
*African People,
African Parks*



Lee Hannah

AFRICAN PEOPLE, AFRICAN PARKS

An Evaluation of Development Initiatives as a Means of Improving Protected Area Conservation in Africa

Lee Hannah

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The concept of an evaluation of conservation/development projects originated with Michael Wells. Subsequently, Mike (then at the World Bank), Katrina Brandon of WWF and I joined in a collaborative effort to review Integrated Conservation and Development (ICD) projects in Asia, Africa and Latin America. Many of the ideas in this volume had their origins in hours of productive talks with Mike and Katrina. Their perseverance and insight have been crucial to the production of this study, and indispensable in the larger analysis of ICD projects worldwide being published by the World Bank. Mike and Katrina both became spouses and parents in the course of the work. Their families deserve gratitude for sharing them. Sharon Pitcairn, Tim Resch and Robin Bell have made helpful comments on this manuscript. This study was conducted as partial fulfillment of an American Association for the Advancement of Science (AAAS) Science and Diplomacy Fellowship with the Africa Bureau of the Agency for International Development. AID, the Biodiversity Support Program and Conservation International have generously supported the analysis and writing. I would like to extend special thanks to all of those who gave their time, insights and encouragement during the interviews and field visits.

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cover: Maasai girl in southeastern Kenya

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SECTION 1: STUDY OVERVIEW

I. INTRODUCTION

A reconciliation is taking place in Africa. People and parks are being brought back together. Traditional African relationships with wildlife are being re-examined in a positive light, while European and colonial models are being called into question. Political changes on the continent are adding momentum to this process. Apartheid is being dismantled. New democratic governments are assuming power and unpopular policies are being challenged. Oppressive park conservation policies are being seriously re-examined in this climate. Local people object to harsh enforcement tactics and scholars object to absence of local participation and disregard for traditional practices.

The recent literature on bringing people and parks closer together dates from Western's 1982 classic essay on a new management approach for Amboseli National Park. The relationship of local people to parks was the major theme of the 1982 World Parks Congress. For Africa, Lusigi and others advocated new concepts integrating people into protected area planning. More recently, Marks (1984), Matowanyika (1989) and others (e.g. Anderson and Grove, 1987) have critiqued colonial conservation approaches. These authors advocate revitalizing traditional relationships between people and wildlife. A strong consensus is emerging that African parks must involve local people in management decisions, that local people must benefit from parks, and that the support of local people is essential to the long-term existence of protected areas in Africa.

But these are only ideas. Few parks in Africa actually apply these new methods. Retraining staff, rewriting management plans, and developing community benefits are all expensive. In the difficult economic setting of Africa, no government parks authority has had the resources to revamp its entire park system in line with the new theory.

Instead, a handful of internationally-financed projects have pioneered the practical application of the new ideas. Beginning with the Amboseli National Park project, a few ambitious efforts emerged to test the new theory. These projects generally tried to involve local people in park management and offer development benefits to local communities. The literature focused on these projects, widely publicizing their early promise. This exposure in turn inspired major international support and a generation of people-oriented parks management projects.

Do the ideas work? Today there are over 30 people and parks projects in Africa. Yet the pioneer projects of the early eighties have barely been revisited. Many of the current projects have been designed with no knowledge of some of the less publicized pioneering efforts. New projects continue to be designed with little reference to past successes and mistakes, drawing only on fragmentary, out-of-date information and misleading promotional materials. Virtually no comparative analysis of the successes and failures of people and parks projects has been published.

This study is intended to address this lack of information. It reviews the implementation record of projects addressing rural development as part of protected area management in Africa and makes suggestions for future project design. The projects reviewed here collectively represent the spectrum of approaches now integrating development and conservation at the protected area level. This is a spectrum which has been only partially examined in formulating conservation theory, and only informally tapped in designing a rapidly growing number of new projects linking protected area conservation with development initiatives in surrounding communities.

It is hoped that by formalizing and publicizing some of the results that have been informally recognized and debated by African conservationists for years, this study will inform the debate on these issues. By looking beyond the myths and by searching out the lesser known efforts, it hopes to contribute to the better design and implementation of projects which help local people at the same time that they conserve protected areas.

II. BACKGROUND AND STUDY METHODS

Protected Areas and Pressures

National parks in tropical Africa number 167 and cover over half a million square kilometers. These include savanna parks with spectacular populations of large herbivores, tropical forest parks of special importance for their high species diversity, and unique Afromontane parks with habitats that rapidly grade from moist forest to alpine dwarf vegetation. Africa's parks include some of the world's largest, such as Zaire's Salonga (3,656,000 ha), Namibia's Etosha (2,127,000 ha) and Zambia's Kafue (2,240,000 ha). They also include some of the most visited, such as Kenya's Amboseli, which draws over 100,000 visitors each year (MacKinnon, 1986).

The more than 500 other protected areas in Africa south of the Sahara mostly offer lesser degrees of protection than do national parks. The majority of these areas are game reserves or forest reserves. Many allow human habitation and resource exploitation. Others are managed to more stringent objectives which would meet international standards for national parks or strict nature reserves (see box). There are 22 strict nature reserves in tropical Africa, half of which are in Madagascar (MacKinnon, 1986).

Protected areas in Africa are administered under diverse sets of legislation specific to individual countries. Not all African national parks conform to IUCN guidelines. Of the 167 national parks in tropical Africa, only 58 are managed to the IUCN category II standard. A further 33 are administered consistent with the more restrictive IUCN category I. The remaining 76 meet less stringent management objectives (MacKinnon, 1986).

African national parks are often run on very small budgets by developed country standards. The maintenance budget for Kenya's world-famous Amboseli National Park was approximately \$25,000 in 1988 (F. Mukungi, personal communication). Madagascar's entire 1987 national park investment budget was under \$1,000.

With the large areas and low operating budgets characteristic of many African parks, management effectiveness can be extremely low. Zaire's Salonga National Park is so huge that human activity is virtually uncontrolled within its boundaries. Zambia's Kafue Flats National Park suffers from uncontrolled poaching over much of its area for the same reason. In the early 1980's, Botswana had under 50 national park staff to administer 39,805 square kilometers of national parks. Angola had 44 staff people to administer over twice as much area as that to which Kenya's 416 parks staff was assigned. Most African countries spend less than one fifth of the annual investment of \$230 per square kilometer of protected area estimated to be necessary to achieve effective conservation (Leader-Williams and Albon, 1988).

These management limitations are compounded by a serious and rapidly expanding population pressure in surrounding areas. Population growth is more rapid in Africa than in

focus on parks

PROTECTED AREA STANDARDS

The World Conservation Union (IUCN) sets international benchmark standards for protected area management. In the IUCN classification in use at the time of this study, there were eight categories of protected area, ranging from Strict Nature Reserve (Category I) to Multiple use Management Area (Category VIII). More recently, the IUCN Commission on National Parks and Protected Areas (1991) has revised this system to include only five categories, ranging from Wilderness Area (Category I) to Protected Landscape (Category V). In both systems, National parks are designated Category II, and their management objectives are defined as protection of "natural and scenic areas" with the intention of perpetuating "biotic communities, genetic resources, and species". Human activity in Wilderness Areas (Category I) is restricted to research, and in national parks to research, education and recreation. Protected area categories III through V allow progressively more human use and more manipulation of ecosystems to meet species management objectives and human needs. Human habitation and commercial resource use are consistent with protection category V (protected landscape). Exclusion of most human uses makes integration of conservation and development a special challenge in Category I and II areas, which is why they have been chosen as the focus of this study. The revised system of categories and their management objectives are summarized below.

- I. **Strict Nature Reserve/Wilderness Area.** To maintain essential ecological processes and to preserve biological diversity in an undisturbed state, in order to have representative examples of the natural environment available for scientific study, environmental monitoring, education, and for the maintenance of genetic resources in a dynamic and evolutionary state. Research activities need to be planned and undertaken carefully to minimize disturbance.
- II. **National Park.** To protect natural and scenic areas of national or international significance for spiritual, scientific, educational, recreational and tourism purposes. The area should perpetuate, in a natural state, representative samples of physiographic regions, biotic communities, genetic resources, and species, and to provide ecological stability and diversity.
- III. **Natural Monument.** To protect and preserve outstanding natural features because of their special interest, unique or representative characteristics and to the extent consistent with this, provide opportunities for interpretation, education, research and public appreciation.
- IV. **Habitat and Wildlife Management Areas.** To assure the natural conditions necessary to protect significant species, groups of species, biotic communities or physical features of the environment where these require specific human manipulation for their perpetuation. Scientific research, environmental monitoring, and education are the primary activities associated management of this category.
- V. **Protected Landscapes/Seascapes.** To maintain significant areas which are characteristic of the harmonious interaction of nature and culture, sites providing opportunities for public enjoyment through recreation and tourism and supporting the normal lifestyle and economic activity of the area.

any other area in the world. The current population of the continent is 646 million people, with a projected increase to 1,523 million in the year 2020. The average annual population increase for the continent is 2.9 percent, compared with 2.2 percent for Asia excluding China and 2.1 percent for Latin America (Population Reference Bureau, 1989 World Population Data Sheet).

This rapid population growth reflects in part lower standards of living in Africa. Average per capita GNP for Africa in 1987 was \$610, less than half of the level for Asia or Latin America. Harsher living conditions and lower education levels associated with poverty are believed to impede a 'demographic transition' to lower growth rates which accompany a

shift in reproductive strategy from large families and little individual care to small families and higher investments in the development of each child.

This general picture of population increase and poverty has raised serious concerns for the future of African protected areas. Since most of the continent's population relies on agriculture for livelihood, increasing population leads directly to increasing pressure on land and the need to expand to marginal and unexploited areas. While protected areas cannot satisfy the human needs generated by Africa's population growth, the sheer need for new land may result in conversion of protected areas unless compelling economic and social motivation exists for their continued protection.

The present study was initiated to evaluate the success of recent approaches to reconciling Africa's large protected areas with increasing population pressures and human needs. The results of the study are intended to assist donors and governments in the design of projects in which development is used to enhance the conservation of protected areas.

Study Methods

The study consisted of three phases: interviews with conservation professionals and organizations; field visits to select projects; and analysis. The interview phase identified projects with over two years of actual development activity implementation in the field. From this set of projects, a limited set of field case studies was chosen for more detailed analysis. Case study materials formed the substance of analysis on which this report is based.

Interviews with over 40 conservationists were conducted to determine which protected areas in Africa were the subject of donor-funded attempts to integrate conservation with the social and economic development of local people. Persons interviewed were in general conservation professionals in positions of authority with major international conservation NGOs. Independent consultants were also interviewed when their experience in conservation- and development-related projects was strong.

Interviews were conducted in 1988 at World Wildlife Fund-US, Washington, D.C.; The United States Agency for International Development (AID), Washington, D.C.; Conservation International, Washington, D.C.; World Wide Fund for Nature (WWF), Geneva; World Conservation Union (IUCN), Geneva; IUCN Conservation Monitoring Center, Cambridge; WWF, Nairobi; African Wildlife Foundation (AWF), Nairobi; Wildlife Conservation International (WCI), Nairobi; IUCN, Nairobi; AID, Nairobi; and IUCN, Harare. Telephone interviews were conducted with staff of the Peace Corps, U.S. National Park Service, WCI (New York) and other conservation organizations.

The most remarkable result of the interviews was that while conservationists strongly supported the concept of addressing local development needs in protected area management,

most were unable to name more than one or two areas where this principle was actually being applied. Another outstanding feature was the frequency with which one or two projects were mentioned. Amboseli National Park in Kenya was the most frequently cited project. Many respondents had the impression that a large number of projects were addressing this issue in Africa, but were unable to name even one.

The interview results were used to generate a list of long-standing conservation/development projects from which sites for field visit analysis could be selected. Project contacts or sponsoring organizations were recorded. Project data was confirmed by telephone or personal interviews with responsible parties at the regional or international offices of the relevant sponsoring organization. Available project design documents, progress reports, and other relevant materials were obtained from the sponsoring organization. In several cases, sponsoring organizations were kind enough to give the author access to their project files.

Field visits were conducted in March through July of 1989. Field visit duration was 5-10 days for each project site. In some instances (e.g., Amboseli) more than one project was visited per site. In several cases, field visits reinforced previous visits to the site by the author (e.g., Bururi).

The field visits were used to interview project staff, verify physical and geographic information, and conduct informal interviews with project beneficiaries. The results of the interviews are presented in the following section, which also lists the projects which were subject to field visits. The results of select field visits are presented in the case studies.

III. RESULTS

Ten projects were identified which incorporated development into protected area management and had at least two years of implementation experience with development activities. These projects are presented in Table 1, ordered by length of time development activities have been underway. Projects are included on the list only if the protected area involved is managed to IUCN category II standards and development is a specific objective of the project receiving budgetary support. Projects which addressed only conservation education and community liaison were not included. The list includes only those projects with development activities underway in 1987 and those still active at the time of the study (1989), consistent with a focus on lessons learned from ongoing projects with substantial implementation experience.

The longest-running conservation/development project identified is the waterpoint and community development project at Amboseli National Park in Kenya. The second longest-running project identified is the Mountain Gorilla Project in Rwanda. These two projects have received considerable publicity and press attention. They were the projects most often mentioned in the interviews.

Other projects on the list of ten were less publicized and less well known. Some more recent projects, such as the East Usambaras project of IUCN and the Beza-Mahafaly project in Madagascar, are enjoying increasing recognition. Others, such as the Bururi Forest Project, have run for over half a decade, but are still relatively little known.

The average length of implementation experience for the projects was just over five years. More than half of the implementation experience rested with the four oldest projects. Office and field interviews indicated that two years was a typical amount of time required to have development activities established and fully operational. The number of projects with full implementation experience for development was therefore only 7 at the time the study was conducted.

Only the Amboseli, Mountain Gorilla, Bururi and Air-Tenere projects had more than five years of implementation experience, and only the Bururi project had run the full project cycle (donor support terminated and project turned over to government for operation). The Amboseli project had been implemented by government from its inception. Since the study was completed, the Mountain Gorilla Project has also been turned over to government.

