CENTRAL AFRICAN REGIONAL PROGRAM FOR THE ENVIRONMENT

CONGO BASIN Information SERIES

CARPE March 2001

Issue Brief #3

#3 — Rich Forests, Poor Countries: Adapting Forest Conservation to Economic Realities

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Key Concepts

- A strategy for forest and biodiversity conservation in the Congo Basin now being promoted by many conservation organizations is to maintain and expand the number of large parks in remote areas of pristine forest. But in many poor countries the effectiveness and conservation impact of the conventional parks model is questionable.
- Forests in many parts of the Congo Basin will come under much greater pressures from a

combination of increasing population and demand for economic development over the next several decades, and the big, remote, pristine parks model of conservation may not be socially, politically, and economically sustainable.

- Over-hunting, often associated with logging, is the most serious threat to many larger mammals in much of the Congo Basin. Controlling this over-hunting will require a combination of measures to reduce urban demand for bushmeat and tighter supervision of logging sites, rather than additional protected areas.
- An alternative model for conservation in the Congo Basin would involve three general types of conservation areas in a multiple-use mosaic: a relatively small number of elite, globally significant sites; a representative network of smaller protected areas spread more broadly throughout the landscape, with a relatively high density of sites in more populated areas; and a much larger area under multiple-use (IUCN Category VI) management.
- The urgent needs of human development will be better reconciled with the urgent needs of conservation through such a three-pronged strategy than through exclusive focus on big, remote, pristine parks, and it will be much easier to generate the political will needed for sustaining such a strategy.
- Governance structures and management institutions required for multiple-use landscape conservation are much different than those developed for conventional protected area conservation, involving much greater decentralization and devolution of decision-making to the local level, while still protecting the interests of stakeholders at the national and global levels.

Big, Remote, Pristine Parks: The Current Model for Conservation

Many conservation programs appear to be driven by the perception that there are still vast areas of pristine wilderness in the tropics, but that these are now being rapidly eroded by human settlement and economic development. Much of the investment in conservation in the Congo Basin has been channeled toward large, remote areas in which most forms of human use can be minimized. The assumption underlying this emphasis is that human presence is incompatible with the maintenance of high levels of biological diversity. The emphasis on large, remote parks has important implications for conservation, and serious thought must be given to whether this is a sound strategy. Some conservationists argue that important elements of biodiversity are also found in highly threatened habitats in less-remote, populated regions, and that by ignoring such sites we risk substantial loss of biodiversity.

Many conservationists are now calling for increased international investment in parks and other strict protected areas, and global targets have been proposed– for instance, to protect 10% of all forests. Some biologists have argued that even this optimistic target would be far too low to

conserve most species, and that a goal of 50% of tropical forest under strict protection should be the goal. New protected areas are being proposed in the Congo Basin, and national leaders are being asked to support ambitious targets for expanding the percentage of land under protection. Some have called for expanding protected-area management to the landscape or ecosystem scale, which is a positive development because it recognizes the need to place biodiversity conservation in a larger spatial context, but simply increasing the area and number of parks may not be an effective strategy.

Problems with the Current Model

In the Congo Basin, very large areas of species-rich forests exist in countries that are among the world's poorest. Decision makers and ordinary people in these countries are far more concerned about meeting short-term local and national needs than about the long-term value of global biodiversity. Many investments in biodiversity and forest conservation in these countries have tended to ignore this reality. Given present economic realities, it is hard to see how such investments can be sustained unless much greater emphasis is given to reconciling conservation objectives with economic needs. Conventional conservation approaches based on a strictly protected park model often antagonize local people and provide few compensating benefits, despite occasional efforts to direct development investments toward neighboring communities.

Unlike landscapes where agriculture, mining, and logging are the principal land uses, protected areas do not generate significant revenues for Central African countries, and seldom are self-supporting anywhere in the world. The costs of these lost opportunities can have a severe impact on both local and national economies. In Central Africa, for example, the opportunity costs of not logging in protected areas amount to millions of dollars per year.

One of the most severe threats to many larger mammals in the region is uncontrolled hunting in and around logging concessions to supply bushmeat for concession laborers and urban markets. Better management and supervision of logging sites and long-term efforts to reduce urban demand for bushmeat are both needed to mitigate this critical threat to biodiversity. Establishing new parks in remote locations will not address either of these requirements.

