

Wildlife Conservation and Development Among Rural Populations in Southern Africa

Robert K. Hitchcock

Department of Anthropology, University of Nebraska, Lincoln, NE 68588-0368

Abstract

Wildlife conservation, development, and natural resource management are issues of rapidly increasing concern in the Third World. This is particularly true in southern Africa, where some of the last large herds of wild game exist. Population growth and technological changes have contributed to rising degradation of the resource base. Using data from several southern African countries, this paper assesses the idea that provision of enhanced economic returns will serve to increase rural people's willingness to conserve Africa's natural resources.

Introduction

Whenever the subject of Africa comes under discussion, images of famine, environmental degradation, and civil conflict are conjured up. In the 1980s, the African continent has been beset by drought, desertification, and massive debt problems. Some analysts argue that there is a serious ecological crisis in Africa; indeed, some have gone so far as to term what has transpired there as an "eco-catastrophe." (For a discussion of the idea of ecological crisis in Africa, see Anderson and Grove 1987; Rosenblum and Williamson 1987).

The African continent has the fastest growing population in the world. The population-to-resource ratio is such that many areas are becoming overexploited. More and more pressure is being placed on the soils, vegetation, and wildlife. Agriculture is expanding into marginal areas, resulting in soil loss and erosion. Tens of thousands of animals have been slaughtered, in part to enable people obtain much-

needed protein but also to supply a huge international trade in wildlife products.

In some parts of the African continent, people have become increasingly dependent upon food relief and government handouts. Because of a combination of environmental, political, and economic problems, agricultural production levels have declined significantly in the past two decades. According to the World Watch Institute, in 1984, 140 million of Africa's 531 million people were fed entirely with grain from abroad (Brown and Wolf 1986:177).

Some researchers attribute many of Africa's problems to a debt crisis, and they argue that the structural adjustment policies of the International Monetary Fund (IMF) have failed in Africa. International aid agencies' policies have not been able to help most African economies' return to healthy levels of growth. According to the World Bank, per capita GDP in Sub-Saharan Africa declined by 3.6% in the 1980-1985 period. In 1987 this decline was even more pronounced — 5.1%. There has been a net outflow of more than a quarter of the African sub-continent's earnings for the purpose of servicing debts. Between 1985 and 1986, the total debt of sub-Saharan Africa increased by almost 20%, twice the amount of the developing world as a whole.

Given their economic difficulties, many African governments have chosen to cut expenditures in education, health, and nutrition. In other words, there has been an erosion in investment in the continent's most important resource — its people. A disproportionate burden has been placed on the poorest and most vulnerable people in Africa — children, women household heads, small farmers, and refugees. Living standards have declined, and with them, the chances

of recovery have become more and more bleak.

Because of the economic crisis, the state of the world economy, and that of Africa in particular, is very fragile. The debts of African countries, by and large, are unsustainable. It is crucial that solutions be found. One approach could be the permanent reduction of interest payments on outstanding debts. A second strategy is that African countries, with the help of the international community, could to diversify their economies. New means of earning income must be found for African countries. A suggestion of development planners and some members of conservation organizations is that wildlife could play a key role in expanding African economies and assisting rural people through increasing incomes and employment (Martin 1986; Republic of Botswana 1986; Cumming and Taylor 1989).

Economic Development Opportunities in Southern Africa

Africa has long been noted for its diverse assemblage of large mammals. Indeed, the continent's wildlife resources have been a primary reason for the success of tourism, especially in eastern Africa. Ensuring the continued well-being of African wildlife has been a priority of conservationists for decades. Many anti-poaching laws have been promulgated, and over a million square kilometers of land in Africa have been set aside as national parks and game reserves. These efforts have had a modest amount of success, although the losses of elephants and rhinoceros underscore the fact that there are problems facing conservation activities. Population growth, increasing poverty, and spiralling management costs have combined to threaten Africa's wildlife and other natural resources. One approach recommended by some African governments is to increase local incomes through wildlife utilization and management activities.

