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CASE STUDIES ON SUCCESSFUL SOUTHERN AFRICAN NRM INITIATIVES AND THEIR IMPACTS ON POVERTY AND GOVERNANCE

CASE STUDY: CAMPFIRE (COMMUNAL AREAS
MANAGEMENT PROGRAMME FOR INDIGENOUS
RESOURCES), ZIMBABWE

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ACRONYMS

AA	Appropriate Authority
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CA	CAMPFIRE Association
CASS	Centre for Applied Social Sciences
CBNRM	Community Based Natural Resource Management
CCG	CAMPFIRE Collaborative Group
CSP	CAMPFIRE Service Providers
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
DEAPS	District Environment Action Plans
DNPWLM	Department of National Parks & Wild Life Management
ELMS	Environment and Land Management Sector
FANR	Food, Agriculture & Natural Resources cluster
GoZ	Government of Zimbabwe
IRG	International Resources Group
IUCN	The World Conservation Union
IUCN-TPARA	Trans-boundary Protected Areas Research Initiative
MLGRUD	Ministry of Local Government, Rural and Urban Development
NAP	National Action Programmes
NORAD	Norwegian Agency for Development Cooperation
NRM	Natural Resources Management
NRMP I,II	Natural Resources Management Programme
PACD	Plan of Action to Combat Desertification
PTD	Participatory Technology Development
PSIP	Public Sector Investment Programme
PWMA	Parks & Wildlife Management Authority
RAP	Regional Programmes
RDC	Rural District Councils
SADC	Southern African Development Community
SCI	Safari Club International
SO1	Strategic Objective 1
SRAP	Sub-regional Programmes
TFCA	Tropical Forest Conservation Act
UNCED	Earth Summit, Rio de Janeiro, 1992
USF&WS	US Fish and Wildlife Service
VIDCO	Village Development Committee
WADCO	Ward Development Committee
WWMC	Ward Wildlife Management Committees
WWC	Ward Wildlife Committee
WWF	World Wide Fund for Nature

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SUMMARY DESCRIPTION

BACKGROUND

ENVIRONMENTAL SETTING

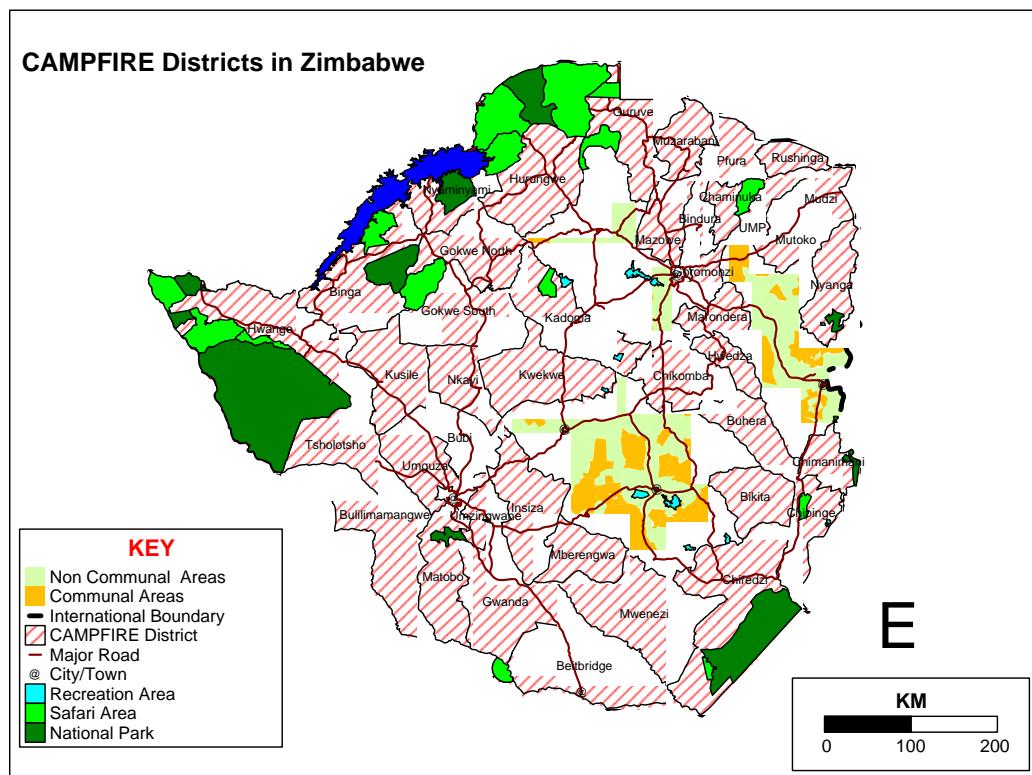
Much of Zimbabwe is semiarid, with a low and variable rainfall making the country prone to drought. Comprised predominantly of broad-leaved deciduous Miombo and Mopane woodland and savanna, land use varies from intensive crop production to extensive cattle and wildlife production along a rainfall-altitude gradient. This is reflected in the agro-ecological survey of the country (Vincent and Thomas 1960) which identifies Natural Regions IV and V as unsuited to rain fed agriculture, and best used for extensive rangeland production systems. This is further supported by economic research (Jansen *et al* 1992) and the conversion of land from livestock to wildlife (Price Waterhouse 1994), which has demonstrated, economic distortions notwithstanding, that wildlife is a highly competitive form of land use in these drier regions.

