Wildlife management in Zimbabwe: The CAMPFIRE programme

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This article is an updated version of a case-study originally published in Living with wildlife, *Washington, D.C., World Bank, 1990. It analyses a pilot effort aimed at conserving fragile ecosystems and increasing the income of local people in dry areas of Zimbabwe.*

Zebra and eland am among the wildlife populations found in me Guruve District of Zimbabwe

In Zimbabwe, the area occupied by national parks, safari areas, recreational parks sad sanctuaries (collectively called the Wildlife Estate) totals about 47000 km^2, or 12.5 percent of the total land area. This area is the responsibility of the Ministry of Natural Resources and Tourism and is managed by the Department of National Parks and Wildlife Management (DNPWLM) which is also responsible for wildlife resources throughout the country, including commercial and communal areas.

Most of the Wildlife Estate is located in remote or rugged terrain; is hot and dry; and has shallow, infertile soils of low agricultural potential. Nevertheless, population pressure is forcing settlers into these areas where they are trying to introduce and maintain the type of agricultural practices that have been developed in less fragile regions. This migration into marginal areas creates conflicts between people and wildlife.

Wildlife contributes over US$ 250 million annually to the country's economy (one-quarter of the total contribution made by agriculture) through safari hunting, game cropping, tourism and live animal sales. Safari hunting generates substantial foreign exchange and provides direct employment for local populations. It also contributes to the development of secondary industries, such as skin and hide processing and ivory carving. Although subsistence hunting is still illegal in most of the country, game cropping provides animal protein to people in the communal lands.

Historically, Zimbabwe's Wildlife Conservation Authority, like its counterparts in most African countries, was dedicated to protecting wildlife and preserving protected areas. Wildlife had the status of "king's game" and was brought under state regulation so that legal exploitation and conservation were the exclusive domain of the state. The indigenous communities suffered, in effect, a double expropriation: they were forbidden to use indigenous wildlife resources and also progressively excluded from one-half of the country's land base. Increasingly, they were confined to communal lands where human populations and agricultural pressure on the land reduced the economic potential of wildlife. Alienation of wildlife resources and reduced access to land changed the cultural perspectives of an earlier era when rural populations used wildlife resources on

a sustainable basis. Except when hunted illegally for meat, wildlife became a liability and nuisance.

A new, more successful wildlife philosophy based on economic incentives began in 1960 with the passing of the Wildlife Conservation Act and culminated in 1975 with the Parks and Wildlife Act. The 1975 Act gave landholders the right to manage wildlife for their own benefit, thus providing an economic rationale to reinforce the scientific, aesthetic and moral justifications for wildlife conservation. Although the Act was directed primarily at commercial farmers and ranchers, it contained a provision enabling district councils to be designated as the "appropriate authorities" for managing wildlife within district boundaries on communal lands, provided the government (Ministry of Natural Resources and Tourism) is satisfied with the council's interest and capacity to manage these resources properly and with the full participation of, and benefit to, the people it represents.

A first attempt to enable rural communities to realize economic benefits from wildlife was Project WINDFALL (Wildlife Industries New Development for All), launched in 1978. The objective of Project WINDFALL was to reduce conflicts between human populations and wildlife and to improve attitudes toward conservation in communal areas by returning revenues from wildlife use for example, an elephant culling programme- in protected areas directly to neighbouring district councils.

Project WINDFALL, however, soon manifested a number of significant problems. First, since it was based on wildlife found on state rather than communal lands, the communities were not involved in decision-making. Second, little meat found its way to the local communities and only a small proportion of the revenue generated was actually returned to the district councils as originally intended. Third, the district councils have not necessarily passed the money they received back to the originating communities (i.e. those where the wildlife are actually located). Because it fails to involve community land or resources, it develops neither local participation in decision-making nor a sense of proprietorship at the local level. With these shortcomings, WINDFALL fails to forge the link between wildlife resources and economic benefit which is necessary for the continuing success of community-based wildlife development.

Aware of these problems and encouraged by the new government's commitment to localized planning and implementation, the DNPWLM developed the CAMPFIRE programme (Communal Areas Management Programme for Indigenous Resources) to give full control of wildlife management to rural communities. The theory behind CAMPFIRE is that communities will invest in environmental conservation if they can exploit these resources on a sustainable basis for their own benefit.

The programme is based on creating appropriate institutions under which resources can be legitimately managed and exploited by the resident communities. Profits from the enterprise may be used for communal benefits or distributed to individual households at the discretion of the community.