In the latter part of the 1980s, there have been debates over the most appropriate ways in which to handle conservation issues in Africa (Anderson and Grove 1987). There are major differences in strategies, depending on the problems faced by various countries. Poaching has significant effects on wildlife populations in Kenya, Tanzania, and Zambia, and efforts have been made to control the illegal killing of animals. In southern Africa, where human

populations tend to be relatively low, the problem of poaching is somewhat less severe. Fairly sizable areas have been set aside as parks and reserves, and the management of these places has been sufficient to maintain the wildlife populations. Southern Africa has some of the largest herds of plains game left in Africa; however, many ecosystems in southern Africa exist with greatly impoverished populations of wildlife. This failure has occurred in part because of the fact that a long tradition of hunting game animals was broken by centralized governments which usurped control over this resource. Local communities no longer have a vested interest in sustainable utilization, and they make little or no effort to manage the resource or to control the depredations of poachers.

Hunting and gathering are important sources of subsistence and income for many rural people in southern Africa. In the Kalahari Desert area of Botswana and Namibia, for example, up to one third of the diet of some remote area dwellers is made up of meat from wild animals (Von Richter and Butynski 1973; Murray 1978; Wilmsen 1976, 1982; Hitchcock 1982, 1988). Sales of meat, skins, and other wildlife products serve as a means of earning some cash. In addition, a sizable number of people have gotten jobs in wildlife-related enterprises. Several hundred people, for example, are employed by safari companies.

Unfortunately, foraging as a strategy is decreasing in many areas in southern Africa. Part of the reason for this decline is that technological changes have occurred in the region, particularly in the area of new kinds of water-drilling technology. When combined with the expansion of animal health and livestock breeding programs, the availability of groundwater made possible by boreholes and wells has led to an increase in herd sizes and the spread of domestic animals into areas that formerly had supported only wild species. In Botswana, Namibia, and Zimbabwe, for example, cattle numbers have increased significantly over the past several decades. Since the majority of these cattle are tied closely to water, grazing pressure tends to be such that wild animal and plant species upon which local people depend are affected negatively. Melons, berries, and vines indicating the presence of underground edible tubers are all consumed by cattle. There are also indications that as cattle numbers increase, sensitive grazing

animals such as zebra, wildebeest, and hartebeest move elsewhere.

International trade agreements and development agencies have contributed to the decline in wildlife numbers in southern Africa. The European Economic Community (EEC) has an agreement with a number of African countries including Botswana, Zimbabwe, and Swaziland which allows them to export beef to the EEC with a tariff rebate of 90%. What this means for these countries is that they are able to sell their meat at well above world beef market prices.

The problem is that participating countries must observe strict veterinary regulations in order to qualify for access to the EEC market. Not only do they have careful meat inspections at the slaughterhouse, but they also have movement restrictions and quarantine policies instituted so as to prevent the spread of communicable diseases, the most significant of which are hoof-and-mouth disease and rinderpest. Botswana and Zimbabwe have constructed a series of veterinary cordon fences and quarantine camps in order to control livestock movements and assist in maintaining an inspection and quarantine system. In some cases, these fences have served to cut off game migration routes, and they have contributed to substantial numbers of deaths of wild animals, especially wildebeest and hartebeest (Hobbs 1981; Williamson and Williamson 1981; Owens and Owens 1984). In this sense, international economic decisions are having a negative impact on the wildlife resource base in Africa.

A major impact of development activities is that cattle are replacing wildlife in some areas (e.g., the Kalahari Desert, some of the communal lands in Zimbabwe). The commercialization of the livestock industry in southern Africa is being supported financially by international donors, including the World Bank and the European Development Fund (EDF). The justifications for the support of livestock projects are that cattle represent a good investment and that grazing is the optimal use of the marginal range resource base in southern Africa. The problem is that the enhancement of the livestock industry is having significant socioeconomic consequences. Poorer families are being squeezed off the land as ranches proliferate. People are having to turn to alternative ways of making a living. Some of these strategies include increased dependence upon food relief made

available by southern African governments, the World Food Program (WFP), and international relief agencies.