In the Congo Basin, reconciling local and national needs of human development with global concerns for biodiversity conservation is a challenge.

The long-term political, social, and economic sustainability of the big, remote, pristine parks model is questionable. The Congo Basin is often thought of as a region of vast frontier forests, yet recent forest modeling studies suggest that over the next 30 years many forest areas in the region will come under much greater pressure from a combination of economic development and increasing population. Given present trends, some large tracts of forest will remain more or less intact, but much of the region's forested area is almost certain to undergo a transformation from old-growth forest to degraded or secondary forest, or to agriculture.

An emerging body of evidence suggests that the assumption that tropical forests are pristine is questionable. Instead, tropical forests have been occupied and managed to some degree by people for millennia, and their present structure and species diversity are often, in part, a product of long-term human-forest interactions. Low levels of human use and disturbance may help maintain species diversity. While traditional use is not necessarily consistent with conserving all species, very considerable levels of biodiversity can be maintained under certain forms of human use; on the other hand, the conservation benefits of strict protection have sometimes been disappointing.

Not all species of plants and animals are equally threatened by, or tolerant of, human use. Some species thrive in human-dominated landscapes, whereas others quickly disappear as human occupation and use of a landscape increases. Thus, though the genetic, species and ecosystem diversity of anthropogenic landscapes tends to be much lower per unit area than that typically found in even inadequately managed protected areas, not all species are equally at risk within such landscapes.

Parks Have Had Less Conservation Impact than Hoped

Throughout the tropical world, substantial investments have been made in forest conservation, yet several recent studies have concluded that international efforts to conserve the biodiversity of tropical forests are yielding disappointing outcomes. Some studies have questioned whether the traditional parks model of conservation promoted by international development assistance agencies is even appropriate for very poor countries, on both ethical and practical grounds. Furthermore, conventional parks projects are facing increasing scrutiny of the results that have been achieved, and rigorously defined measures of outcomes are surprisingly rare.

Many conservation programs are based on highly optimistic assumptions about the extent of the benefits that poor people will derive from natural forests. Although many programs aspire to both relieve poverty and conserve forests, in many cases they fail to achieve either. Many conservation projects are heavily dependent on external financing, management and technical support, and may be unsustainable over the long term. Furthermore, the current network of protected areas in tropical forest regions, including the Congo Basin, is not necessarily representative of the full range of biodiversity found there because representation was not a criterion for establishing them.

Multiple-Use Landscapes: An Alternative Model for Conservation in the Congo Basin

An alternative model for conservation in the Congo Basin would involve three general types of conservation area, each serving a different purpose in a multiple-use landscape. In this multiple-use mosaic model, parks and other strict protected areas would still be an important element, but would no longer be seen as the sole element of biodiversity conservation.

A relatively small number of elite, globally significant sites would be one leg of the biodiversity conservation triad in this model. These sites could be large, remote national parks, including already gazetted World Heritage sites. The forests of the Congo Basin are represented on the World Heritage list by six sites in three countries.

A network of smaller protected areas spread more broadly throughout the landscape, and including a relatively high density of small sites in more populated areas, is another element in this model. The distribution of these smaller natural areas should probably attempt to represent the diversity of forest types throughout the region, and conserve plants and animals not represented within the few big parks. The current protected area network in the Congo Basin has far fewer and much larger (on average) protected areas than in developed countries like Australia, the United Kingdom, and the United States. There is debate among conservation biologists about the merits of single large, versus several small, conservation areas. Small areas, if dispersed, may be better for conserving some kinds of organisms (such as plants and

invertebrates) while fewer but larger protected areas may be better for conserving other kinds (such as large mammals).

Multiple-use protected areas, designated by the IUCN as Category VI, are the third important element of this conservation model. There is a striking lack of protected areas of this type in the Congo Basin. By contrast, in many industrialized countries only a small part of biodiversity conservation is achieved in protected areas in IUCN's categories I, II, and II (strict nature reserves and wilderness areas, national parks, and national monuments), and species conservation is more often seen as one among many land-use objectives. In the western United States, for example, IUCN Category VI protected areas, such as national forests, are the dominant type of protected area. Timber harvesting, hunting and recreation are often equally important activities in these areas. This helps to build community support for conservation, and offsets some of the costs associated with it.