Commercial hunting of wart-hog represents an important potential source of revenue

The first two district councils (Nyami and Guruve) were granted appropriate authority status in November 1988 and launched wildlife management projects (in the Omay and Kanayati/Gache Communal Lands in Nyami Nyami in the Dande Communal Land in Guruve). To date, ten other district councils have received appropriate authority status while another six districts have applied. The remarkable growth in the spread of CAMPFIRE district programmes is largely attributable to perceptions of the high revenue-generating potential of wildlife, as demonstrated by the experience of the first two districts. The following sections of this article examine the Dande Communal Land project.

The Dande communal land

The Dande Communal Land is located in Guruve District in the extreme north of Zimbabwe in the Zambezi Valley bordering with Mozambique (see Map). The project area covers approximately 3000 km^2, occupying the entire eastern and central blocks of the communal land bounded to the east by the Msengezi River and to the west by the Angwa River. The area between the Manyame and Msengezi Rivers is covered by the Mid-Zambezi Valley Rural Development Project (MZVRDP), an integrated land-use project involving the resettlement of about 3000 farm families and supporting the essential social infrastructure for a community of 45000 people.

Map

The MZVRDP area encompasses two zones with substantial differences in ecological conditions, necessitating different approaches to land use. The southern zone, classified as having moderate agricultural potential, is heavily settled and has low concentrations of wild animals and a low incidence of tsetse fly. In this area, the project emphasizes agricultural production. In the northern zone, human-settlement density is low, tsetse levels are high and the ecology is fragile. Therefore, in the north, MZVRDP intervention is limited to wildlife management and securing self sufficiency in food crops. The project also discourages any new settlement in the north. The wildlife scheme has incorporated the area between the Manyame and Angwa Rivers because wildlife is relatively abundant there while it is scarce in the MZVRDP area.

Project design and development

When the project was designed, the target communities were not involved until the implementation stage, which created some problems in motivating local participation. However, the project has been flexible enough to allow for changes desired by the community without compromising overall viability. External financing from the African Development Bank was designated for infrastructure improvement as well as for equipment for project development, while the Government of Zimbabwe contributes salaries and wages. Total project costs (capital and recurrent expenditure) for the wildlife scheme were calculated at $Z 882500 (US$ 635400). The community contributes labour and local building materials and participates in decision making and project management.

In addition to the parks and wildlife management authorities, several other departments are involved in the project area. The Department of Agricultural, Technical and Extension Services is responsible for allocating and demarcating land for settlement,

grazing and wildlife. This is done in collaboration with DNPWLM and the district council as part of overall land-use planning for the project area. The Tsetse Control Department was already involved in a tsetse eradication programme in the project area (one of the wildlife project's objectives was to demonstrate that wildlife management could be economically preferable to cattle husbandry in the northern zone, even if the tsetse problem was successfully eliminated). The Department of Veterinary Services had the responsibility of controlling the introduction of cattle to both the southern and northern zones of the project area. The activities of all of these departments are coordinated by the Department of Rural Development.

A natural resource management team was designated from within DNPWLM to provide technical expertise in wildlife management, improvement and marketing systems. The team is organized into management committees which are being trained to take over both the administrative and technical aspects of the project after five years.

Rather than create a new local institutional framework, it was decided that the project should strengthen the managerial, planning and development capabilities of the existing Village Development Committees (VIDCOs) and Ward Development Committees (WADCOs), which were instituted in 1984 to implement the government's policy to decentralize decision-making, planning and development.

Local participation is based on District Wildlife Committees (DWCs), providing immediate representation for the chairmen of the ward committees and to facilitate joint operations, as the individual wards had insufficient resources to carry out viable wildlife ventures on their own. This arrangement also facilitated participation of the district council, which is legally the appropriate authority for communal land and the natural resources therein.

To strengthen grassroots participation, it was decided that the chairman of the district committee should be elected from among the member chairmen of ward management committees. The other members were councillors from wards that had opted to establish communal resource areas and, from the district council, the chairman, chief executive officer and executive officers for finance and administration. The role of the district council members is to coordinate the administration of hunting and the disbursement of hunting revenues to ward management committees, based on the recommendations of the DWCs.

The Mid-Zambezi Valley Rural Development Project

Objectives of the project's wildlife management component:

- to conserve the fragile ecosystem and sustain the economic viability of the area through wildlife utilization;

- to eliminate conflict between agricultural development and wildlife management (through improved crop and household protection);

- to provide increased income to the local people and involve them in the sustained economic use of and benefits from their rich wildlife heritage;

- to serve as a pilot demonstration for an alternative resettlement model for the drier areas of Zimbabwe, promoting wildlife management as an alternative land use from which communities may expect returns comparable to or better than those from conventional agriculture (which are, in general, uneconomical in this semi-arid environment);

- to improve nutrition in the area by making game readily and lawfully available to the local population;

- to improve the economic aspects of wildlife utilization in the area, encouraging more rural communities to adopt wildlife utilization on a commercial scale;

- to improve and master management techniques for communal wildlife management;

- to create local institutions, involving active local participation and communal decision-making, for the management and development of communally owned natural resources (thereby encouraging economic development of such resources).