The range of donors, implementation arrangements and project designs represented made for useful comparisons of alternative approaches. Amboseli was funded by a development bank and was implemented with no permanent on-site technical assistance, while most other projects had permanent on-site technical assistance. The Bururi and Rumonge projects were implemented by development donors in cooperation with the

Project	Country	Sponsor/ Implementor	Development Component	Year Initiated
Amboseli National Park	Kenya	World Bank/ Government of Kenya	Waterpoint access, revenue sharing	1977*
Mountain Gorilla Project	Rwanda	AWF/ Government of Rwanda	Tourism	1979
Bururi Forest Project	Burundi	AID/ Government of Burundi	Agroforestry	1982
Air-Tenere Project	Niger	IUCN/Govt. of Niger	Management of arid lands	1982
Wildlife Extension Project	Kenya	African Fund for Endangered Wildlife	Small scale rural development	1985
Rumonge Forest Project	Burundi	Catholic Relief Services/Govt. of Burundi	Agroforestry	1986
Nyungwe Forest Project	Rwanda	Swiss, French, EEC, IBRD/ Govt. of Rwanda	Ag. improvement, rural industry, tourism	1984**
Beza- Mahafaly	Madagascar	WWF/Govt. of Madagascar	Road construction, ag. improvement	1977**
Andohahela Project	Madagascar	WWF/Govt. of Madagascar	Agricultural improvement	1987
Kafue Flats Natl Park	Zambia	WWF/Govt. of Zambia	Wildlife utilization	1987

* - Project data in **Bold** indicate field visits

** - Development activities initiated in 1987

Table 1. People and Parks Projects in Africa meeting field visit criteria.

government conservation agency. Most other projects were implemented through conservation NGOs and conservation and development ministries of government. The older projects had little or no involvement of government development ministries, while government development agencies were increasingly involved in the newer efforts.

Development activities included agricultural improvement, local institution building, agroforestry and wildlife utilization. Wildlife utilization (including tourism) was involved in three of the four savanna projects, while five of the six forest zone projects involved agroforestry or agricultural improvement. The Mountain Gorilla Project focused primarily on tourism. Tourism was also a major focus at Amboseli, and most other projects included at least some emphasis on tourism development or control.

Some of the better known projects in Africa are not included in the list. This is because they were of insufficient duration or had limited actual development implementation. Many more projects incorporated the rhetoric of local development than had actually taken concrete steps to implement development activities. Projects which limited "development" components to planning or education were not included. Projects with major planned development components not yet implemented were excluded. An extremely interesting case, that of the Maasai Mara Reserve in Kenya, was excluded because it was not a donor-funded project, and because its initiation was so far in the past that reconstructing project history was beyond the scope of the study. Readers interested in an introduction to the effort at the Mara should consult Talbot and Olindo (1990). Projects identified by the study but not qualifying for the field visit selection list are presented in Table 2.

There is a clear trend toward increasing numbers of conservation/development projects in Africa. Projects initiated since the interviews for this study were conducted (see Table 2) may equal or exceed all previously existing projects. This study identified 5 conservation/development projects initiated between 1975 and 1985, but over 15 projects have been initiated since 1985. The IUCN/EEC Central African Project alone claims to address development issues in the context of conservation in 7 countries. In light of this rapid expansion of development projects at protected areas, the application of implementation lessons to future project design is timely and important.

Project	Country	Sponsor/ Implementor	Development Component	Year Initiated
Luangwa Integrated Rural Development Project	Zambia	IUCN/Government of Zambia	Wildlife utilization, marketing, agricultural improvement	1986**
East Usambaras Project	Tanzania	IUCN/Govt. of Tanzania	Agricultural improvement	1987
Mananara Biosphere Reserve	Madagascar	UNESCO/Govt. of Madagascar	Rural development, agricultural improvement	1988
Mt. Oku (Kilum Mtn)	Cameroon	WWF	Rural development	1988
Tsavo National Park	Kenya	AWF	Rural development	1988
Montagne d'Ambre	Madagascar	WWF	Rural development	1989
Korup	Cameroon	WWF	Land use management, rural development	1989
Masoala	Madagascar	Missouri Botanical Garden	Agricultural improvement	1990
Dzanga-Sangha Forest Reserve	Central African Republic	WWF-US	Rural development	1988
Ngorogoro Conservation/Development Project	Tanzania	IUCN	Land use management, rural development	1988
Kuwenzori Conservation/Development Project	Uganda	WWF-US	Sustainable resource use	planned
Central Africa Project	7 Central African Countries	EEC	Community based resource management	planned
Mt. Kulal Biosphere Reserve	Kenya	WWF/Govt. of Kenya	Rural development	1976 (inactive)
Maasai Mara District Reserve	Kenya	Government of Kenya	Revenue return for rural development	1961 (inactive)

** - community development initiated in 1987 or later

Table 2. Community Development/Protected Areas Projects in Early Implementation (or inactive).

Project Profiles

Five of the ten qualifying projects were selected for field visits, based on duration of project development activities, project location and accessibility. The five longest-running conservation/development projects in east and central Africa were visited. The projects selected for field visits were the Amboseli National Park Project, the Wildlife Extension Project, the Bururi Forest Project (with its replication at the Rumonge Agroforestry Project) and the Mountain Gorilla Project.

The results of the field visits are discussed in the two case study sections which follow. The ten projects which made the field visit selection list are profiled below. These probably represent the ten longest-running conservation/development projects in Africa.



1. Amboseli National Park Plan

Amboseli National Park is located in southeastern Kenya at the foot of Mount Kilimanjaro. The Amboseli ecosystem is comprised of the 600km² Amboseli basin and a dispersal area about five times this large (Western, 1982). The Maasai pastoralists living in the Amboseli ecosystem numbered approximately 6,000 in the early 1980s.

In 1977, a progressive project was begun to share the benefits of a new National Park with the surrounding Maasai. Accompanying establishment of the park was an agreement for compensation of the Maasai for lost access to water and forage for their livestock.

The elements of the 1977 Amboseli agreement were:

- o A pipeline taking water from springs within the park to areas outside the park boundary (to eliminate the need for Maasai to enter the park to water their stock);
- o Payment of a compensation fee to the Maasai for loss of access to the park and for grass consumed by wildlife outside the park;
- o Development of camps and tourism circuits on Maasai land outside the park; and
- o Return of lodge royalties to Kajiado District Council, and construction of a school and dispensary for the use of local people.

The infrastructure for the system was funded by the World Bank, under its 1976 Tourism Project (IBRD, 1976). The project worked according to plan in its early years, but after 1981, the Amboseli system began to break down. The water supply system operated irregularly, and compensation fees went unpaid without explanation (Lindsay, 1987; Talbot and Olindo, 1990). The school proved to be in an unpopular location and tourism on Maasai

lands never developed to the degree anticipated. The Maasai entered the park to water their livestock, because waterpoints outside the park were not maintained.

The Amboseli Park Plan was a milestone in African conservation. It heralded a new generation of protected area projects which would plan and implement based on the principle of benefit for local people. It also provided a strong showing in the literature, which contributed to the perception that local people were important and were being considered in protected area planning. At the same time, the project did not fully meet many of its implementation objectives. Lindsay (1987) has criticized the 'top-down' nature of the project, arguing that it would have benefitted from greater degrees of local consultation, training, technical assistance and revenue return to local communities. The project continues under government and NGO funding and will be a priority for refurbishment under the new Kenya Wildlife Services. This project is examined in greater detail in the case studies.

Key References: Western (1982), Lindsay (1987).



2. Mountain Gorilla Project

Volcanoes National Park (Parc des Volcans) protects seven dormant volcanoes in the Virunga mountains which are the home of the easternmost gorilla population in Africa. The Mountain Gorilla Project was initiated in 1979 to help conserve the mountain gorilla, its habitat, and the Parc des Volcans. Objectives of the project included improved park enforcement, tourism development, and increased local awareness of the importance of conservation.

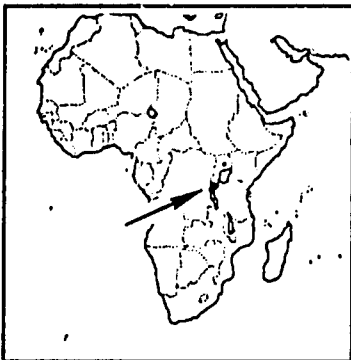
Prior to the project itself, an eighteen month, two-person planning study was conducted in the area. Based on the results of the study, the Mountain Gorilla Project was initiated with emphasis on park enforcement, tourism development and conservation education. The project employed several expatriate advisors and dozens of Rwandan staff.

Project tourism development has driven the success of other project components. The project habituated gorilla groups to human visits and initiated organized tourism as one of its first activities. Tourists were taken in small groups for one-hour visits with the gorillas. These visits proved extremely popular and became known throughout the world through project publicity, television and film treatments. Tourism has risen dramatically in both volume and value since project inception. By 1990, over 5,000 tourists a year visited the park, generating over \$1 million in revenues.

Tourism benefits, national recognition and project conservation activities have resulted in dramatic changes in local public opinion about the park. Less than half of local residents believed Parc des Volcans had regional benefits in 1979. By 1984, over 80% of respondents believed the park had regional benefits. Perhaps more significantly, the proportion of respondents identifying personal benefits from the park doubled between 1979 and 1984. While over half the respondents favored opening the park to exploitation in 1979, 71% opposed such a move in 1984.

The Mountain Gorilla Project was turned over to Rwandan authorities for implementation in 1990. Results after the turnover are not yet available. Conservation donors are working on similar initiatives for gorilla conservation and tourism on the Uganda and Zaire sides of the Virungas. Gorilla conservation remains one of the best known international conservation causes in Africa. This project is examined in the case studies.

Key References: Vedder and Weber (1990)



3. Bururi Forest Project

The Bururi Natural Forest Reserve is one of the last two remaining natural high altitude forests in Burundi. It is an important habitat for five species of primate, over one hundred avian species, and several rare afro-montane plants.

The Bururi Forest Project is an AID funded project implemented by the Government of Burundi. Peace Corps has participated, but there was no direct sponsorship by any conservation organization. The concept for the project was developed based on a one-day visit by short-term consultants with long-standing experience in Africa.

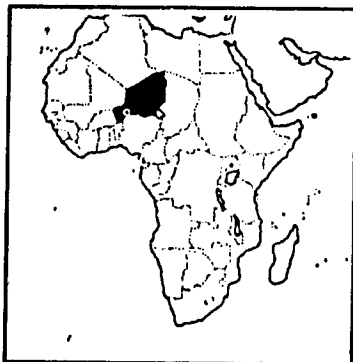
Initial project activities focused on the establishment of pine plantations in the deforested areas of the reserve. Nurseries were established, roads improved and construction of project headquarters initiated. There was no long-term technical assistance to the project.

Project evaluations in 1983 indicated that the emphasis on block plantations was ineffective in meeting community needs, and that lack of technical assistance was fostering an emphasis on blind adherence to plantation planting goals, at the expense of more qualitative goals such as community benefit (Weber and Vedder, 1983). The evaluations also noted that lack of reserve enforcement was permitting continued illegal use of the remaining natural forest (Olson, 1983).

Following the suggestions of the evaluations, the project was reoriented toward community agroforestry, extension and education. Agroforestry extension began in the summer of 1984. The volunteer extension agent made community presentations and initiated demonstration plots at local schools. Students were hired on a part time basis during the summer as agroforestry extension agents.

By 1985, the Bururi approach showed sufficient promise to inspire replication. Catholic Relief Services funded a second project using the Bururi approach, known as the Rumonge Agroforestry Project. Donor assistance to the Bururi project ended in 1987. The project has suffered severe recurrent cost problems since then. The project has survived owing to its strong past history and community volunteer support. The project experience indicates that there is a strong need for creative financial mechanisms to underwrite project recurrent costs. This project is examined in greater detail in the Afromontane case studies.

Key References: Bururi (1987) [unpublished project document]



4. Air-Tenere Project

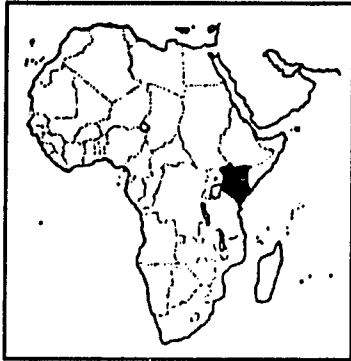
Niger's arid northern sector is the site of the Air Mountains and the Tenere region. The Air-Tenere Project was created in 1982 by the IUCN and the Government of Niger to address conservation and development in this challenging environment. The project area covers about 80,000 sq. km (twice the area of Switzerland).

The Tenere area is inhabited by Tuareg pastoralists, who also farm small plots of irrigated land. Population in the project area is approximately 4,500. The local population is relatively sedentary, and therefore directly responsible for conservation in the area.

The project aims to 1) conserve existing resources, 2) rehabilitate degraded resources, and 3) promote appropriate land use practices. The project has been successful in establishing a protected area (the Air-Tenere National Nature Reserve) and in introducing alternative technologies. The project has developed woodless construction techniques which reduce depletion of local wood resources. It is also working to promote and manage tourism.

The project is currently the main force behind conservation of the reserve and promotion of sustainable resource management. Development of government and local NGO capacity is an important future goal. The project continues under external financing through the early 1990s.

Key References: Newby (1990)



5. Wildlife Extension Project

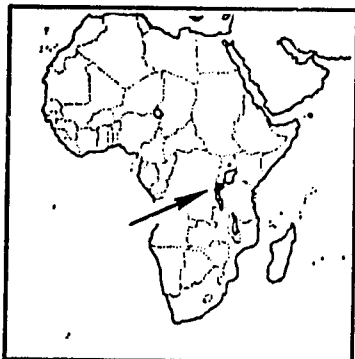
The Wildlife Extension Project (WEP) was established as a community-based, participatory approach to increasing Maasai benefit from wildlife. The project is located in the Loitokitok Division of Kenya, near Amboseli National Park.

The WEP approach drew on the principles of development philosopher Paulo Friere and techniques developed by church-affiliated development workers in Kenya (Berger, 1990). These techniques involved the use of workshops, community meetings and field extension work in which communities defined their own problems and devised means for solving them.

Project personnel consisted of a project coordinator and two, later three, assistants. The project has been sustained on small (under \$100,000) one-year grants throughout its history. WEP activities began with workshops and community surveys, and progressed to implementation of actual conservation actions. In its first year, the project conducted community surveys and hosted a week-long training workshop for Maasai group ranch leaders. In the following year, field extension was emphasized, partly because the difficulty of local transportation limited the effectiveness of the workshops. By the third year of the project, small community conservation actions had been identified and were proceeding to implementation. In 1988-89, the main quantifiable project output was the annual planting of about 15,000 trees by project participants.