Because of increasing international pressure to conserve wildlife and habitats in Africa, governments are setting increasing amounts of land aside for wildlife purposes. Southern Africa stands out as being a region in which large proportions of its territory are devoted to parklands (see Table 1). In Botswana, a country which is already a world leader in the amount of land designated as parkland (Wilkinson 1978:621), 145,740 square kilometers have been zoned recently as Wildlife Management Areas (WMAs) (see Table 2). When this figure is combined with the amounts of land in existing parks and reserves (101,335 square kilometers), the total amount of land devoted to wildlife is 247,075, or 42.5 percent, over two fifths of the country's surface area.

Zambia is another country that has substantial amounts of land devoted to parks and reserves. According to the National Parks Declaration Order of 1972 and the *Zambian Government Gazette* (25 February, 1972), there are 18 national parks in Zambia, covering a total of 59,650 square kilometers (Marks 1984:163, Appendix C). There are also 32 Game Management Areas (GMAs) in various parts of the country (Marks 1984:165-166, Appendix D). The GMAs in Zambia cover a total area of 163,853 square kilometers. While people are not allowed to hunt in the national parks, they are allowed to do so in the GMAs, and a number of wildlife utilization schemes have been initiated in these areas (Zambia National Parks and Wildlife Services 1988; Lewis n.d.).

A major question issue being addressed in southern Africa is whether or not residents of the wildlife utilization areas will be allowed to exploit resources at the same rates and using the same technology as they have in the past. In the Central Kalahari Game Reserve of Botswana, the second largest wildlife reserve on the African continent, people have been allowed to hunt as long as they use traditional weaponry. Recently, however, conservationists have argued that people are no longer using traditional weapons, and they have pushed for the removal of local people and the complete banning of hunting (Owens and Owens 1981). The numbers of people arrested for hunting violations have increased in most countries in southern Africa (see, for ex-

ample, Marks 1984:128-129, Table 5.4 for Zambia). Interviews of some of the people living in these areas indicate widespread dissatisfaction with the ways in which they have been treated both by governments and international conservation organizations (see, for example, comments by San cited in Hitchcock and Brandenburgh n.d.).

Rural people in Africa are having to diversify their economic strategies in order to survive. Some of them are becoming specialists in equipment maintenance and repair on cattle posts and ranches (Hitchcock 1978). Others are joining safari companies and are helping guide clients on hunting trips. Still others are utilizing a mixed production strategy in which foraging is combined with livestock-raising, agriculture, rural industries, and wage labor (Bieseke *et al* 1989).

Southern African governments are beginning to pay closer attention to meeting the needs and addressing the concerns of rural populations. More and more meetings are being held at the district and local levels in which groups and individuals are able to state their opinions about rural development policies and outline ways in which they feel that they could best be assisted. In Zimbabwe, for example, District Councillors are meeting with representatives of Village Development Committees (VIDCOs) and Ward Development Committees (WARDCOs), and opinions are being aired about problems and development issues. Some people are pushing for a multi-pronged development strategy which combines agriculture, employment, and wildlife utilization.

In the past, rural people often saw wild animals as major problems. Lions and hyenas, for example, preyed on people's flocks and herds. In northeastern Namibia, groups of Ju/Wasi San (Bushmen), have a total of 376 cattle at a dozen water points, but there are over 400 lions in the region. The Ju/Wasi are not allowed to kill these lions under existing legislation even if the lions kill their livestock. It is somewhat ironic that non-citizen hunters from the United States, Europe, and Japan *are* allowed to shoot the lions. Angered by the hypocrisy of the situation, one Ju/Wasi man told the Namibian government and the media that "Lions are the dogs of Western conservation" (John Marshall, personal communication).