Safari hunting became the base of the project because it provided the greatest earning capacity with the least prospect for environmental degradation (as it does not depend on high stocking levels). The potential for viewing tourism is low because the area is remote from the main tourist centres and routes. The district wildlife committee was designated to run safari operations on behalf of member wards, employing professional hunters and a project manager. In this way, marketing margins previously captured by private safari operators would accrue to the DWC and, through it, to the community. It was also intended as a way to provide training to some members of the community in the managerial and entrepreneurial skills needed for these ventures.

Distribution of revenues from safari hunting is an important aspect of the committee's responsibility. In principle, each participating ward receives payments for animals shot in its area of communal resources. This can be determined by hunting return forms filed by the professional hunters (and available to each ward committee). In addition, a member selected by the ward committee accompanies safari hunts in the ward's area.

The meat from animals shot is distributed to the villagers nearest to where the animal is taken (as the sport hunter, himself, generally does not want much of it). This may dissuade individuals from hunting illegally in this protein-deficient area. The management framework set by each ward can also provide for cropping or individual hunting by permits. These would be issued by the committee on the basis of quotas set by the DNPWLM in consultation with the DWC. The wards also have the responsibility of deciding who should carry out hunts of problem animals and how individuals should be compensated for crop damage or livestock losses caused by wildlife, and of organizing operations to control illegal hunting with the assistance of their locally trained rangers.

Results: wildlife offtake and economic returns

The first project hunting season was in 1989. Income, expenses and revenue allocations for the 1989 and 1990 seasons are presented in the Table. Three of the seven wards

received substantial income from sport hunting in 1989. In Kanyurira Ward, for example, the majority of the $Z 47000 was earmarked for community projects, including a clinic, but each household was also expected to receive $Z 200 in cash (the average household in the Kanyurira Ward earned $Z 500 from cotton in the same year). In the other two wards, the large number of households precluded individual cash payments, so all revenues were allocated to community projects.

Dande wildlife management project income and expenses ($Z), 1989 and 1990

Item	**1989**	**1990**
Gross revenues	**299387**	**388694**
Recurrent costs	133341	220542
Capital costs	214732	234085
Dividends to wards	61340	81270
Kanyurira	47310	64270
Chisunga	4030	17000
Chitsungo	10000	0
Other wards	0	0
Allocations and levies	64425	31053
CAMPFIRE Association levy	0	5380
District council levy	19925	25223
Capital reserve fund	33209	0
District management fund	11291	0
Total surplus retained at district council level	**41281**	**55829**

In 1990, only Kanyurira and Chisunga Wards received income from sport hunting. Low animal numbers and increasing settlement pressure is making it difficult for revenue to be generated in the other participating wards.

The northern part of the Dande Communal Land, including the Dande Safari Area, was leased to a safari operator until the end of 1990. In the area to the east of the Angwa river, the DWC is mounting its own safari operations and has employed a project manager/professional hunter for this purpose. The results to date indicate that it has been financially inefficient for the district to run its own safari operations. Even though the approved hunting quota for the safari operator was only one-third more than for the district council, the net revenue generated by the safari operator was 150 percent greater ($Z 168000 versus $Z 67363). Jansen (1990) estimates that if the two operations had been equally efficient, the district council should have generated a net of $Z 124000. From this experiment it can be concluded that a more efficient way for districts to proceed would be through joint ventures with experienced safari operators, at least until local community experience permits efficient management of operations.

The hunting quotas were set relatively low to ensure a high trophy quality. Quotas are well below the maximum sustainable offtake from the existing populations, thus leaving room for an additional yield of non-trophy animals for meat and hides. It is estimated that the meat supplied would largely meet local needs, removing the need for "irregular" hunting outside the framework set by the management scheme. But given the relatively

low species populations, cropping for meat has so far been uneconomical in the project area. Thus, until the protection strategies produce higher populations, cropping has been limited to problem animals (especially elephants and buffaloes which damage crops).

Results: institutional development

One of the aims of the project has been to strengthen the planning and managerial capability of the village and ward development committees. Since their formation in 1984, these institutions have performed inadequately. Low educational levels and poor managerial abilities of members, as well as a weak economic base, curbed any meaningful decision making, planning or implementation of development plans.

Initially, coordination between organizations involved in project implementation in the Dande area was poor there was no forum to link activities. This confused the ward committees and caused an inconsistent presentation of project objectives to the target communities. The situation was exacerbated by low educational levels of VIDCO and WADCO members, resulting in a top-down approach to decision making.