WEP never fully realized its potential. This was due partly to logistical problems and partly due to conflicts between the WEP participatory method and traditional Maasai society (Berger, 1990). The project was limited from the outset by poor roads, a huge project area, and limited acceptance of outsiders in Maasai affairs. WEP expatriate technical assistance was concluded in 1988. The project continues under Kenyan leadership, and it will soon liaise with other wildlife/community development projects being developed for the area, which may reinforce its efforts. Further analysis of this project may be found in the Kenya case study section.

Key References: Berger (1989)



6. Rumonge Agroforestry Project

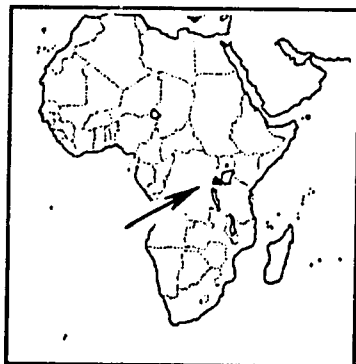
The Rumonge Agroforestry Project integrated conservation and development efforts around three reserves near Lake Tanganyika. The project was designed by the Peace Corps Volunteer assigned to the Bururi Project (see #3, above), who subsequently became the project manager. Catholic Relief Services funded the effort, providing a series of grants totalling approximately \$500,000 over the five years 1986-1990.

Project goals at Rumonge were forest conservation, agricultural development and environmental education. The project established demonstration farms and agroforestry nurseries which produced over 200,000 seedlings annually. Project extension efforts were built around a 'model farmer' approach, in which model farmers received free trees in return for developing a full range of agroforestry techniques on their land. Each village was assigned an extension agent and 4-5 model farms.

The project has also placed major emphasis on reserve enforcement and planning. The project hired six forest guards, placed a tourism center at the Kigwena reserve and designed and created the Vyanda reserve.

Rumonge is the first example of replication of a conservation and development project in Africa. It benefitted greatly from the previous experience at Bururi, on which it was modeled. Technical assistance to the project concluded in 1990 and financial support ends in 1991. The project may face the same recurring cost problems currently being experienced at Bururi when this happens.

Key References: Rumonge (1989) [unpublished project document]



7. Nyungwe Forest Project

The Nyungwe Forest Reserve protects a 970 sq. km (97,000 hectare) block of forest in southern Rwanda. The reserve includes about 10,000 ha in multiple-use buffer zone forest plantations.

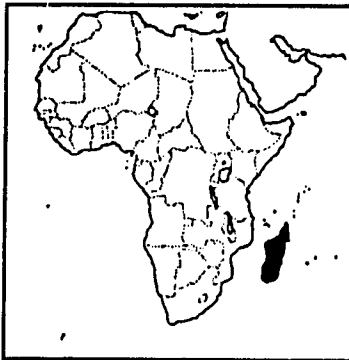
The Nyungwe Action Plan, created in 1984, divided the reserve into four sectors, and established donor support for conservation/development efforts in each sector. Participating

donors are the Swiss Development Agency, the EEC, the World Bank and the French Central Bank.

Local resource users in the Nyungwe include woodcutters, beekeepers and goldminers, with the latter posing the greatest threat to the reserve. The Nyungwe projects are promoting agroforestry, fuelwood economy, animal husbandry, pasture improvement and tourism as alternatives to forest destruction. Each donor is pursuing a slightly different approach. Tea plantations and fast-growing exotic trees are being promoted in the buffer zone.

Beekeepers have been instructed to relocate outside of the reserve in the buffer zone, and goldminers will be asked to leave the reserve. Local income-generating opportunities are being promoted including tea factories, small-scale industry and tourism. Recent civil unrest has troubled the projects, which are continuing under donor support.

Key References: Clausen (1990)



8. Beza-Mahafaly Project

Beza Mahafaly is a riverine forest surrounded by the spiny desert of southwestern Madagascar. The Mahafaly people have traditionally used the Beza Mahafaly forest for fruits and medicinal plants, fuelwood and hunting. The people living next to the Beza Mahafaly forest themselves proposed the area as a candidate to researchers seeking a project site.

The Beza-Mahafaly project was originally begun in 1977 by Yale University as a research and training project. By 1985, the project had met many of its early goals, including the establishment of a forest reserve created through an agreement with local people. In 1987, the project began small-scale rural development activities to benefit the Mahafaly people in return for respect of the forest reserve.

The project has constructed a local school, rehabilitated an irrigation canal, and distributed seeds and farm implements. It also has marked the reserve boundary, placed a livestock fence around 100 ha of the reserve and hired 6 forest guards.

The project serves a very small reserve, but has had reasonable success. Small reserve size is also a characteristic at Bururi, one of the other more successful projects reviewed. Small reserve size has been important in these two locations in allowing project resources to be concentrated in a well-defined area. Other projects address only fractions of

reserves or have impacts diluted by addressing all of a large reserve. Scaling of project resources to reserve size emerges as an important design factor. The Beza-Mahafaly project continues under AID funding managed by the World Wide Fund for Nature (WWF).

Key References: O'Connor (1990)



9. Andohahela

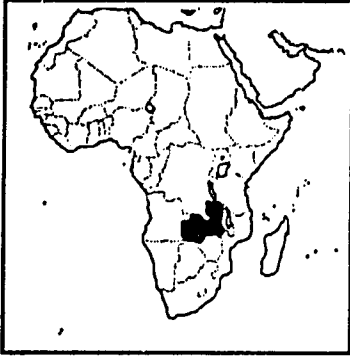
Andohahela is a large Integral Nature Reserve in southern Madagascar, which bridges habitat types between eastern rain forest and southern spiny desert. People in the project area belong to the Tandroy and Tanosy groups. The Tanosy are agriculturalists who exploit wildlife freely, while the Tandroy are pastoralists with strong cultural prohibitions on killing wildlife.

The Andohahela project goals encompass protection of biodiversity, reduction of destructive land use through local development, tourism development, education and training. The project development activities are focusing on agroforestry and agricultural improvement.

The project has established agroforestry nurseries, constructed 10 small irrigation canals, established market gardens and provided seed and agricultural implements. 40 ha of irrigated rice had been created under the project by 1989. The project employed five local people as guards and began reserve management planning.

The project is one of the youngest of the group qualifying as having two or more years of development implementation. Project activities were still in the developmental stage at the time of this study, which reinforced the decision to restrict field visits to older projects. The Andohahela effort is continuing under AID and WWF support.

Key References: O'Connor (1990)



10. Kafue Flats Project

The Kafue Flats and Bangwelu Swamps are important wetlands in south central Zambia. Kafue Flats is protected by a large National Park which is an important refuge for wildlife, including black lechwe, sitatunga, tsessebe, wattled cranes and shoebills. The people of the wetlands are Ila and Tonga, who keep cattle as a primary means of livelihood and Bisa and Unga, who are hunters and fishers.

The Zambia Wetlands Project, sponsored by the World Wide Fund for Nature, targets 14 villages in the wetlands, using wildlife utilization for the local development. The keystone of the project is a policy (the Administrative Management Design -ADMADE) which allows local communities to control and retain financial benefits from wildlife utilization, primarily hunting fees, which previously went to central government.

Based on the ADMADE policy, the project has organized local communities into four Wetland Management Authorities. The 40 project staff, overseen by an expatriate technical advisor, helps communities develop utilization alternatives in their areas, and to identify local development projects, such as health clinics, to be funded with utilization proceeds. Most proceeds are generated by fees associated with safari hunting licenses.

The project, like Andohahela, is among the youngest examined. At the time of the study, project activities were still in their early stages. The project is one of several efforts underway to foster wildlife utilization in multiple use areas. This project and the more ambitious LIRDPA effort in Zambia are noteworthy for trying to capture benefits in wildlife dispersal areas around parks and return them to local communities to build support for conservation. The project is ongoing with WWF and AID support.

Key References: Jeffery (1990)

Case Studies

The following three case study sections are abstracted from the results of the field visits and review of project background documents, the literature, and the author's personal involvement in projects in Madagascar. The examples selected are the Amboseli National Park, the Wildlife Extension Project, the Bururi Forest Project, the Mountain Gorilla Project and the national system of conservation/development projects being developed in Madagascar. The Amboseli and Wildlife Extension Project cases are paired in chapter IV to provide an interesting contrast of top-down and bottom-up approaches in overlapping

communities. The Mountain Gorilla and Bururi projects are presented in chapter V as divergent and largely successful approaches in the same ecological and demographic setting. In Section VI, Madagascar is discussed as an example, not of individual project experiences, but of the issues involved in the establishment of a national system of conservation/development projects at a series of high-priority protected areas.

Following the case studies, the concluding section examines the relevance of experience with existing projects for the design of future projects and programs. Common elements of the more successful projects are assessed, and factors which have impeded project progress are discussed. The analysis concludes with suggestions for the construction of national systems which bring people and parks closer together.

SECTION 2: CASE STUDIES

IV. TOP-DOWN AND BOTTOM-UP: TWO CASES FROM KENYA

Two conservation/development projects have been underway in the Amboseli area of Kenya for several years. The waterpoint and community development project at Amboseli National Park has been underway since 1977 and is perhaps the oldest ongoing project in Africa. The Wildlife Extension Project covers a large area surrounding and extending some distance from the national park, and was initiated in 1985.

The two projects differ fundamentally in their approach to development. The Amboseli Park project has been criticized for being too "top-down". The Wildlife Extension Project, in contrast, uses a community-based, grassroots approach. Both of these approaches have experienced difficulty in the Amboseli area, for differing reasons. The following case studies describe the methods of the two projects and the reasons for their limited progress.

Physical and Cultural Setting

Amboseli National Park is located in the Kajiado District of southeastern Kenya, in the remains of a pleistocene lakebed at the foot of Mount Kilimanjaro. The Amboseli plain is punctuated by a series of springs fed by the Kilimanjaro watershed. Because rainfall in the

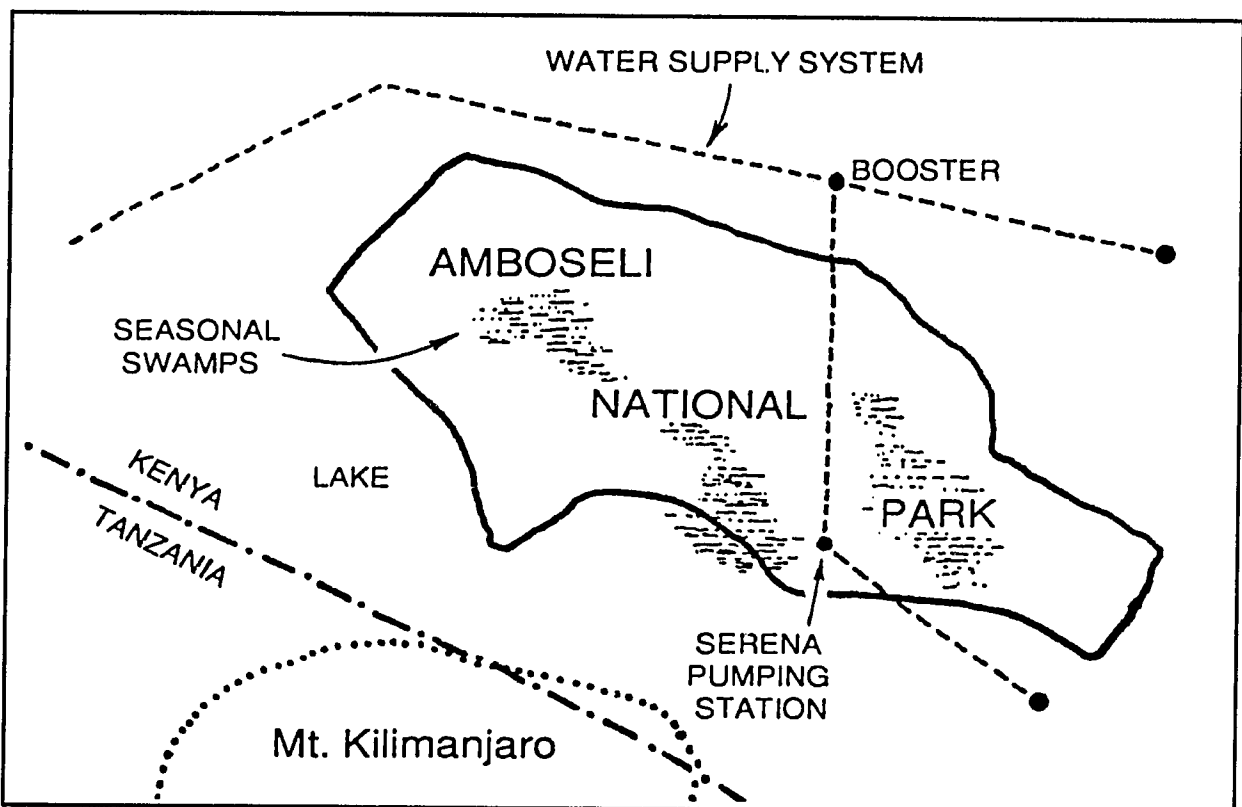


Figure 1. Amboseli National Park, Kenya.

basin is very low (under 500mm/year) the springs are of paramount importance to wildlife and local pastoralists (Thresher, 1981).

The Amboseli ecosystem is comprised of the 600 km² Amboseli basin and a dispersal area about five times this large (Western, 1982). The ecosystem is defined by wet season migrations of large herbivores, which disperse from the basin proper in search of new forage during the rains. As the rain-fed flush of vegetation in the surrounding arid lands begins to dissipate, herbivores return to the plains and swamps of Amboseli for dry-season forage and water.

The Maasai pastoralists living in the Amboseli ecosystem also rely on the rains and swamps. The Maasai entered Amboseli around 1600, displacing an earlier group of pastoralists (Lindsay, 1987). Maasai cattle follow wildlife to the springs of Amboseli during the dry season and disperse with wildlife during the rains (Western, 1982). In the early 1980's, approximately 6,000 Maasai, 50,000 cattle and 20,000 smallstock were sharing the Amboseli ecosystem with wildlife.

Amboseli's wildlife resource is remarkably abundant and diverse. The greater Amboseli ecosystem supports over 700 elephants and over 100,000 ungulates (Moss, 1988). Thirteen species of antelope, four primate species, four large cats, three canids, and a wide variety of small mammals are found at Amboseli. Over 400 species of birds have been identified in the basin.