Wildlife conservation in Zimbabwe is achieved over some 50,000 km² or 13% of the country, in the State protected Parks and Wild Life Estate, situated mostly in the lower altitude, poor rainfall areas around the periphery of the country (Fig.1). An equivalent area of 40-50,000 km² of communally occupied land is either adjacent to or near the Parks Estate where wildlife populations are relatively abundant, especially where human population density is low (<10 persons/ km²) and wildlife habitat (> 50% of land area) is intact (Taylor 1999). It is in these less developed, more remote areas that CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) was initially implemented in the late 1980s, the performance of which during the period 1989-2001 is described here.

LIVELIHOOD ISSUES

Because of historical land apportionment along inequitable and racial lines, the majority of the country's population occupies marginal agricultural land (Murphree and Cumming 1991, Jones and Murphree 2001). Until very recently, a dual economy based upon large-scale commercial agriculture on alienated land, and subsistence agriculture on communal land has characterised land use. In the latter, uncertain livelihoods lead to opportunistic risk aversion strategies in this environment, whilst the recent colonial past shapes the wider socio-political context in which natural resource management occurs.

CAMPFIRE was designed by the then Department of National Parks & Wild Life Management (DNPWLM, now the Parks & Wildlife Management Authority, PWMA) in the mid 1980s (Martin 1986). It is a long-term programmatic approach to rural development that uses wildlife and other natural resources as a mechanism for promoting devolved rural institutions and improved governance and livelihoods (Child *et al* 2003). The cornerstone of CAMPFIRE is the devolution of rights to manage, use, dispose of, and benefit from natural resources.

Figure 1. Map of Zimbabwe showing CAMPFIRE Districts

RESOURCES USED OR MANAGED

As originally envisaged, CAMPFIRE was to focus on the conservation and exploitation of four natural resources: wildlife, forestry, grazing and water. Because wildlife is able to provide direct and immediate tangible financial benefits, initial success of the programme was premised on the utilization of large mammal wildlife resources, mostly through high value trophy hunting safaris. Subsequently, largely because of its strong links with wildlife management, CAMPFIRE has continued to focus more on the consumptive and non-consumptive use of large mammals rather than other natural resources. During NRMP II (see below), however, CAMPFIRE diversified its NRM activities beyond wildlife utilisation to include non-consumptive eco-tourism ventures, timber and bamboo harvesting, honey and fruit production, fisheries, mopane caterpillars and the sale of non-renewable resources such as river sand for construction purposes.