A particular area of concern in southern Africa has to do with what has come to be known as "the elephant problem." Whereas the killing of elephants is a serious issue in Kenya, Tanzania, Uganda, and

other parts of east Africa, something which has contributed to a significant decline in numbers, some southern African countries are faced with a very different problem: elephant numbers in Zimbabwe, Botswana, and South Africa are on the increase, and in many areas they pose severe difficulties for both habitats and people. In the Tsholotsho District south of Hwange National Park in western Zimbabwe, elephants destroy crops on a fairly regular basis. In the Chobe National Park of northern Botswana, the overabundance of elephants is resulting in severe habitat destruction. Some of the strategies which have been attempted in parts of southern Africa are to provide water points in order to ensure a wider dispersal of the elephant population, and to manage the population through cropping and culling programs (Cumming 1983).

The issue of elephant population status is a particularly sensitive one. Some countries, including the United States, Kenya, and Tanzania, have called for a ban on the marketing of ivory products and, in some cases, on elephant hunting. Southern African countries such as Zimbabwe and Botswana oppose the idea of banning hunting and prohibiting trade in ivory products. At the international meeting of the Conference on Trade in Endangered Species (CITES), held in Lausanne, Switzerland, in October, 1989, Botswana and Zimbabwe refused to go along with the decision to halt the ivory trade and to place elephants on the list of endangered species.

The reasons given by Botswana and Zimbabwe for their refusal were that they had substantial elephant herds and that their wildlife departments had the ability to conduct effective antipoaching operations. In northwestern Zimbabwe and northeastern Botswana, there are over 50,000 elephants, and the herds are increasing at a prodigious rate. According to some ecologists, the elephants are having a devastating impact on the ecosystem. Zimbabwe and South Africa carry out elephant management programs in which the animals are shot and the meat, ivory, and other products are sold. The money generated from these activities is then used to help support the wildlife departments and to pay for park operations. Elephant exploitation is important for the economy of Zimbabwe, particularly since it helps sustain a fast-growing safari industry. Local people are able to benefit from employment and industries related to hunting and wildlife tourism (Department of National

Parks and Wildlife Management, Branch of Terrestrial Ecology 1989).

As a result of decisions by the Government of Zimbabwe in the past several years, District Councils are now able to get some of the money from wildlife that in the past went to the central treasury. Two districts in Zimbabwe have received what is known as "Appropriate Authority" status from the government. Once they have this status, the district councils are able to get the funds from safari operations and other wildlife-related activities in their areas. Some district councils have authorized the establishment of safari companies which pay fees for the right to work and provide a portion of the returns to the councils. The money generated by these enterprises is then used for building schools and health posts and paying for setting up small businesses which employ local people.

In the past several years, southern African governments have been experimenting more and more with the idea that local people should receive direct benefits from wildlife. The hypothesis is that if people get economic returns directly from wildlife, they will be more likely to attempt to conserve it (McNeely 1988a, b; Development Alternatives, Inc. 1989). Evidence from Zambia tends to support this assumption. Under a World Wildlife Fund and Zambian government-sponsored wildlife project, money from safari operations is being returned to local authorities (Zambia National Parks and Wildlife Services 1988). The chiefs and their councils are then using some of the money to employ local game guards, known as village scouts. These people, who get approximately 200 Kwacha per month (= U.S. \$7.20) along with a uniform and rations, patrol their areas. In those places where village scouts are operating, poaching has declined significantly at the same time as rural employment and income levels have risen (Zambia National Parks and Wildlife Services 1988; Lewis n.d.).

Discussions with members of rural African communities indicate that they are more than willing to oversee their natural resources if they are able to get economic benefits. In remote parts of Botswana and Zimbabwe, people have said that they would like to control access to their resources. In several instances, local communities have turned people over to the police for their failure to inform them of their decision to hunt within the areas claimed by those communities. Other communities have ostracized

members who consistently refused to observe locally imposed sanctions on the taking of certain kinds of resources.