The relationship between the Maasai and wildlife at Amboseli is mixed, with a strong positive element. Wildlife researcher Cynthia Moss has said, "If it weren't for the Maasai, there would be no elephants at Amboseli". The Maasai elders have identified poachers to authorities and the Maasai themselves directly act to exclude strangers from the area. The Maasai have also posed a threat to wildlife in the past. Maasai warriors have speared wildlife both as part of traditional initiation rites and in political protest against the government.

The Amboseli Maasai hold group tenure to their land, a system which has been recognized by government in a formal system of "group ranches". Much of the Maasai dry-season grazing land has been converted to private tenure and smallholder agriculture by government. Other government proposals could privatize remaining Maasai territory, increasing the possibility that the wildlife dispersal areas around Amboseli would be subdivided and fenced. Tension over the privatization of tenure is a continuing controversy at Amboseli.

The Amboseli Park Plan

Amboseli National Park was formed in 1977 after a period of administration as a district reserve. The park occupies 39,000 ha in the Loitokitok division of the Kajiado District.

Accompanying establishment of the park was an elaborate agreement for compensation to the Maasai for lost access to water and forage for their livestock. The success of the compensation package is a matter of controversy. Western (1982) describes the system as a model of the recognition of the needs of local people in protected area management. Lindsay (1987) has criticized the system as being largely inoperative and failing to meet local needs or enhance support for the park.

The elements of the 1977 Amboseli agreement are:

- o a pipeline taking water from springs within the park to areas outside the park boundary (to eliminate the need for Maasai to enter the park to water their stock);
- o payment of a compensation fee to the Maasai for loss of access to the park and for grass consumed by wildlife outside the park;
- o development of camps and tourism circuits on Maasai land outside the park; and
- o return of lodge royalties to Kajiado District Council, and construction of a school and dispensary for the use of local people.

The infrastructure for the system was funded by the World Bank, under its 1976 Wildlife and Tourism Project (IBRD, 1976). Implementation and maintenance were the responsibility of government. The water supply system was constructed in 1978 and compensation fees were paid regularly (Talbot and Olindo, 1990). The school and dispensary were built and royalties from park lodges were collected by district council.

The main development activities of the project were construction of the water supply system, school and infirmary construction, and development of tourist camps on Maasai land. No permanent technical assistance at the park was included in the World Bank package. Resources from the World Bank loan went primarily for infrastructure development.

Beginning about 1981, the Amboseli system began to break down. The water supply system operated irregularly, and compensation fees went unpaid without explanation (Lindsay, 1987; Talbot and Olindo, 1990). The school proved to be in an unpopular location and tourism on Maasai lands never developed to the degree anticipated. Waterpoints outside

the park were not maintained, forcing the Maasai to enter the park to water their livestock. The Kenya hunting ban of 1977 reduced safari hunting revenues which had been expected to benefit the Maasai.

The failure of the water supply and compensation systems has been a source of controversy at Amboseli. Lack of maintenance caused the failure of the water supply system in the early 1980s. When the system failed, the Maasai pierced the PVC transmission pipes with their spears in the hope of getting new water. This led to the further deterioration of the system.

Lindsay (1987) contends that many of the project's difficulties stemmed from a lack of participation of local people in planning and implementation. As a result, the school was located in an area considered dangerous because of wildlife, and has been little attended. The water piping was designed and built by outside consultants, with little consultation of the Maasai. The project treated the Maasai as beneficiaries, rather than participants, with the result that there was no local commitment to maintain the systems established.

Many of these problems might have been mitigated by additional technical assistance. The New York Zoological Society provided help, but not enough to overcome shortages of diesel fuel, maintenance problems, and failure to allocate compensation fees. The presence of a full-time, on-site advisor responsible for proper functioning of the project might have corrected some of these problems. In the absence of such assistance, the relationship between the park and local people rose and fell depending on the personal skills of individual park managers. Good managers maintained lines of communication with the community and tensions were reduced. Less skillful managers had poor community relations and tensions with the Maasai were substantial. The project would have benefitted from full-time assistance in community relations, particularly when technical systems were not functioning.

The difficulties at Amboseli continued in spite of large tourism revenues at the park. Park revenues in the 1980s ranged to over one million dollars annually, but returns to central and district governments had little effect on the Maasai near the park (Lindsay, 1987). District revenues were received by the council in Kajiado, over 150 km from the park. National revenues fed an exchequer depleted by the debt crisis and were never reinvested in the park or the agreed compensation fees. Local benefits resulted only from the development of tourist camps on Maasai land, which were only moderately successful as tourism growth leveled off in the eighties. Experience with the plan indicates that distribution of benefits is as important as magnitude and that local government is not always synonymous with local people in Africa.

Due to the high tourism revenues and vast popularity of Amboseli, prospects for resolving these problems are good. The recently-formed Kenya Wildlife Services is planning greater local revenue return to the Maasai, and a tourism association has pledged to refurbish the pipeline system. At the same time, other government initiatives are forcing the privatization of Maasai group holdings. These initiatives may destroy remaining traditional

land use and result in the fencing of extensive open range around Amboseli which has been essential to wildlife migrations. The future of Amboseli is promising but highly uncertain in the face of both positive and negative change.

Wildlife Extension Project

A very different conservation/development effort began in Amboseli area in 1984. The Wildlife Extension Project (WEP) was established as a community-based, participatory approach to increasing Maasai benefit from wildlife. The intent of the project was to develop in government an extension approach to wildlife. In practice, this meant developing an administrative philosophy which viewed wildlife as a resource to be developed (largely through tourism) rather than a privilege to be protected (Berger, 1990). This stood in dramatic contrast to the prevailing protectionist approach in Kenya government at the time.

The WEP approach drew on the principles of development philosopher Paulo Friere and techniques developed by church-affiliated development workers in Kenya (Berger, 1990).

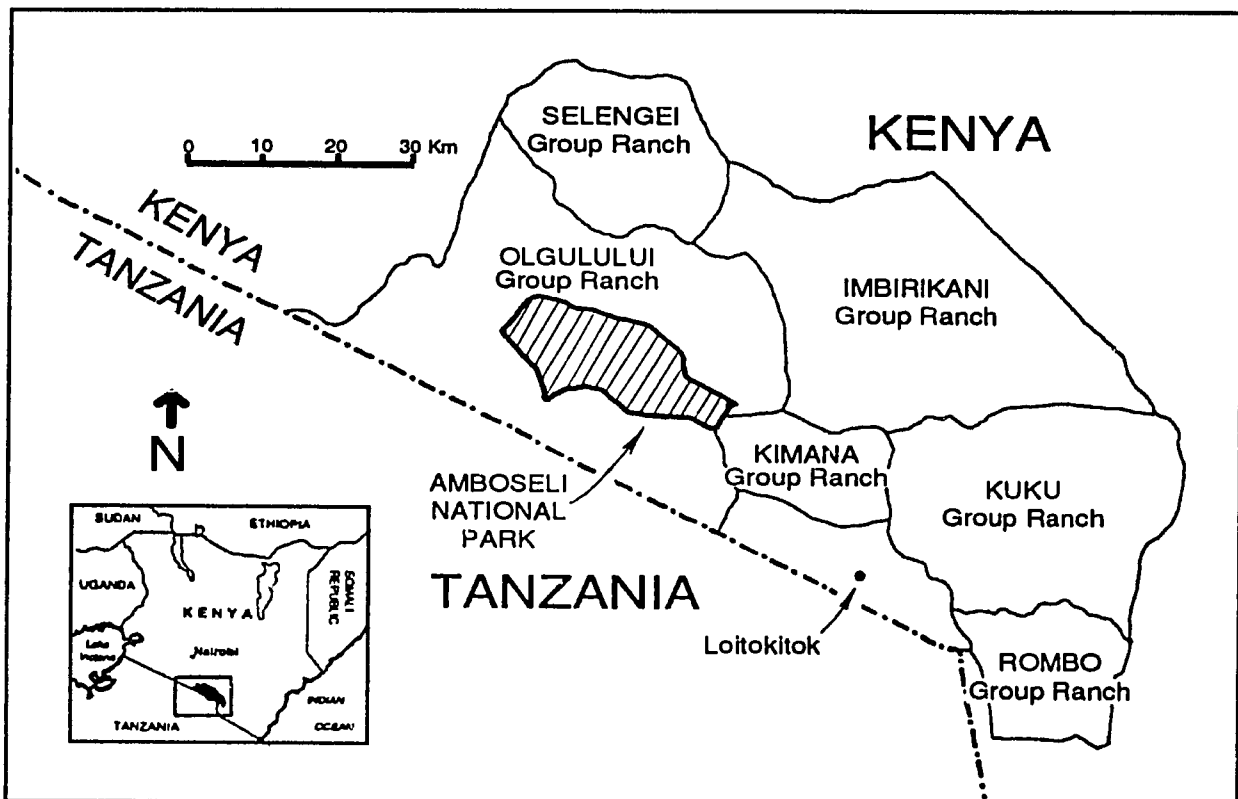


Figure 2. Wildlife Extension Project Area, Kajiado District.
(after Berger, 1990)

These techniques involved the use of workshops, community meetings and field extension work in which communities defined their own problems and devised means for solving them.

Project headquarters were located in Loitokitok, more than half a day's journey from Amboseli. The project area was the Loitokitok division of the Kajiado District, encompassing almost 500,000 ha around Amboseli. Project personnel consisted of a project coordinator and two, later three, assistants. The project has been sustained on small (under \$100,000) one-year grants throughout its history.

WEP activities began with workshops and community surveys, and progressed to implementation of actual conservation actions. In its first year, the project conducted community surveys and hosted a week-long training workshop for Maasai group ranch leaders. In the following year, field extension was emphasized, partly because the difficulty of local transportation limited the effectiveness of the workshops. By the third year of the project, small community conservation actions had been identified and were proceeding to implementation. In 1988-89, the main quantifiable project output was the annual planting of about 15,000 trees by project participants.

WEP never fully realized its potential. This was due partly to logistical problems and partly due to conflicts between the WEP participatory method and traditional Maasai society (Berger, 1990). The huge WEP project area (nearly 5,000 km²) made transport of project staff and participants difficult and time-consuming. Roads in the project area are poor, and a

two-day round-trip journey might be required for a one day workshop. The project was over-extended logistically from the outset, and never fully adapted.

A more serious difficulty was the incompatibility of the WEP participatory method with Maasai lifestyles. This is well described in an early project document (Berger, 1985):

Traditionally, Maasai family groups have made decisions about management and utilization of resources independently...A second problem has been...the fact that periodic droughts mean that any Maasai are regularly preoccupied with short-term survival, so that consideration of long-term conservation-related tactics often seems irrelevant to them.

As a result, WEP often dealt with marginal members of Maasai society. The WEP techniques worked, but they only penetrated a small fraction of Maasai society. This prevented the project from addressing many fundamental wildlife and land use issues, which were the prerogative of community leaders.

The 'bottom-up' approach of WEP contrasted with that of the park plan by emphasizing contact with local people, democratic (rather than technocratic) decision-making by ordinary people (rather than a ruling group) and grassroots participation. The project also

had a negligible investment budget, which completed its orientation to people and away from technical solutions.

The efficacy of this 'bottom-up' method showed limited progress. The lack of an investment budget hampered the project's ability to translate participant initiatives into action. Participation in the project required workshop attendance and volunteer extension work which amounted to a substantial time investment for participants. This excluded many community leaders and other influential and active community members who had limited free time. The participant approach itself was not wholly consonant with traditional Maasai community governance, which emphasized leadership by elders. All of these factors limited project effectiveness.

WEP expatriate technical assistance was concluded in 1988. The project continues under Kenyan leadership, and it will soon liaise with other wildlife/community development projects being developed for the area, which may reinforce its efforts.

Discussion

The Amboseli Park Plan is one of the most publicized of the African people and parks projects. Western's classic 1982 description of the project has been cited numerous times, including over a dozen citations in the journal literature alone (Science Citation Index, 1990; Social Science Citation Index, 1990). The project has been cited as a model of integrating people into protected area management (significantly, social science citations outnumber citations in the biological literature three to one). It has also been heavily criticized as top-down and ineffective (Lindsay, 1987). As a theoretical model, the project represents a watershed in African conservation thinking. As a practical example, it demonstrates the difficulties of implementation under governmental budgetary shortages in Africa.

The Wildlife Extension Project has had much lesser recognition in the international literature, but has had significant influence on conservation in Kenya. At least one conservation group and one development agency have patterned projects after WEP. These efforts may yield valuable insight into whether the WEP approach can be successful when more intensively financed. WEP demonstrated that another model, the non-governmental, bottom-up approach, is not in itself a guarantee of significant impact. Comparison of WEP and the Amboseli project suggests that sound theory, adequate funding, and effective working relationships at the grassroots and with community leadership are all necessary ingredients for meaningful results.

Blanket adherence to top-down or bottom-up doctrine offers no solution at Amboseli. While the Amboseli project has been criticized for being top-down (Lindsay, 1987), it dealt with traditional leadership in an effective way. One of the most effective interventions with the Amboseli Maasai has been the personal involvement of David Western of the New York

Zoological Society. Western has maintained personal ties and sometimes employed an assistant in the Amboseli area since 1968. Many of the positive results of the park plan are the result of this relationship. This part-time involvement was not sufficient to maintain the level of investment undertaken in the World Bank loan, however.

The experience of WEP belies simplistic criticism of the Amboseli park plan. This strongly participatory approach met with many difficulties, and never fully penetrated the traditional Maasai leadership with which Western worked effectively. In many respects, 'bottom-up' was not a wholly appropriate approach for the still largely traditional, cohesive and stratified Maasai society. In retrospect, an appropriate mix of negotiations with traditional leaders on major issues (e.g., waterpoints, compensation) and community consultation on project details (e.g., school placement, pipeline maintenance) would seem likely to have produced the most positive results.

The Amboseli project illustrates that heavy investment in technical solutions may fail without technical assistance and a participatory approach. The WEP experience illustrates that technical assistance and a bottom-up approach are not in themselves sufficient to ensure project effectiveness. The Amboseli project suffered due to limited community participation during implementation and lack of technical assistance. WEP had technical assistance and a participatory approach but participation did not fit well with traditional practices, was unsupported by an investment budget, and the technical assistance was not adequate to the very large project area.

