1.28 | \$48,640 | \$157,065 | 0.32% | \$2,725 |
| Tanzania | 945,090 | 258,997 | 27% | 6.7 | \$6,700 | \$52,074 | 0.78% | \$201 |
| Zimbabwe | 390,580 | 50,736 | 13% | 2.7 | \$7,830 | \$18,090 | 0.23% | \$357 |

Source: (James et al. 1997), (ART, 1998), (CIA, 1992)



Insecurity and competition from East and Southern African parks makes tourism unlikely to generate significant funds for most protected areas in Central Africa.

What Can You Do About It?

Grassroots

Get involved! Contact your elected representatives to tell them that you are concerned about the under-financing of protected areas in West and Central Africa and that conserving biodiversity in Africa matters to you.

Government and Donors

Commit resources to ensure that all protected areas have funding, personnel, and the infrastructure sufficient to ensure the long-term persistence of the plants and animals within their borders.

Private Sector

Consider assuming financial responsibility for a protected area, by providing funds sufficient to cover either the direct management costs, or to compensate local economies for lost revenues.



Safari hunting that relies primarily on Bongo and only occasionally on other species (giant forest hogs, sitatunga, duikers) is unlikely to be economically or ecologically sustainable.

For More Information

Technical Reports

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CARPE...What Is It?

Central African Regional Program for the Environment (CARPE)

Launched in 1995, the *Central African Regional Program for the Environment (CARPE)* engages African NGOs, research and educational organizations, private-sector consultants, and government agencies in evaluating threats to forest integrity in the Congo Basin and in identifying opportunities to sustainably manage the region's vast forests for the benefit of Africans and the world. CARPE's members are helping to provide African decision makers with the information they will need to make well-informed choices about forest use in the future. BSP has assumed the role of "air traffic controller" for CARPE's African partners. Participating countries include Burundi, Cameroon, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, Republic of Congo, Rwanda, and São Tomé e Príncipe.

Web site:

<http://carpe.umd.edu>

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