INSTITUTIONS RESPONSIBLE FOR MANAGING RESOURCES

In Zimbabwe, DNPWLM (now PWMA) is the legally mandated authority responsible for wildlife resources in the country. The 1975 Parks and Wild Life Act decentralized state authority, and conferred privileges on owners or occupiers of alienated land as custodians of wildlife, fish and plants (Government of Zimbabwe 1975). Land owners or occupiers were designated “appropriate authorities”, giving them *de facto* responsibility for wildlife and making them the beneficiaries of sound wildlife conservation and use. After 1980, similar rights were extended to communal farmers through an amendment to the Act in 1982, which delegated Appropriate Authority (AA) to Rural District Councils (RDCs). In practical terms AA represents the decentralization of authority and control over wildlife only to RDCs (Murombedzi 2001).

FUNDING

At the time when CAMPFIRE was designed, donor aid was uncommon in Zimbabwe and the early establishment of the programme was characterised by a relatively low level of external funding (Child et al 2003). DNPWLM envisaged initial Government funding through a Public Sector Investment Programme

(PSIP) to initiate CAMPFIRE, with these funds ultimately contributing to the creation of a rural sector economy based on wildlife production. Furthermore a CAMPFIRE Agency under an appropriate Ministry was also planned, for which short-term donor funding would have been sought (Martin 1986).

Technical and other support was provided by a coalition of support agencies, initially the University of Zimbabwe's Centre for Applied Social Sciences (CASS), Zimbabwe Trust (ZimTrust) and the World Wide Fund for Nature (WWF) and subsequently others, notably the Ministry of Local Government, Rural and Urban Development (MLGRUD). Their inputs were coordinated through the establishment of the CAMPFIRE Collaborative Group (CCG)¹ under the leadership of DNPWLM and later, the CAMPFIRE Association. This support was further enhanced, notably for CASS and Zimtrust through NRMP I funding (see below) whilst that of WWF came through an independently funded project.² With the onset of NRMP II funding in 1994, the CCG was replaced by the CAMPFIRE Service Providers (CSPs)

USAID SUPPORT TO CAMPFIRE

NRMP I (1989-1994)

NRMP I was fully financed by USAID through an agreement with the GoZ which provided for sub-grants to CASS and ZimTrust. The project was “designed as a pilot initiative to test the CAMPFIRE hypothesis on a limited scale before committing more substantial USAID resources”³

The total grant was USD\$7.6 million over five years and four districts in Matabeleland in northwest Zimbabwe, namely Binga, Bulalima-Mangwe, Hwange and Tsholotsho, were recipients of support. This included infrastructure development, capital equipment, and activities relating to wildlife management, institutional and community development including women, training and applied research.

Under NRMP I increased community involvement and greater rationalisation for the alternative use of marginal agricultural land was achieved, and the potential for wider impact was demonstrated through project activities in the four pilot areas. Although there were some problems related to financial and administrative procedures, NRMP I was generally viewed as successful and USAID support for CAMPFIRE continued under NRMP II.

NRMP II (1994-2003)

USAID expanded its support to CAMPFIRE through NRMP II. The country level goal of NRMP II in Zimbabwe was to use NRM (Natural Resource Management) to develop economically sustainable communities on lands marginally suitable for agriculture. USAID subsequently amended this project goal in 1998 after a mid-term evaluation, as the Mission's Strategic Objective One (SO1) “strengthened NRM for the sustainable development of CAMPFIRE areas”. Primary beneficiaries of CAMPFIRE have always been households at community (ward and village) level and were the intended ultimate beneficiaries of NRMP II. The CAMPFIRE Association (CA), RDCs, and CAMPFIRE Service Providers (replacing the former CCG) became the means for reaching these communities and as such, became direct and immediate beneficiaries of the project.

NRMP II supported CAMPFIRE in its totality, and wherever the programme was active. It also supported CAMPFIRE in diversifying NRM beyond wildlife utilisation to include non-consumptive eco-tourism ventures, timber and bamboo harvesting, honey and fruit production, fisheries, mopane caterpillars and the sale of non-renewable resources such as river sand for construction purposes.