Project execution in both instances would have been facilitated by a more effective match of technical assistance and project complexity. WEP would have been much more effective had the project area been reduced to fit the level of technical assistance and staffing available. Amboseli would have greatly benefitted from one or more full-time technical advisors or project managers. Given the level of World Bank investment, this assistance was readily affordable and would have more than repaid itself in project benefits.

Future efforts at Amboseli or with the Maasai might benefit from the experiences of these two projects. Funding must be of a level sufficient to achieve results over a meaningful area (for instance, the full park perimeter, or its most threatened segment). Investment of this scale warrants technical assistance in management and oversight. The approach to the local community must respect traditional authority, yet be responsive to the opinions and motivations of individual community members. Since the Maasai are still waiting for fulfillment of the promises of the 1977 park plan, effective future initiatives might involve a revitalization of the waterpoint system, compensation fees and tourism development, coupled with project staff dedicated to project management and community liaison at both the leadership and individual levels.

Other projects in Africa may also be expected to benefit from appropriate roles for technical assistance and community participation. The roles of two other important factors, law enforcement and support of central government will be explored in the following cases.

V. NATIONAL AND LOCAL SUPPORT: PROMISING RESULTS FROM THE AFROMONTANE

Two projects seeking to protect rare Afromontane forests have produced promising results with very different approaches. The Mountain Gorilla Project in Rwanda is world renowned and has successfully reversed declines in mountain gorilla populations and habitat. A much less heralded project in Burundi, the Bururi Forest Project, has improved management of a rare forest fragment and at the same time produced benefits for local people.

The Mountain Gorilla Project is well known for the intimate gorilla viewing tours it has established. Tourism income from the project is high but little has been directly shared with local people. The project illustrates that support in central government may be as important as the support of local people for ensuring long-term conservation.

The Bururi project focused on improved traditional management and on providing alternative sources of wood products to local people through agroforestry. A second major project, the Rumonge Agroforestry Project, is replicating the Bururi approach at three additional forest reserves. The increase of enforcement at Bururi was an important counterpoint to local development benefits, and, in light of surrounding population pressures, may have been indispensable in short-term conservation of the reserve.



Figure 3. Parc des Volcans, Rwanda.

Mountain Gorilla Project

Rwanda is one of the poorest, most densely populated countries in Africa. Volcanoes National Park (Parc des Volcans) protects seven dormant volcanoes in the Virunga mountains which are the home of the easternmost gorilla population in Africa. The park has been characterized as "an island of natural conditions surrounded by an agricultural landscape which is intensively exploited by a large and growing population" (RRAM, 1987).

The park has suffered major reductions in area to accommodate development projects. In 1958, Belgian authorities removed 7,000 ha of the original 32,800 ha of the park for an agricultural settlement program. Between 1969 and 1973, an additional 10,500 ha were degazetted for an EEC-funded pyrethrum growing scheme. A further 1,300 ha were taken by government in 1979 for settlement. The total reduction of park area since 1958 has been 17,800ha, 54% of its original extent.

The Mountain Gorilla Project was initiated in 1979 to help conserve the mountain gorilla, its habitat, and the Parc des Volcans. Objectives of the project included improved park enforcement, tourism development, and increased local awareness of the importance of conservation.

The project was preceded by a long history of gorilla research and conservation activities in the area. In the 1960s the gorillas were censused, and in the 1970s a research station was established in the Virungas. Researchers clashed with poachers and local hunters, but these efforts did not comprise a coherent conservation program.

Prior to the project itself, an 18-month, two-person planning study was conducted in the area. The study combined research on ecologic, socio-economic, and demographic factors (Vedder and Weber, 1990). It included a strong emphasis on factors outside the park boundary. A major contribution of the study was an attitudinal survey which documented local people's pre-project conceptions about the park, gorillas, and conservation.

Based on the results of the study, the Mountain Gorilla Project was initiated with emphasis on park enforcement, tourism development, and conservation education. The project employed several expatriate advisors and dozens of Rwandan staff. Expatriates provided overall project management throughout the life of the project. At varying times in the project life, paid or volunteer expatriates have provided oversight of enforcement, tourism development and education. Rwandan staff have been involved in park management, tourism development and enforcement. Park guards, numbering over 70 in 1990, have been government employees (Vedder and Weber, 1990).

Tourism development has driven the success of other project components. The project habituated gorilla groups to human visits and initiated organized tourism as one of its first activities. Tourists were taken in small groups for one-hour visits with the gorillas. These visits proved extremely popular and became known throughout the world through project publicity, television and film treatments. Tourism has risen dramatically in both volume and value since project inception. By 1990, over 5,000 tourists a year visited the park, generating over \$1 million in revenues.

focus on people

Local Perceptions of Park Conservation Values - Volcanoes National Park.

<u>Subject</u>	1979 %	Responses	1984 %
<u>Tourism</u>			
national benefits			
yes	65		85
no	11		5
don't know	24		10
regional benefits			
yes	39		81
no	50		11
don't know	11		8
personal benefits			
yes	26		49
no	72		50
don't know	2		1
<u>Forest Values</u>			
no value	17		22
rain/climate	19		21
erosion control	7		11
wildlife refuge	19		28
tourism	0		6
research	0		2
don't know	38		11
<u>Wildlife Values</u>			
no value	14		24
tourism	39		52
research	1		1
aesthetic	1		1
species preservation	0		1
don't know	44		16
<u>Open Park to Exploitation</u>			
yes	51		29
no	49		71

Tourism revenues have been vital in generating local and national support for the project. Government-employed forest guards, numbering over 70 in 1990, are supported by tourism revenues. Other revenues go for supporting central government conservation and tourism activities in Rwanda. Employment and indirect revenues from tourism have been important in generating local support for conservation of the park. Employment is generated by tourism demand for local lodges and restaurants, and by direct hiring by the project, which has employed up to 120 laborers for project construction activities.

Tourism benefits, national recognition and project conservation activities have resulted in dramatic changes in local public opinion about the park. Attitude survey results pre-project and during the project revealed significant shifts in public opinion (see box). Less than half of local residents believed Parc des Volcans had regional benefits in 1979. By 1984, over 80% of respondents believed the park had regional benefits. Perhaps more significantly, the proportion of respondents identifying personal benefits from the park doubled between 1979 and 1984. While over half the respondents favored opening the park to exploitation in 1979, 71% opposed such a move in 1984.

Project education and enforcement efforts were largely traditional. Education focused on informing local residents about the biology of the park. Most people in the area had never seen a gorilla and had little or no idea of what tourists found so interesting in the park. Project education efforts helped to change this situation, and also to improve understanding of ecosystem benefits. "Don't know" and "no value" responses to wildlife and ecosystem services questions declined significantly between 1979 and 1984. Enforcement followed traditional patrol and arrest strategies. Gorilla poaching was reduced to virtually zero by more than tripling the guard force and improving guard training, supervision and equipment.

The Mountain Gorilla Project was turned over to Rwandan authorities for implementation in 1990. Results after the transfer are not yet available. Conservation donors are working on similar initiatives for gorilla conservation and tourism on the Uganda and Zaire sides of the Virungas. Gorilla conservation remains one of the best-known international conservation causes in Africa.

Bururi Forest Project

A much less publicized project has attempted to conserve a small forest reserve in Burundi since 1982. The Bururi Natural Forest Reserve is one of the last two remaining natural high altitude forests in Burundi. Despite its small size (approximately 1,000 ha of remaining natural forest), it is important habitat for five species of primate, over one hundred avian species, and several rare afro-montane plants. The major part of the reserve still in natural forest is on extremely steep slopes.

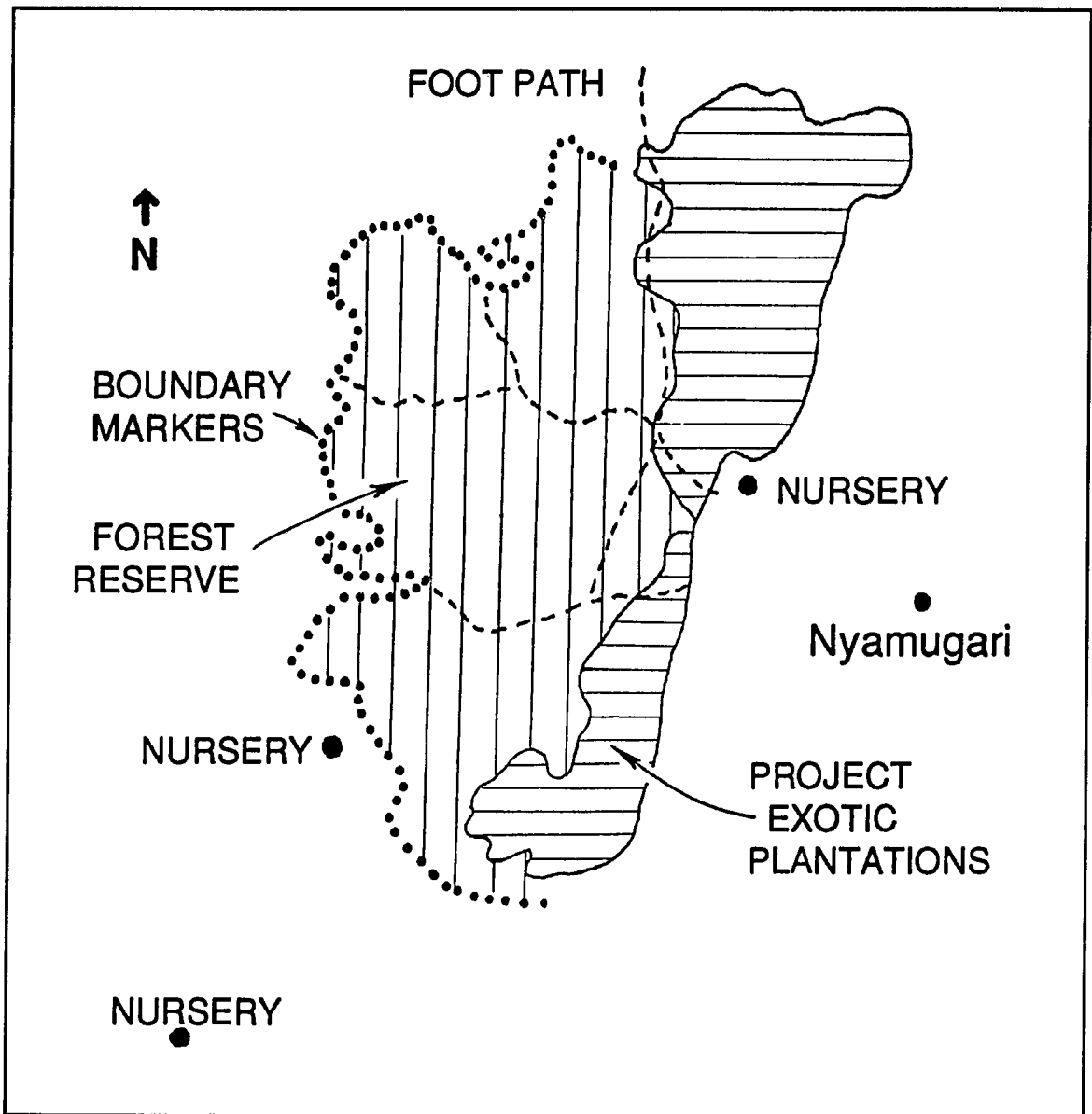


Figure 4. Bururi Forest Project, Burundi.

The Bururi Forest Project is an AID funded project implemented by the Government of Burundi. Peace Corps has participated, but there has been no direct sponsorship by any conservation organization. The concept for the project was developed on a one-day visit by short-term consultants with longstanding experience in Africa.

At the time of project initiation, much of the area within reserve boundaries had been deforested due to settlement, grazing and fuelwood gathering. The initial consultants' design emphasized natural forest regeneration and was intended as an add-on to a larger erosion control project. The larger effort was never funded, but the Bururi project was modified to emphasize traditional plantation forestry on the deforested land within the reserve and approved as a \$1.2 million, five-year project in 1981. Project implementation began in 1982

under the auspices of the Institute National pour le Conservation de la Nature (INCN), the Burundian protected areas administration.

Initial project activities focused on the establishment of pine plantations in the deforested areas of the reserve. Nurseries were established, roads improved and construction of project headquarters initiated. There was no long-term technical assistance to the project.

Project evaluations in 1983 indicated that the emphasis on block plantations was ineffective in meeting community needs, and that lack of technical assistance was fostering an emphasis on blind adherence to plantation planting goals, at the expense of more qualitative goals such as community benefit (Weber and Vedder, 1983). The evaluations also noted that lack of reserve enforcement was permitting continued illegal use of the remaining natural forest (Olson, 1983).

Following the suggestions of the evaluations, the project was reoriented toward community agroforestry, extension and education in 1984. Long-term technical assistance was provided by a Peace Corps forestry advisor and, later, a contract technical advisor. The Peace Corps contribution was particularly valuable, since the volunteer identified was a professional forester with experience in Africa.

Agroforestry extension began in the summer of 1984. The volunteer extension agent made community presentations and initiated demonstration plots at local schools. Students were hired on a part-time basis during the summer as agroforestry extension agents. The government provided a full-time extension worker in 1985, and two of the student extension agents were hired on a full-time basis in 1986. Three project nurseries were established.

Enforcement activities began with the addition of three forest guards in 1984. Under a system devised by the volunteer, 11 guards were eventually hired and deployed. The forest was divided into 11 sectors, and one guard was assigned to each sector. From an initial high of over 1,000 citations per year, reserve violations fell to fewer than 100 by 1989.

Other project accomplishments include the extension of an acacia belt to mark the reserve boundary, redefinition of the boundary to accommodate long-term settlers, and relocation of more recent settlers. A tourist guest house was constructed within the reserve, and the plantation blocks of pine were completed.

In 1985, the Bururi approach showed sufficient promise to inspire replication. Catholic Relief Services funded a second project using the Bururi approach, known as the Rumonge Agroforestry Project. The Rumonge project instituted community forestry around three forest reserves near Lake Tanganyika. Like the Bururi project, Rumonge was implemented by the INCN. The extension of INCN agroforestry activities at Rumonge represented an important commitment of the Institute to development initiatives as a part of protected area management. The project design was developed by the Peace Corps volunteer who worked at the Bururi project and included technical assistance throughout the life of

donor support. The Rumonge project began operation in 1986 and was judged to be largely meeting its objectives by a site visit evaluation undertaken as part of this study.