In the poor countries of the Congo Basin, reconciling local and national needs of human development with global concerns for biodiversity conservation is a challenge that may best be met if the conservation portfolio gives more emphasis to multiple-use areas. Such areas provide local and national benefits and economic incentives, while also helping to sustain global values such as species diversity. Economically integrated multiple-use conservation areas can help create the political will for long-term sustainable management of forests in the region.

Conservation in Multiple-Use Landscapes

There is still much to learn about how to effectively decentralize and devolve governance structures for natural resources management in developing countries. Management institutions for multiple-use landscape conservation will surely require significant adaptation from present models. They will certainly be very different than the command-and-control culture of conventional park and protected area agencies. They will require a greater degree of devolution of decision making and sharing of authority than has been common in the past. Local conservation programs will have to be tailored to local needs and negotiated with local stakeholders. Land managers will have to have the independence to make agreements with local people and the judgment to decide upon the trade-offs between local needs and national- and global-level conservation objectives. Success should be defined in terms of the quality of management rather than the extent of the area legally protected.

Much is already being learned from community-based resource management in other sectors, as well as joint forest management or co-management in other forest areas. Some of the most important conclusions to be drawn from this experience are as follows:

- Central governments cannot abdicate all authority; if they do, then conservation attributes of national or global importance will be lost.
- The credibility, authority, transparency and professionalism of intermediate organizations is very important if large numbers of local stakeholders are to be empowered to manage

resources. Such organizations can range from local NGOs to decentralized, autonomous government bodies.
- Economic incentives or compensation will almost always be required for local stakeholders if they must forego some uses of the natural resources of an area in order to maintain other competing values of interest to stakeholders at the national or global level.

The Malawi Principles for Ecosystem Approaches to Management (Box 1), at present under discussion in the context of the work of the Convention on Biological Diversity, are relevant.

Diversifying the Conservation Portfolio: A Precautionary Strategy

Forest conservation in the Congo Basin will require more diversified approaches in order to manage a wider range of land-use systems more effectively, at lower cost, and with significantly more local and national participation. A precautionary strategy would involve a balanced emphasis on a small number of large, elite parks; a network of smaller protected areas spread more broadly throughout the landscape; and conservation areas aimed at the sustainable production of natural resources. The current enthusiasm for the big, remote, pristine parks model of forest conservation is risky. This model may fail due to the lack of a strategy for achieving political, social, and economic sustainability. Multiple-use areas should receive far more attention in the Congo Basin than they have so far received. In the long term, an integrated strategy that links biodiversity conservation with regional development is needed.

Forests in Central Africa are an important source of revenues for national treasuries and are a very active economic sector.

The Malawi Principles for Ecosystem Approaches to Management

Management objectives are a matter of societal choice.

Management should be decentralized to the lowest appropriate level.

Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.

Recognizing potential gains from management there is a need to understand the ecosystem in an economic context. Any ecosystem management program should:

- Reduce those market distortions that adversely affect biological diversity;
- Align incentives to promote sustainable use;
- Internalize costs and benefits in the given ecosystem to the extent feasible.

A key feature of the ecosystem approach includes conservation of ecosystem structure and functioning.

Ecosystem must be managed within limits set by their ecological functions.

Management should be undertaken at the appropriate scale.

Management must recognize the varying temporal scales and lag effects that characterize ecosystems.

Processes and objectives for ecosystem management should be set for the long term.

Management must recognize that change is inevitable.

The ecosystem approach should seek the appropriate balance between conservation and use of biological diversity.

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 Principe.

Web site:
http://carpe.umd.edu

The Biodiversity Support Program (BSP) is a consortium of World Wildlife Fund, The Nature Conservancy, and World Resources Institute, funded by the United States Agency for International Development (USAID). This publication was made possible through support provided to BSP by the Africa Bureau of USAID, under the terms of Cooperative Agreement Number AOT-A-00-99-00228-00. The opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID.

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