A second, related goal was multi-country regional cooperation in the promotion of NRM activities which would contribute also to the sustainable development of communities on lands marginally suitable for agriculture. The USAID contribution to NRMP II was USD\$20.5 million, USD\$16 million of which was

¹ For a full discussion of the CCG, see Child et al (2003)

² The WWF Multispecies Animal Production Systems (MAPS) Project

³ Eric Loken, USAID, pers. comm. quoted in Child et al (2003)

bilateral funding and USD\$4.5 million regional funding. A 25% GoZ contribution in kind was estimated at USD\$9.4 million (Child et al 2003).

NORAD

Initially directly and subsequently through WWF Norway, the Norwegian Agency for Development Cooperation (NORAD) provided funding to WWF to support CAMPFIRE⁴ in two phases between 1994 and 2002. WWF's support to CAMPFIRE was demand driven by both CA and DNPWLM and the nature of this support was clearly articulated in strategic plans⁵. Specifically, WWF was charged with developing local level natural resource management techniques and capacity.

Phase I (1994-1998) included the development of natural resource management methodologies, using the concept and practice of Participatory Technology Development (PTD, Taylor and Bond, 1999) and the development of training materials based on these methodologies. The funding provided for this phase amounted to 8,666,000 NOK, equivalent to USD\$1,253,743.

Phase II (1999-2002) focused on the delivery of training nationally and locally, using the training materials developed in Phase I. Some 7,777,764 NOK equivalent to USD\$936,550 was made available for this work. Over a nine-year period, a total of 16,443,764 NOK or USD\$2,190,293 was provided to WWF for its CAMPFIRE work.

Supporting funds, which included DNPWLM and ZimTrust, for a specific component of WWF's CAMPFIRE work, the development of quota-setting methodologies, were also provided by the US Fish and Wildlife Service (USF&WS) through Safari Club International (SCI).

Although large, time-bound projects tend to focus on results or products, rather than the process needed in getting to the desired outcome, the allocation and application of funding resources should be strategically considered also, as frequently relatively small injections of support can be highly cost effective. This combination of funding, as reflected above, has helped to achieve longer-term sustainability of programmes such as CAMPFIRE. Frequently, the time frame for most donor-supported projects is too short for the needed behavioural and institutional responses central to the process of change.

⁴ See WWF Natural Resource Management Support to CAMPFIRE (SupCamp) Project Documents

⁵ See CAMPFIRE Programme Strategy Workshop Report 1992, Hunyani Hills & SupCamp Project Documents

DETAILED DESCRIPTION OF PROGRAMME ACTIVITY

Originally designed to address those problems arising from communal ownership of natural resources, DNPWLM viewed CAMPFIRE as a programme for the long-term development, management and sustainable utilisation of natural resources, namely forestry, grazing, water and wildlife in the Communal Areas of Zimbabwe. The programme would focus on the remote communal lands in Natural Regions III, IV and V around the periphery of the country (Martin 1986). Community participation would be voluntary, but custody and responsibility for NRM would be placed with participating communities. This was to be achieved through group ownership with defined rights of access to natural resources and appropriate institutions for the legitimate management, use and benefit of these resources.

In the process of implementation, three strongly inter-linked principles embedded in the original design have contributed significantly to the evolution of CAMPFIRE policy and practice (Jones and Murphree 2001):

ECONOMIC BENEFIT

Firstly, economically competitive forms of land use have motivated the sustainable utilization of wildlife outside of formally protected areas. In the 1960s wildlife policy moved from an earlier protectionist philosophy to one promoting the high economic and financial value of wildlife, a key incentive for its sustainable management. The underlying assumption was that economics ultimately determine decisions regarding the allocation of land and the resources thereon. This may mean, however, wildlife being displaced by other more viable forms of land use. The early success of this utilitarian approach to wildlife on alienated land in the commercial agricultural sector provided compelling arguments for its wider application in the communal sector of the country, particularly after 1980. In the context of rural development and CAMPFIRE, placing wildlife in the realm of economics and land use, rather than conservation (Jones and Murphree 2001) provided an important opportunity to complement conventional and subsistence agricultural practice in the communal lands of the country.