AID support to the Bururi project concluded in 1987. The donor-supported phase of the project established 700 ha of exotic plantations and distributed over 300,000 agroforestry seedlings. The Government of Burundi assumed full responsibility for the project and maintained its objectives. However, government recurrent cost support has been insufficient to maintain project nurseries, all of which are expected to be turned over to local cooperatives at greatly reduced levels of production. Enforcement staff has been reduced, and funding for the maintenance of the plantations has been unavailable.

Discussion

The Mountain Gorilla Project is unique in addressing development of tourism and education, without targeting benefits to local communities. The project's success (gorilla population increasing, no new annexations of park land) underscores that local people are only one of the constituencies which must be satisfied to achieve long-term conservation.

Local communities, individuals and local, regional and national government are all entities which play roles in protected area conservation. Where national government is weak, local communities may hold the key to successful conservation. Where central government is strong, local communities may be less important than supportive national leaders. Generating support at all levels will tend to ensure enduring conservation within shifting political frameworks.

The Mountain Gorilla Project has generated strong support at the national level through large tourism returns to central government. It has engendered local support through employment, education and indirect revenue generation (lodges, restaurants). Public opinion in the area around Parc des Volcans now favors retention of the park. This might or might not deter needy individuals from clearing park land for farming if central government control of land use deteriorated. With 150,000 people living within 5 km of the park, it is unlikely that any development project could improve local living conditions sufficiently to ensure conservation of the park through purely local initiative.

Conservation is a balance between local, regional and national pressures. The project which does the most to address these constituencies relative to their local importance will have the best long-term chance of success.

Both MGP and Bururi relied heavily on enforcement for conservation effectiveness. Neither project is likely to have met its conservation objective without a strong enforcement component. Citations and arrests continue to be made at both Bururi and Parc des Volcans. It is interesting to note that subsistence violations have declined dramatically at Bururi where enforcement was coupled with community development activities. At MGP, without a

development component targeted directly at the community, illegal hunting (snares set) has not declined.

Enforcement is a manifestation of central or regional control over the community and the individual. It is likely to weaken local support for a project unless accompanied by development benefits. At Bururi, enforcement was balanced by community agroforestry initiatives. At MGP, enforcement was balanced with tourism development and local employment. While no attitude results are available at Bururi, results at MGP indicate that indirect benefits, national attention and education have turned local opinion in favor of the park, even in the absence of a direct local development component.

Enforcement is likely to be necessary at all protected area projects, regardless of the strength of accompanying development activities. Nothing less than unanimous social support for a reserve will ensure its protection without enforcement. Since such unanimity is unlikely or impossible, enforcement is necessary.

This case study has highlighted the importance of national, regional, local, and individual support for conservation and the need to couple popular support with effective enforcement. National and international publicity, generation of tourism revenues and other techniques can be used to generate national and regional support. Development activities can be used to build community support which may be weakened by increased enforcement. Targeting development benefits to those most reliant on reserve resources builds individual support. Building the in-country capacity to generate support at each of these levels ensures the best prospect for long-term conservation.

VI. DESIGNING A NATIONAL PROGRAM IN MADAGASCAR

Madagascar is the best example of linking people to parks in a national protected areas system. Over one dozen people and parks projects are underway in Madagascar. The designers of the Madagascar protected areas system refer to these as Integrated Conservation/Development (ICD) projects. Since Madagascar is among the poorest countries in the world, this community development-oriented approach to conservation is especially appropriate. The biological importance of Madagascar (it has been called "the world's highest conservation priority") and its strategic importance (U.S. aid increased substantially when strategic mineral supplies were threatened by instability in South Africa) has resulted in generous development agency funding for these projects. 6 major bilateral donors are contributing over one million dollars per year to the program, making it one of the major conservation funding success stories in Africa. It is the one program in which application of past lessons is most important.

Conservation/development efforts began in Madagascar with the initiation of the Beza-Mahafaly project in 1977. This project is a cooperative effort of U.S. and Malagasy universities, and a local community to protect a 600 ha patch of gallery forest in southern Madagascar (O'Connor, 1990). Project originators discussed conservation with local communities bordering a research site. The villagers helped identify a forest gallery suitable for designation as a reserve. In return, the researchers agreed to help the community try to get assistance with local development problems. Almost ten years later, development projects were actually provided to the local community through assistance obtained from AID.

Following the Beza-Mahafaly example, a second project integrating protected area management with development benefits for local communities was initiated at a site known as Andohahela, also with AID support. The Andohahela project began in 1987 as an administrative extension of the Beza-Mahafaly project, and has begun to provide agricultural improvement benefits to local communities.

These two projects were the first in a series of projects to be sponsored on the island by World Wide Fund for Nature



Figure 5. Protected Areas of Madagascar. (from Nicoll and Langrand, 1989)

(WWF). By 1990, WWF had development initiatives underway at several other protected areas, all slated for support from international development agencies.

Other conservation organizations are also involved in the implementation of conservation/development efforts around protected areas in Madagascar. Missouri Botanical Garden is implementing a community development and conservation effort at a new park on the Masoala peninsula. The Natural History Museum of Paris is developing Biosphere Reserve at Mananara with UNESCO/UNDP funding and has similar efforts underway at two other sites. Duke University has spearheaded an effort to establish a new national park and conservation/development effort at Ranomafana in southern Madagascar. Conservation International established a country office in 1989 and is supporting people and parks efforts at three protected areas.

AID has established important precedents through its funding of some of the earliest of these projects. Under a former AID country director, conservation NGOs were encouraged to team with development NGOs to facilitate effective development delivery. Early AID experience at Beza-Mahafaly had indicated that development implementation by conservation NGOs or universities could be slow and inefficient. Based on promising cooperative efforts between conservation and development NGOs, particularly at Masoala, AID support was greatly expanded in 1990, and a national program of conservation/development projects is now emerging for Madagascar.

Protected Areas System Review

The development of a national system of conservation /development projects for Madagascar has been catalyzed by a protected areas system review. This review, was conducted by a two-person consultancy team from the World Wide Fund for Nature (WWF - Formerly World Wildlife Fund International). The goal of the review was to elaborate a plan for a comprehensive national protected area system. Integral to this task is developing means of supporting adequate management of existing and recommended new protected areas.

To conduct the review, the WWF consultants traveled to a representative sample of the existing protected areas in Madagascar. They evaluated the level of threats to reserves and noted resource use patterns. A biogeographic analysis was conducted, to assess the adequacy of habitat coverage of existing protected areas. The consultants then recommended a strategy for strengthening the national protected areas system both by adding new protected areas and by initiating people and parks efforts at existing reserves.

In preparing their strategy for strengthening the protected areas system, the WWF consultants adopted the philosophy of the 1985 Conference on Conservation and Development held in Antananarivo. The 1985 conferees strongly endorsed the principle that development activities for local communities were essential to relieving pressure on

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COMMUNITY DEVELOPMENT PROJECTS AT MADAGASCAR'S PROTECTED AREAS

PROTECTED AREA	FUNDING SOURCE	AMOUNT	IMPLEMENTING AGENCIES	STATUS
1. MANAHARA-NORD	UNDP GPF/IDA	\$1,678,650 (incl udes Andasibe & Ankarafansika)	UNESCO GPF	on-going 3 years
2. ANDASIBE/MANTADIA	UNDP GPF/IDA	see above \$1,517,140 (IDA, Norway)	UNESCO GPF	on-going 5 years
3. ANDAHOHELA	USAID	\$135,000	WWF SAFAFI	on-going 1989-1990
4. BEZA-MANAFALY	USAID	\$150,000	WWF Yale Univ.	on-going 1986-1991
5. MORONDAVA	DDA		Intercoopération Suisse	on-going 1987-pres- ent
6. ANKARAFANSIKA	UNDP GPF/IDA	see first line	UNESCO GPF	on-going 5 years
7. BETAMPONA	SAF-FJKM Church (Wales)	FMG 116,900,000	SAF-FJKM/	on-going
8. RANDMAFANA	USAID Other	\$3,237,000 \$654,000	Duke University	on-going 1990-1993
9. COMPLEXE D'AMBRE	USAID WWF	\$1,000,000 \$500,426	WWF	on-going 1989-1992
10. CAP MASDALA	USAID Other	\$790,000 \$209,350	MBC, SAFAFI	on-going 1988-1992
11. BEBARANA	RFA/BMZ	\$1,210,600	UNESCO	start-up 3 years
12. MAROJEJY/ANJANA- HARIBE	RFA/KFW	DM 7,000,000	WWF	start-up 1991-1994
13. ANDRINGITRA	RFA/KFW	included in above amount	WWF	start-up 1991-1994
14. ZAHAMENA	Conservation International (CI)	not yet deter- mined	CI	management plan under design now

1. The Ministry of Livestock, Water and Forests (MPAEF) through the DEF is involved in the implementation of all the above programs.
2. The total Government of Madagascar contribution to the above programs through the National Environment Fund and from PL-480 funds is: FMG 3,673 million (\$2,091,000)

(from MDS Newsletter (World Bank), A. Greve, Ed.)

Madagascar's forests. The protected area review consultants aggressively developed plans for conservation/development initiative at priority areas, and sought development donor support for these initiatives. AID was the first donor agency to make a major commitment to this approach. This early AID funding permitted the expansion of the Beza-Mahafaly project development initiatives to Andohahela, and funded pilot conservation/development projects at two other protected areas (Montagne d'Ambre and Masoala).

The WWF consultants worked collaboratively with other international conservation NGOs active in the country. The consultants encouraged Missouri Botanical Garden activities at Masoala, and assisted Duke and Yale universities to develop the Ranomafana and Beza-Mahafaly projects. The collaborative approach was crucial to effective development of what eventually became a national system of people and parks initiatives.

Environmental Action Plan

The groundwork laid by the WWF consultancy was consolidated under the umbrella of an Environmental Action Plan (EAP) for Madagascar. The EAP was developed in 1987-88 by the government of Madagascar under the auspices of the World Bank. Central government and most major donors active in the country participated in EAP development. The EAP is a broad-ranging plan for improving conservation, resource management, rural and urban living conditions and human and institutional resources. The final EAP document emphasized biological diversity as a priority component, and conservation/development projects as the primary technique for conserving the island's rapidly disappearing habitats.

The EAP biological diversity component is designed to improve effectiveness of protected area and forest management. The forestry department in government had suffered nearly two decades of decline, until staff attrition exceeded recruitment and the average age of foresters in government service was over 50 years old. The nation's protected area system has been virtually unmanaged. Forest department protection of protected areas eroded as staff attrition radically reduced the number of field agents available for enforcement activities. Government financial difficulties have stripped investment budgets as well. In 1988, the investment budget for Madagascar's entire protected area system was under US\$ 1,000.

Owing to lack of enforcement and rural poverty, most protected areas in Madagascar are under some degree of threat from local populations. Enforcement alone would create strong negative local sentiment toward reserves and would increase hardships of Madagascar's rural poor, already among the poorest in the world. The approach adopted in the EAP combines development benefits for local people with conservation, following the precedent established by the WWF consultancy.

The centerpiece of the EAP approach was to move protected area management from government control to a semi-private coordinating agency and to contract out management of

protected areas to international conservation NGOs. 14 new protected areas were proposed under the EAP. The existing protected areas were classified into three priority categories, with the Priority I areas proposed to receive rural development and enhanced conservation (Integrated Conservation Development - ICD) projects. 14 areas were listed in the Priority I category, and donor support has been secured for most or all of them - a remarkable achievement (see box). Planning and management of the protected areas system will be assumed by the semi-private body known as ANGAP (Association Nationale pour la Gestion des Aires Protégées). Government retains policy control. ANGAP will also have important roles in fund raising and donor coordination.

This approach was feasible because of the high international interest in Madagascar's unique biology. The large number of NGO protected area conservation projects underway prior to the EAP attested to this interest, and also underscored the need for international involvement to bolster a severely limited government capacity. The EAP systematically expanded the approach already underway, and acknowledged government inefficiency as a limiting constraint on project progress. By moving protected area management into semi-private NGO hands the EAP intended to facilitate flexible and effective protected area management.

The 14 protected areas identified as immediate priority for conservation/development projects have an international NGO or government implementing improved enforcement coupled with development activities for local communities. Government implementation was retained in areas in which World Bank support to government had already been committed. NGO implementation was solicited in other areas. Several donors, including AID, UNDP and the World Bank have committed funding to the program.

The structure of the central coordinating agency for protected area management is under negotiation at the time of this writing (1990). Government will continue to carry primary responsibility for enforcement in reserves. Implementors at individual areas will be responsible for other aspects of park management and development activities. The fate of management at individual protected areas after cessation of donor funding is not clear in late 1990. Following completion of donor funding, NGO management may continue, management may be returned to government, or ANGAP may assume management and thus evolve from a coordinating body to a semi-private national parks service. The long-term details of the EAP approach will be negotiated between government, donors and NGOs by 1995.

Project Structure

A typical project in the Madagascar program begins with social and biological surveys. It involves at least one expatriate technical advisor for project management, and commonly additional advisors for development and park management components. Park

management, education, research and project coordination will be the responsibility of the conservation NGO, while a partner development NGO will have responsibility for development initiatives. Initial project activities include reserve boundary demarcation and guard training, in parallel with establishment of education and development dialogues with the community. Phasing of project activities may place development and education components ahead of enforcement, to maintain a positive relationship with the community.

The Masoala Peninsula project of the Missouri Botanical Garden (MBG) typifies many of the Madagascar projects. This project is centered on the creation of a new national park, Masoala National Park. The park will protect a large core area including some of the most pristine and biologically diverse forest in Madagascar.

Surrounding the park will be a management zone in which rural development projects involving local people will be developed. The project is being executed by the government in cooperation with MBG. It has an expatriate technical advisor assisting with project coordination and the close involvement of several MBG staff. Development initiatives include health improvement, improved rice culture techniques and assistance in fisheries development. The project has been funded for three years by AID, with planned additional support in the future.

The EAP approach has several important implications for project design at individual protected areas. First, the involvement of international NGOs will ensure strong technical assistance at most or all of the projects. Second, the requirement that NGOs assume management of an entire protected area ensures that projects will have adequate conservation scope. The indeterminate nature of future funding has led some NGOs to establish creative long-term financing mechanisms.