There are instances in southern African where local communities have established hunters' cooperatives. These institutions have carried out wildlife exploitation, providing meat and other products for local consumption or for sale. When asked what kinds of development projects people would like in remote parts of southern Africa, some of them say that they want to be able to make money from wildlife. This is not surprising, given that the returns on investment in wildlife in Zimbabwe, for example, are over 25 percent per annum, far greater than is the case for livestock. The commercial exploitation of wildlife on private land expanded in Zimbabwe at a rate of about 6 percent per year in the period between 1975 and 1984 (Brian Child, personal communication).

Conclusions

In southern Africa it appears that unprecedented development opportunities are arising. Several of the long-running armed conflicts (e.g., in Angola and Namibia) appear to be coming to an end. The economic growth of some southern African countries, notably Botswana, promises to be substantial in the future. Efforts are being made to address some of the major problems facing the region: the threat of war, the deterioration of the environment, and the persistence of severe poverty. In some ways, these problems are linked either directly or indirectly.

The emphasis in the past in wildlife conservation has been on restricting access to the resource. The major strategies for dealing with wild animals have been to pass and enforce game laws and to establish parks and reserves where people were not allowed to hunt. The emphasis on law enforcement to the exclusion of allowing local people to benefit from wildlife has contributed to difficulties in the relationships between rural people and the state. It is interesting to note that greater emphasis on law enforcement has *not* led to a decline in poaching levels in Africa.

New measures are being put into effect by southern African governments and international development and conservation agencies which hold the promise of promoting conservation while at the

same time raising rural incomes, employment levels, and living standards. Providing local people with revenues from wildlife is facilitating the process whereby rural communities are beginning to establish their own management and conservation strategies. Overall, wildlife utilization projects can have important effects on rural economies. If efforts are made to promote equitable, sustained development strategies, it may yet be possible to conserve Africa's abundant natural resources while at the same time expanding development opportunities. The future of Africa's wildlife lies in the hands of its people, whose very survival depends on the ways in which they manage their resources.

Acknowledgments

Support of the research upon which this paper is based was provided by the U.S. National Science Foundation (grants SOC75-02253 and BNS76-20373), the Remote Area Development Program, Government of Botswana, and the United States Agency for International Development. I would like to thank Dori Bixler, Alan Osborn, Rod Brandenburgh, and Ralph Hartley for their comments and criticisms on earlier drafts of this paper.

References

- Anderson, David and Richard Grove, eds. 1987, *Conservation in Africa: People, Policies, and Practice*. Cambridge: Cambridge University Press.
- Bieseke, Megan, Mathias Guenther, Robert Hitchcock, Richard Lee, and Jean Macgregor 1989, Hunters, Clients, and Squatters: The Contemporary Socioeconomic Status of Botswana Basarwa. *African Study Monographs* 9(3):109-151.
- Brown, Lester R. and Edward C. Wolf 1986, Reversing Africa's Decline. In *State of the World 1986*, Lester R. Brown, ed. pp. 177-194. New York: W.W. Norton and Co.
- Campbell, A.C. 1986, The Use of Wild Food Plants and Drought in Botswana. *Journal of Arid Environments* 11:81-91.
- Cumming, D. H. M. 1983, The Decision-Making Framework with Regard to the Culling of Large Mammals in Zimbabwe. In *Management of Large Mammals in African Conservation Areas*. Pretoria: Haum Educational Publishers.
- Cumming, D.H.M. and R.D. Taylor 1989, Identification of Wildlife Utilization Projects for the Department of Wildlife and National Parks, Government of Botswana. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.
- Department of National Parks and Wildlife Management, Branch of Terrestrial Ecology, 1989, *The Status of Projects Involving Wildlife in Rural Development in Zimbabwe, 1989 Report*. Harare, Zimbabwe: Department of National Parks and Wildlife Management.
- Development Alternatives, Inc., 1989, *Regional Natural Resources Management Project (690-0251)*. Washington, D.C.: United States Agency for International Development (USAID).
- Hitchcock, Robert K. 1978, *Kalahari Cattle Posts*. Gaborone, Botswana: Government Printer.
- Hitchcock, Robert K. 1982, *The Ethnoarchaeology of Sedentism: Mobility Strategies and Site Structure among Foraging and Food Producing Populations in the Eastern Kalahari Desert, Botswana*. Unpublished Ph.D. Dissertation, University of New Mexico, Albuquerque.
- Hitchcock, Robert K. 1988, *Monitoring, Research, and Development in the Remote Areas of Botswana*. Gaborone, Botswana: Ministry of Local Government and Lands.
- Hitchcock, Robert K. 1989, Indigenous Peoples and Wildlife Schemes. *Kalahari Conservation Society Newsletter* 24:10-11.
- Hobbs, J.C.A. 1981, The Environmental Impact of Veterinary Cordon Fences. *African Wildlife* 35(6):16-21.
- Lewis, Dale R. n.d. African Solutions to Wildlife Poaching in Africa. *Conservation Biology* (in press).
- Marks, Stewart A. 1976, *Large Mammals and a Brave People: Subsistence Hunters in Zambia*. Seattle: University of Washington Press.
- Marks, Stewart A. 1984, *The Imperial Lion: Human Dimensions of Wildlife Management in Central Africa*. Boulder, Colorado: Westview Press.
- Martin, R.B. 1986, *Communal Area Management Plan for Indigenous Resources (CAMPFIRE)*. Harare, Zimbabwe: Branch of Terrestrial Ecology, Department of National Parks and Wildlife Management.
- McNeely, Jeffrey A. 1988a, *Economics and Biological Diversity: Developing and Using Economic Incentives to Conserve Biological Resources*. Gland, Switzerland: International Union for Conservation of Nature.