To overcome this problem, a Board of Management was created, consisting of ward representatives, technical advisors from DNPWLM, Zim Trust, the World Wildlife Fund and CASS. The board is responsible for coordinating the activities of all the participants and acts as a planning and management body of the DWC. It is purely advisory and strives to ensure that ward committees make informed decisions about wildlife management and promote development of local entrepreneurial and managerial skills needed to run the project.

The use of the wildlife income is intended to be decided at the village level - an important feature in generating interest in wildlife conservation among villagers. It is also the part of the project that provoked intense conflict between the VIDCOs and the district council. The council argued that the wildlife resources belonged to the entire district, even though its distribution within the district is uneven. And, as the de facto appropriate authority over natural resources in the district, it is the council's right to decide on conservation and exploitation of the resource as well as the distribution of the benefits. Representatives of the Dande communities argued that, since they are unable to keep cattle (because of the tsetse fly), wildlife comprises their major asset. The agricultural potential in their area is poor, they claimed, and they suffered most from the depredations of wildlife. Moreover, they pointed to the past history of wildlife exploitation in their areas, which failed to provide them with direct benefits. They are convinced that the greater part of past revenues was used to benefit areas without wildlife.

In a sense, this conflict worked to the advantage of the project. The Dande communities became convinced that the project's objectives coincided with theirs, i.e. to gain greater control over the wildlife resources which they considered their own. The conflict was raging at a time when the district council was seeking the status of appropriate authority for wildlife in the Dande Communal Land. The council recognized wildlife as an increasingly important source of revenue and thus wanted to capture it. Meanwhile, DNPWLM was convinced that natural resource conservation in Dande and other communities would succeed only if the resident communities became involved in a sustainable programme of resource exploitation that benefited them directly.

The impasse was resolved administratively when DNPWLM, in granting appropriate authority status to the district council, stipulated that the council should administer the wildlife through the DWC and that the council should ensure that households in the Dande Communal Land receive the maximum direct benefits in proportion to the amount earned in each ward from the exploitation of wildlife. In fact, during the 1989 season only 62 percent of the total revenue was allocated to wards on the basis of the locations where trophies were actually taken. The remainder was held, unallocated by the district councils. This was similar to the situation prevailing when the central government allocated revenues directly under Project WINDFALL.

Conclusions and lessons learned

The experiences from Dande Communal Land and others indicate that the cost of resource management is emerging as a major determinant of the size of wildlife benefits. In general it is recommended that 35 percent of gross revenue should be spent on wildlife management, 15 percent paid to the district council and 50 percent to the producer wards. In practice, however, wildlife management costs amount to more than 35 percent of gross wildlife revenue. This means that the bulk of the benefits from wildlife utilization are being captured by a very small proportion of the total population, i.e. those directly involved in managing the resource. Moreover, wildlife utilization has emerged as a major revenue-generating activity within the district, a realization that has led to a reluctance to relinquish control over this revenue. This is not facilitating the devolution of the benefits from wildlife to the household level.

One of the objects of the project was to conserve the fragile ecosystem and sustain the economic viability of the area through wildlife utilization. The results to date indicate that the interaction between the size of the resource and the size of the human population and its spatial dimension will affect the attainment of this objective. The eradication of the tsetse fly is resulting in the in-migration of both humans and livestock. The viability of wildlife utilization programmes is dependent on low human population densities. The large influx of settlers is resulting in the key resource areas being used for settlement, which is likely to reduce the productivity of wildlife populations.

A major factor in wildlife management is the perception that individuals - the ultimate decision-makers - have of the derived benefits relative to the costs. Under this project, legal authority over wildlife resources was intended to be passed from the central government to the wards. However, as it stands, the district council holds the legal custodianship on behalf of the wards. Therefore, decisions regarding tangible rights for individual households are the prerogative of the district rather than the individual households who are the de facto producers of wildlife. It remains to be seen how households will perceive wildlife management as an alternative land use when the legal authority rests outside of their control.

In livestock and crop production, the communal resource base (land, water and vegetation) provides for individual production, whereas with communal wildlife, assets are used for communal production. If wildlife utilization is to gain acceptance as a land-use option, conditions must be created under which wildlife production systems can be evaluated by landholders in the same way as conventional agricultural alternatives. This calls for an appropriate system for distributing benefits to affected communities and

individuals, along with educating people about the value of wildlife and the reasonable expectations for economic benefit from it. Until such a distribution system has been developed, the project cannot promote wildlife management - by restricting access to arable and grazing lands - as a replacement for traditional crop and livestock productions. Instead, it must be viewed as a complementary system which is compatible with the established system.

One element of this compatibility is to protect people, crops and livestock from marauding wildlife by fencing off the village areas from game management areas. Another is to develop mechanisms by which individual families can increase their own returns through investment in wildlife-related enterprises. Without such opportunities, wildlife management is less profitable compared with other land uses, such as livestock husbandry.

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