Expatriate project coordination and technical assistance is encouraged by international NGO project implementation. Trained environmental professionals are in short supply in Madagascar, as elsewhere in Africa. Expatriate assistance is important technically, and also creates channels of communication with donors that are not available to civil servants who must process requests through government bureaucracy. Technical assistance combined with counterparts increases project manpower in the staff-intensive start-up phases. As formal and on-the-job training progresses through the life of the EAP conservation/ development projects, protected area management will become an increasingly Malagasy endeavor.

Contracting reserve management to NGOs helps to ensure that development activities will be conducted on a broad enough scale to be meaningful. A problem identified with many conservation/development projects is that development activities are implemented in only a small portion of the park or reserve (see Wells et al, 1991). This results "pilot" projects with inadequate development activities to ensure positive impact on the protected area as a whole. Requiring NGOs to assume responsibility for an entire reserve forces a

focus on people and parks

EARLY LESSONS FROM MASOALA

The Masoala Project underwent a first-year evaluation in 1991. This is one of the first intensive reviews of a project of this scale. The evaluators strongly endorsed the project concept and approach. Serious implementation problems were identified, however, which lead the reviewers to recommend that the entire project staff be replaced and the project restarted.

The main source of difficulty at Masoala was an ambiguous project management structure, compounded by delayed start of technical assistance. The duties of the expatriate technical assistant and his counterpart were not clearly distinct at Masoala, leaving no one person clearly in control of the project. The counterpart was inexperienced and did not have the training to implement a large and complex project. The project was started before the arrival of the expatriate technical assistant, and ran for six months prior to his arrival. When the technical assistant arrived, he discovered serious project management difficulties, including overpayments and non-delivery of goods. Attempts to correct these problems lead to conflicts with the counterpart over who had ultimate project management authority. Similar, though less dramatic, problems have been experienced at other projects in Madagascar.

This experience suggests that where trained and experienced counterparts are not available, project management should be overseen by technical advisors in the short-term. This reinforces findings at Bururi and other projects, in which technical assistance played a vital role in project success. Allowing the Masoala project to begin before a technical advisor was in place was an unusual and critical mistake. It allowed the project to run out of control before it was fully formed. Restarting the project with technical assistance from the beginning has been accepted as the only solution to this situation.

broader perspective addressing the whole area and its environs. The linking of several NGO efforts in a national system has drawn donor attention which has helped ensure that these whole-reserve are adequately funded.

The lack of definition of the long-term future of management of Madagascar's protected areas is generally a weak point in the approach, but it has engendered some creative responses from participating NGOs. Foremost among these are creative financing mechanisms to help deal with the long-term security of project efforts. Conservation International, a Washington, D.C.-based NGO, is establishing trust funds for the protected areas it will manage. These trusts will be built during the period of donor support, and their proceeds will finance project continuation after the conclusion of donor funding. Whether

the projects remain in NGO management or revert to government or ANGAP, these funds will ensure that project activities will be supported beyond the near-term donor horizons of 3-5 years.

Discussion

Madagascar has initiated a bold new approach to protected area management in which the management of individual protected areas is contracted to international conservation NGOs. This is an approach which may be a model for other countries in which government resources are scant but international interest is high. The long-term future of this approach is open to question. In the near term, NGOs will assume much of the role of a national park service for the country. Transferring this role successfully to local NGOs, semi-private agencies (ANGAP) or government will be a major challenge.

A major drawback of this approach is that it does little to strengthen government ability to manage forests outside of protected areas. Protected area management in Madagascar has been inadequate because the Forest Department is in serious disarray. This has resulted in rapid loss of forests throughout the country, not just in protected areas. The EAP has addressed the protected area problem, but has not developed the more ambitious program of governmental strengthening that might benefit forests in general as well as protected areas. Without attention to the broader issue of national forest management, the pressures on protected areas may build to the point at which even intensive NGO management cannot save them.

Other countries may wish to strengthen government forest management at the same time that rapid infusion of NGO resources is undertaken for protected areas. A long-term program addressing the root causes of flagging government forest management with a short-term crash course addressing the symptoms of protected area neglect is probably the most prudent course. In the case of Madagascar, the long-term institutional strengthening for government resource management may yet evolve.

Countries wishing to emulate the Madagascar example should consider the costs and benefits of creating an independent protected areas authority. Kenya and Madagascar provide differing models for how such agencies may be constituted. Kenya Wildlife Services assumes full management of protected areas, while ANGAP coordinates NGO management. With proper institutional direction, either model can facilitate people and parks projects. The drawback of independent authorities is that they may draw attention, human resources and financial backing away from other resource management efforts, contributing to a continuing overall decline in forests and habitat.

Countries must also weigh the amount of international support available for protected areas and resource management. Most will not have the resources to engage in a program of

technical assistance and material support as ambitious as that which is underway in Madagascar. Contracting to NGOs is a clearcut strategy for improving protected area management. Its success will depend on continued heavy international interest and a strategy for assimilating protected areas into an indigenous management system after donor support is terminated and NGO staff have gone home.

SECTION 3: RECOMMENDATIONS

VII. LESSONS FROM THE PAST

A good people and parks project must address an entire protected area with adequate resources to be effective. Projects which address only a portion of a protected area cannot ensure the integrity of the area. Projects which address an entire protected area with very limited resources are highly unlikely to have any significant effect. These seemingly obvious points have been missed repeatedly in early people and parks efforts, particularly outside of Africa (Wells, Brandon, and Hannah, 1992). In Africa, the record of addressing entire protected areas is better, but adequate funding, particularly in the long-term, has limited project effectiveness in many cases.

Even with adequate scope and adequate funding, several design factors emerge as important determinants of project effectiveness. Factors that stand out in the analysis of this study are technical assistance, fit of development methods to local conditions, public support at both local and national levels, enforcement, and adequate project timeframe. These lessons from the case studies are elaborated below.

Technical Assistance

Shortages of trained personnel in Africa dictate that technical assistance is often a necessary part of development projects on the continent. This applies equally, or to greater extent, to development projects with conservation objectives. In addition to the complexities of donor-funded development, conservation/development projects must address a series of highly qualitative issues related to the linking of development benefits to conservation goals. This requires skills beyond academic training that will be outside the capacity of even most developed country professionals. The combination of technical requirements and aptitude for complex social project implementation skills suggests that technical assistance will require careful recruiting in most African conservation/development efforts.

The importance of technical assistance was demonstrated at several of the projects. The Amboseli Park Plan suffered from lack of full-time technical assistance. Project activities were complex and outside the scope of the regular duties of the government officials to whom their oversight was assigned. Park wardens had no experience in pipeline maintenance and this in part led to the rapid degradation of the system. Community dialogue also proved to be time-consuming and to require special skills. Only those wardens with a special disposition to community dialogue maintained good relations with Maasai leaders. This was a major cause of uneven project performance.

In contrast, the Mountain Gorilla Project has relied heavily on expatriate advisors. In the long term, this heavy expatriate involvement may have slowed transition of project management to local control, but in the shorter term it was almost certainly important to

project success. Expatriates were involved in all phases of MGP. This expertise and added manpower permitted rapid project start-up and an additional level of intensity of park management.

Perhaps the most telling evidence of the importance of technical assistance came from the Bururi project, where project performance improved markedly following the arrival of technical advisors. The technical advisors permitted the Bururi project to generate greater focus on qualitative goals such as community participation. Previous to technical assistance, the project had concentrated primarily on quantitative aspects of project output, primarily tree planting. Project technical assistance provided the staff inputs necessary to develop a forest guard system, community extension and agroforestry. The turnaround from project focus on tree planting to more participatory, qualitative objectives with the advent of technical assistance more than justified the investment in assistance. Other projects in other parts of the continent are also likely to find technical assistance worthwhile.

Development Approach

A second essential factor in project success is a development approach which is appropriate to local conditions. Traditional community structure in Africa may be considerably less individualistic and democratic than western norms. Working effectively with traditional communities may require approaches which are less grassroots (individualistic) than those desired by developed country environmentalists. The role of women in traditional society may be particularly unacceptable to western conservationists. The desirability of altering the social position of women or minorities must be weighed against achievement of community participation and other project goals.

A defined balance between social goals and biological goals in project design is may simplify implementation. Social goals will benefit from approaches which allow communities to determine project activities and objectives. Biological goals may seem best served when project direction is determined on technical grounds (see box). A balance is necessary because effective plans must be both technically and politically viable; community-supported but technically flawed plans and technically perfect plans with no community backing are both unlikely to be effective.

Effective projects will determine the minimum amount of technical planning necessary to achieve biological goals and leave remaining project decisions to community discretion. This allows for technical determination of key project directions (for instance protection of the most biologically diverse areas), but allows community determination of project elements which require community knowledge and commitment (for instance development activities in multiple-use areas).

Within this context, community participation itself must be carefully judged. Broadly democratic, grassroots community participation may be acceptable in some cultural traditions

(for instance, Botswana), or where a community is an amalgam of recent immigrants with no firm traditional leadership. In other settings (for instance Maasailand), strong traditions of leadership may exist which emphasize age or social status over democratic participation. In these situations, broad-based democratic participation may be seen as culturally irrelevant or, at worst, a threat to traditional leadership. Projects will be most effective which work through existing leadership, using broad-based participation to the extent that it is compatible with local tradition.

focus on people

TOP-DOWN AND BOTTOM-UP

Top-down and bottom-up development approaches were contrasted in the Kenya case study. The Amboseli plan had many elements of top-down development which directly compromised its effectiveness. At the same time, a fundamentally bottom-up approach at the Wildlife Extension Project experienced difficulties associated with its non-traditional approaches in a traditional society.

Many conservation/development projects will necessarily have some top-down characteristics. Sites selected for their biological value may not correspond to areas in which community interest or cohesion is high. Many conservation/development project objectives will have been selected without consultation with the community. Reservation of land from local use, restrictions on subsistence activities and control of surrounding land use are all items unlikely to be forwarded spontaneously by a community. In fact, much of the purpose of conservation/development projects is to win community support for these unpopular measures.

Given this inherent top-down bias, conservation/development projects may wish to place special emphasis on bottom-up approaches in implementation. Elucidating project development goals with local communities and soliciting community participation in reserve management are two ways in which participatory, bottom-up methods may be employed. Top-down and bottom-up are poles of a continuum; effective project methods will seldom be found at the extremes.

Where broad-based participation (across gender, across generations and across social strata) is not consistent with local culture, projects face unusually difficult decisions.

Traditional roles of women or the disadvantaged in these settings may be in strong contradiction to western norms. In these settings, it is imperative to remember that communities are not homogenous, and that dominant classes within the community will tend to capture project benefits. Without this sensitivity, dominant strata of the local community may benefit disproportionately from project activities and local social inequity may be exacerbated.

Effective project design will explicitly address situations of social inequity. This requires defining project policy towards social inequity and creating a framework for implementation which strikes a balance between cultural sensitivity and respect for human rights. Project goals and implementing agency policies will be important determinants of an appropriate balance. These are some of the most difficult and critical issues of project design, and they must be addressed on a site-by-site basis. It is the responsibility of project designers to understand local political structures and to create project structures and operations which are responsive to these local social conditions.

National and Local Support

While much of the recent conservation literature focuses on the importance of community support for conservation, national support may be equally important. Without support from both local communities and national decision-makers, conservation may not be politically viable. Conversely, national and international attention for a protected area can help generate local awareness and support. Despite many bromides in the literature to the contrary, national pride and aesthetic appeal are important determinants of human behavior, even for people struggling for daily survival.

The Mountain Gorilla Project provides an excellent example of national level support resulting in effective conservation. The development initiatives of the MGP focused on tourism with benefits accruing primarily to central government. These benefits resulted in national recognition which halted government excisions of park lands. Public awareness stemming from national publicity also resulted in increased local support for the park.

The appropriate balance between community and government support will depend on local political conditions. Where traditional community structure still exists, community-level activities may be the most effective (for instance, among the Maasai). In other countries, traditional authority has been systematically broken down and replaced by local government structures. In these cases involvement of local government in project benefits and decision-making will be key. Regional government will often be too far removed from project activities to be an important modifier of community behavior. This was the case at Amboseli, where revenues returned to District Council were not perceived as beneficial by communities bordering the park.

No combination of local and national support can guarantee long-term conservation. Political fortunes change and power balances between local and national entities wax and wane. The most effective conservation/development efforts will combine benefits for local people with broader strategies for support. The strong presence of international NGOs in most African capitals helps to ensure project connections at the national level. Development activities will most often determine local support. Project benefits such as tourism revenues can be used to engender local, regional and central support.

Growing emphasis on local benefits in the literature of the past twenty years has been an appropriate balance to central government-dominated conservation efforts. As projects with real community benefits become more common, it will be important to recall in project design that other levels of support are important as well.

Enforcement

Wildlife conservation in Africa is moving away from authoritarian, para-military approaches, toward more human-oriented approaches which feature wildlife as an element of local development. Protected areas can play an important part in this transition, through the provision of tourism and dispersal area hunting benefits to surrounding communities. At the same time, in the design of people and parks projects, it is important that the pendulum does not swing too far, for protected area conservation still requires effective enforcement measures.

A common fallacy regarding conservation/development projects is that development will make reserves self-enforcing. Few, if any, projects have actually been operated on such a premise. The evidence of this study is that all projects maintained some element of enforcement, and the stronger the enforcement component, the more effective has the project been in meeting conservation objectives.

Projects designed on the hypothesis that improved standards of living will result in reduced pressure on reserve resources are likely to fail in all but the most unusual circumstances. Project development benefits may help compensate individuals and communities for lost access to reserve resources, but do not remove the motive for exploitation. There is no absolute level of development beyond which desire for further wealth or well-being disappears. A project beneficiary will still desire the marginal improvement in lifestyle offered by use of reserve resources, regardless of his/her relative level of wealth. Even when project benefits directly substitute for subsistence use of reserve resources, the motivation for reserve use for cash income persists. Enforcement is necessary to ensure that this motivation is not translated into an open-access situation resulting in degradation of the reserve. In the best situations, this enforcement will come from within the community and through local customs. Enforcement is a necessary part of the top-down

aspect of conservation/development projects. Community participation and development benefits are its bottom-up counterpoints.

Project Timeframe

People and parks projects require an extended implementation period. The novelty of combining conservation and development and the need for flexibility of implementation both argue for prolonged donor support. Projects of inadequate duration may be unable to effect a stable transition to local control after government funding. Projects examined in this study were consistently hampered by insufficient duration of donor support.