- tion of Nature and Natural Resources.
- McNeely, Jeffrey A. 1988b, *Economics and Biological Diversity: Executive Summary and Guidelines for Using Incentives*. Gland, Switzerland: International Union for Conservation of Nature and Natural Resources.
- Murray, Mark L. 1978 *Wildlife Utilization Investigation and Planning in Western Botswana*. Gaborone, Botswana: Government Printer.
- Owens, Mark J. and Delia D. Owens 1981 Preliminary Final Report on the Central Kalahari Predator Research Project. Report to the Department of Wildlife and National Parks, Gaborone, Botswana.
- Owens, Mark J. and Delia D. Owens 1984, *Cry of the Kalahari*. Boston: Houghton Mifflin Co.
- Republic of Botswana 1986, *Wildlife Conservation Policy*. Government Paper No. 1 of 1986. Gaborone, Botswana: Government Printer.
- Rosenblum, Mort and Doug Williamson 1987, *Squandering Eden: Africa at the Edge*. New York: Harcourt, Brace, Jovanovich.
- Vollers, Maryanne 1987, Healing the Ravaged Land (Third World Women and Conservation). *International Wildlife* 18(1):4-9.
- Von Richter, W. and T. Butynski 1973, Hunting in Botswana. *Botswana Notes and Records* 5:191-208.
- Wilkinson, Paul F. 1978, The Global Distribution of National Parks and Equivalent Reserves. In *International Experience with National Parks and Related Reserves*, J.G. Nelson, R.D. Needham, and D.L. Mann, eds. pp. 603-624. University of Waterloo, Department of Geography Publication Series No. 12. Waterloo, Ontario, Canada: University of Waterloo.
- Williamson, D.T. and J.E. Williamson 1981, An Assessment of the Impact of Fences on Large Herbivore Biomass in the Kalahari. *Botswana Notes and Records* 13:107-110.
- Wilmsen, Edwin N. 1976, Subsistence Hunting as a Source of Income for Bushmen at /ai/ai in Northwestern Ngamiland. In *Rural Income Distribution Survey in Botswana 1974-75*. Gaborone, Botswana: Government Printer.
- Wilmsen, Edwin N. 1982, Studies in Diet, Nutrition, and Fertility among a Group of Kalahari Bushmen in Botswana. *Social Science Information* 21(1):95-125.
- Zambia National Parks and Wildlife Services 1988, *Proceedings of the First ADMADE Planning Workshop*. Lusaka: Zambia: Republic of Zambia.