People and parks projects require longer donor support because they represent a departure from traditional conservation agency roles. This requires adjustments that require additional time in project establishment and implementation. Where a project is being implemented by a partnership of conservation and development NGOs, as suggested by Wells (1990), finalization of this working relationship will also demand additional time. Donor support to help secure these partnerships (e.g., through funding proposal development and project design) may be especially important. Adequate timeframe of donor support is crucial to overcome these technical and bureaucratic adjustments as development is integrated into protected area conservation.

Extended donor commitment is important in allowing adaptive implementation of projects. Community involvement and establishing productive alternatives to forest destruction require flexible and responsive project implementation. Adjustments in implementation in response to community input may require additional equipment, technical assistance, and time. Donor support may be critical to overcoming bureaucratic resistance to adaptive approaches within government. The best means of ensuring that these factors are adequately accommodated is to include a generous project timeframe in initial planning.

The Bururi project provides an excellent illustration of these processes. The Bururi project underwent a major shift in emphasis from plantation forestry to community agroforestry. The adaptive implementation which permitted this shift was one of the key elements in project success. Donor evaluation and input was the dominant force behind government acceptance of this change. However, the initial project timeframe was not designed with this shift in mind, and AID did not substantially extend the project subsequent to the change. Consequently, AID support was insufficient to see the agroforestry program through to its full establishment, and much of the potential of the program was sacrificed.

The initial AID commitment at Bururi of six years was longer than average for the agency, and would have likely been sufficient if agroforestry had been started at the outset of the project. However, since the project was underway two years before agroforestry was

instituted, the effective timeframe for agroforestry support was only four years. This was insufficient to see the first group of outplantings to maturity. The agroforestry program took one year to get underway, and the first harvest of trees planted under the program came just as AID support was ending. This reduced project resources at a critical period of project adjustment to lessons of the first harvest, and at a time when community demand for project services was increasing. Inadequate recurrent cost support from government compounded these problems and project impact was significantly reduced. Other projects should incorporate a longer timeframe for support to avoid similar difficulties.

The appropriate timeframe will vary depending on project activities. Agroforestry projects should allow at least one full group of plantings (preferably two) to come to maturity and use. This implies a minimum timeframe of between five and eight years. Agricultural improvement projects should allow one year for project establishment, two years for technology transfer, and two or three cropping cycles to adapt project methods to actual results. This implies a minimum timeframe of five to six years. Since projects of all types will require one to two years for start-up, two to four years of implementation and one to two years for transfer to local control, minimum timeframes will always be around five years, with a donor commitment of ten years or more most appropriate for adaptive implementation.

Few projects presently underway have timeframes in this range. Of the projects examined in this study, none had a budgeted commitment of over six years. Bururi and Rumonge had six-year timeframes, Amboseli less, while WEP and MGP never had more than one- or two-year budgets despite long-term donor involvement. Short-duration budgets, particularly year-to-year funding, are particularly damaging. Project staff are forced to spend time exploring other potential funding sources, and long-term planning is impossible. Inconsistency of donor timeframes and commitment further confuse the planning process.

Timeframe of donor support will remain a critical issue for conservation/development projects throughout Africa. Where implementation will be by NGOs with development donor support, donor policy on timeframes will be especially important. NGOs will be unable to muster funds to continue projects at donor-funded levels should donor financing fail, so long-term donor commitments will be crucial. While many donors will prefer shorter commitments, realistic timeframes for full achievement of the ambitious and extensive goals of people and parks projects will be eight to ten years or more.

Discussion

Together, these factors represent the beginnings of understanding of the ingredients of successful people and parks projects. Many of the determinants of project effectiveness will be played out on a site-by-site basis. Once the generic pitfalls have been avoided, there remains a panorama of very challenging design and implementation choices which will determine impact and sustainability of individual projects.

The lessons of the past have only begun to be learned. The projects examined here on a continent-wide scale represent only the first few years of a rapidly growing bank of people and parks project experience. Information exchange between projects within countries and within regions will play a critical role in effective project design and implementation in the future. Learning from past experience will become increasingly possible, but innovation will continue to be important as the limitations of initial approaches become apparent. One

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DESIGNING SUCCESSFUL PROJECTS

Five factors stand out as playing an important role in project effectiveness. These five factors and ways to integrate them into successful project design are:

- o *Technical Assistance* - include highly trained professionals in at least the first five years of project implementation.
- o *Development Approach* - tailor development methods to local conditions, respect local leadership and culture, and use both bottom-up and top-down techniques.
- o *Local and National Support* - build support at all levels; with international donors and national, regional and district government, as well as local communities.
- o *Enforcement* - strengthen enforcement side-by-side with community development, building on traditional resource management practices wherever possible.
- o *Project Timeframe* - plan a long project life; allow for project errors, learn from mistakes, and be adaptive.

purpose of the present study has been to inform future innovation. The following section suggests specific areas of innovation which promise to be important in the continuing evolution of people and parks projects.

VIII. DIRECTIONS FOR THE FUTURE

The future of people and parks in Africa is far from certain. High population pressure, declining real income and political uncertainty are placing unprecedented strains on protected areas systems. Para-military enforcement is increasingly questioned as outmoded and inappropriate. The new generation of people and parks projects examined in this study are expensive. The cost of one of the projects examined here may exceed the annual parks budget of many African countries. Major international and national funding commitments will clearly be necessary to continue these efforts.

Continued innovation will also be required. Much of the progress evident to date has been the result of creative and intelligent approaches, created where none existed before. Further innovation, coupled with understanding the lessons of past project experience, and information exchange among current efforts, holds the key to future success. Three important areas in which innovation is needed are protected area management, donor financing and design of national programs.

Extending Planning Horizons

The essence of a good people and parks project is that its planning extends beyond the boundaries of the protected area. While this principle has been appreciated since at least the late-1970s, when the conceptual framework of Biosphere Reserves was developed, its application in practice has been extremely limited (Batisse, 1986). Wider application of this regional planning approach to protected area management would be beneficial in Africa.

Protected areas have traditionally been managed from the reserve boundary in. Since most protected area threats arise outside of the reserve, management from the boundary out is in many ways more important to conservation. Control of uses permitted within the reserve may be of limited importance if forces outside the reserve are unmanaged. Area of influence planning is a generic term for management which aims to plan use both inside and outside of reserve boundaries.

Area of influence planning is implicit in all of the projects examined in this study. The conservation/development approach assumes that factors outside of the reserve are important in determining the conservation of the area. Development activities focused on local people are intended to influence land use surrounding the reserve in ways compatible with reserve conservation. Planning outside of the reserve allows development activities to be integrated with management within the reserve to maximize conservation effectiveness.

Area of influence planning may be applied without major development activities. Reserve planning can extend to land use in surrounding areas as a matter of principle. In

practice, this planning will only be reflected in changes in actual land use to the extent that reserve authorities are given jurisdiction over local land use, local government authorities are willing or required to cooperate, and the reserve manager has funding for development activities. The projects reviewed used primarily the latter two techniques. Projects without major funding may meet some of the same goals through legislative revision of land use authority and government agency cooperation (Wells, 1989).

There are few examples of area of influence planning working apart from donor-funded development projects. The reasons for this are twofold. First, area of influence planning is a major political change with few advocates. Second, without donor involvement, conservation agency ability to develop and execute a regional land use plan is low. Interest on the part of conservationists can help overcome the political reluctance, but only major assistance can overcome the lack of capacity in conservation agencies.

Strengthening conservation agency planning and intergovernmental coordinating capacity is a major investment. At the same time, it may be more cost effective than isolated people and parks projects and affect a larger number of protected areas. A major opportunity exists for conservation programs to influence planning policy. A donor policy reform and training package could apply the area of influence planning approach in several reserves for the price of one development project.

Area of influence planning is particularly attractive in countries with well developed extension and social services programs. In these countries, area of influence planning would give a conservation agency the authority to coordinate these programs around protected areas to meet conservation objectives. In countries with poor extension and social services capacity, area of influence planning is meaningless without corresponding investments in development around the protected area.

Long-term financing

A second critical element of future success is long-term financing. One of the dominant problems for African people and parks projects is the discrepancy between donor and recipient resources. Parks agencies with total budgets in the hundreds of thousands of dollars are asked to administer single-site conservation/development projects with budgets of several million dollars. The current mismatch between donor investment and recipient capacity means that major capital investments are wasted for lack of maintenance, and the technical sophistication of equipment purchased is inappropriate to local skills and labor availability. The net result is that after donor support ends, project effectiveness is seriously hampered by recurrent cost shortfalls which amount to a tiny fraction of donor investment.

Projects in this study which completed their donor funding were found to have experienced a substantial decrease in effectiveness. The Amboseli plan lacked funding for

pipeline maintenance and payment of compensation fees which were outside the terms of the project loan. The Bururi project was forced to close nurseries and cancel pine plantation maintenance (trimming) when AID support terminated. The water supply system at Amboseli was built for the Maasai at a cost of approximately \$250,000 (IBRD, 1976). The system was dysfunctional after less than three years, for want of several thousand dollars a year in maintenance. At Bururi, project agroforestry activities had to be curtailed because the post-donor project budget was not adequate to cover the cost of plastic seedling bags costing less than two cents each. Continuing severe budgetary constraints in African conservation agencies indicate that problems such as these may be anticipated at other projects following the completion of donor support.

Mechanisms are needed to move donor support away from heavy capital investment over a short period and toward longer and more balanced intervention. This can be achieved by investing in NGOs which are committed to long-term support and by creating long-term financing mechanisms. Conservation trusts have been used in Latin America to finance NGO conservation work. In Costa Rica, long-term conservation bonds have been issued, with the interest used to finance conservation works (Conservation International, 1989). This and similar arrangements in Bolivia spread a heavy initial investment into a relatively modest spending program over a long period of time.

Similar approaches are being pioneered in Africa. In Madagascar, innovative approaches are being explored by UNDP, AID and Conservation International which would provide long-term trust funding for reserves. Other projects in other countries may well benefit from similar arrangements. Few African governments will have the resources to maintain people and parks projects, and few projects will generate enough revenue to be self-sustaining. In a hypothetical \$2 million people and parks project, a set-aside for long-term financing of 10 percent of project funds (\$200,000) could generate as much as \$15,000 each year toward project non-salary recurrent costs. When governments are unable to commit even \$5,000 in post-donor maintenance and operating expense budgets at projects like Bururi and Amboseli, this would be a substantial contribution to project sustainability.

There are reasons why long-term finance has not been better developed in Africa. Fiscal mismanagement is a real threat in many countries. Some development agencies have regulations designed to curb fiscal mismanagement which effectively prevent the funding of endowments or trusts. Others have only recently amended such restrictions. AID restrictions were lifted by congress in 1989, permitting the agency to fund conservation endowments for the first time. AID can now support local currency endowments established through debt-for-nature swaps. AID is funding such endowments in Madagascar and the Philippines, with other countries likely to follow suit in the future. Other donors should consider following these examples, given the importance of stable, low-level, long-term funding in Africa.

Sustainable conservation is the stated goal of most people and parks projects. This can only be accomplished if project activities are themselves sustainable after donor support

concludes. Because many projects are implemented by NGOs with limited resources, it may be difficult to guarantee funding for a period adequate for projects to become fully self-supporting. Increasing involvement by development donors in long-term project funding and financing can make a major difference in ensuring the effectiveness of efforts to bring people and parks closer together.

Designing a National Program

Madagascar is the first country in Africa to embark on a national program of conservation/development projects at protected areas. Outstanding international attention and donor support have made this possible. Other countries in Africa may be able to launch

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DESIGN OF A NATIONAL PROGRAM

Experience drawn from Madagascar and the case studies suggests seven steps in designing a national program of conservation development projects around protected areas:

1. Review protected areas for biological importance and degree of threat;
2. Strengthen capacity for traditional management system-wide;
3. Institute extended planning at protected areas where adequate social services are found;
4. Establish conservation/development projects for priority protected areas where social services are lacking;
5. Secure donor support for both priority areas and strengthening of overall system management;
6. Secure NGO partnership in implementation at specific project sites - pair conservation and development NGOs for conservation/development project implementation;
7. Establish a mechanism for long-term financing assistance at individual protected areas as well as for the administration of the system.

more modest programs yet realize many of the benefits apparent in Madagascar. Area of influence planning and people and parks approaches may be combined within the constraints of donor support. Kenya is revamping its protected area system including many of these principles. Rwanda and Burundi are both replicating successful people and parks efforts (Mountain Gorilla Project and Bururi Forest Project) at additional sites (Nyungwe Forest in Rwanda and Rumonge Forest Reserve in Burundi). Future efforts in other countries should review these experiences. An outline for the development of a country program may be suggested based on these early experiences (see box).

A national program incorporating area of influence planning and people and parks projects might begin with a review of the nation's protected areas to determine priorities for action based on biological importance and population pressure. Areas under low threat or in relatively affluent areas could be maintained under traditional management. Area of influence planning may be applied at high priority areas where adequate social and development services are found. In more remote areas without adequate social services, people and parks projects could be designed. The entire system may be supported by a combination of NGO and development donors, with implementation spearheaded by conservation NGOs and government. Long-term financing of the system should be established as a government priority and supplemented through conservation endowments or trusts. Separate trusts may be established for individual areas and for system administration, or a single mechanism may be established for all long-term supplemental funding.

Conclusion

Development projects are a relatively new conservation tool appropriate to high levels of threat and substantial donor input. Successful people and parks initiatives in Africa require long-term donor commitment, a sound policy environment (area of influence planning), and a focused, well-designed project approach which includes technical assistance. Long-term sustainability of the benefits of the people and parks approach may require donor sharing of recurrent costs through the establishment of a conservation endowment or trust.

National programs incorporating area of influence planning and development activities will become increasingly common over the next decade, as will stand-alone conservation development efforts at priority protected areas. The long term success of these efforts will depend on the skill and insight with which people and parks projects are designed in the near future. It has been the purpose of this review to suggest ways in which sound design can be furthered. Future monitoring of the projects examined here and information exchange among others more recently underway will be crucial to developing the people and parks concept.

Much has been learned in the few years in which present efforts have evolved. The application of this and future learning can make a major contribution both to the conservation of biological diversity and to the development of communities living near the parks and reserves of Africa.

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