DEVOLUTION⁶

This wildlife policy shift, formalized in the 1975 Parks and Wild Life Act, and amended in 1982, decentralised state authority and conferred certain privileges on occupiers of land (see above). Such devolution, coupled with alternative economic opportunities and incentives for rural development, was intended, *inter alia*, to better serve wildlife conservation, given the inadequate government resources to do so. It also recognised that land occupiers are the primary determinants of habitat and wildlife status. Further and importantly, CAMPFIRE was viewed as a means of improving rural resource governance through fiscal devolution (Child et al 2003).

This devolved responsibility initially, was granted to 12 RDCs in 1989 and 1990, recognising that long-term success depended on further devolution to sub-district levels, even to a community level institution. The absence of any legal *persona* below the level of RDC, however, obliged DNPWLM to decentralise administrative authority and legal rights to wildlife to RDCs, but on condition that rights and benefits were to be further devolved to what were termed “producer communities.”

⁶ Although the terms “devolution” and “decentralization” are used somewhat interchangeably here, Murphree (2005) defines “decentralization” as the delegation of responsibility and limited authority to subordinate or dispersed units of hierachial jurisdiction, which have a primary accountability upward to their superiors in the hierarchy, and “devolution” as involving the creation of relatively autonomous realms of authority, responsibility and entitlement, with a primary accountability to their own constituencies.

COLLECTIVE PROPRIETORSHIP

Whilst the transfer of proprietorial rights, together with accompanying financial incentives, was highly successful on commercial farmland, similar replication in communal lands faced numerous legal and institutional impediments. What was required was a communal property regime behaving as a proprietorship unit over land and resources. Such a regime or unit should comprise a defined group collectively managing and exploiting common property resources within a defined jurisdiction (Jones and Murphree 2001).

In the event, Ward⁷ level producer communities emerged through the establishment of Ward Wildlife Management Committees (WWMCs) or Ward Wildlife Committees (WWCs)⁸. These village-elected committees were formally constituted with a membership comprising a Chairperson, Secretary and Treasurer and others, with or without a specific portfolio or responsibility. The Chairperson represented his/her Ward on the District Wildlife (or Natural Resources) Committee, a sub-committee of the District Council. Although in effect, these new committees are sub-committees of the local government units (Murombedzi 2001), one of a number of constraints or difficulties faced was the perception of such committees as “parallel” institutions to WADCOs and VIDCOs, and thus potentially competitive or even subversive.

PARTICIPATION AND IMPLEMENTATION

In 1989 two RDCs in the Zambezi valley, Guruve and Nyaminyami, were granted AA status and commenced earning revenue through the marketing of trophy hunting quotas to an international safari hunting clientele. This was rapidly followed by a further seven districts wanting to join the programme and requesting AA status. By 1992, 12 RDCs had acquired Appropriate Authority and by 1996 there were 19 CAMPFIRE Districts (Table 1). The CAMPFIRE Association was formed in 1991 to lobby for, and promote the role of communal land wildlife producers. This gave CAMPFIRE an important level of political legitimacy and an ability to play a proactive advocacy role, locally and internationally. Its membership, however, has remained the RDCs and not the true wildlife producer communities at a sub-district level.

Table 1. Numbers of participating wildlife producing communities⁹

Year	1989	1990	1991	1992	1993	1994	1995
No. RDCs	2	9	11	12	12	14	14
No. Wards	15	41	57	74	98	101	111
No. Households	7,861	22,084	52,465	70,311	90,475	96,437	98,964

Year	1996	1997	1998	1999	2000	2001
No. RDCs	19	17	15	16	14	14
No. Wards	96	98	92	112	108	94
No. Households	85,543	93,605	80,498	95,726	88,072	76,683

Source: CAMPFIRE Monitoring & Evaluation Database, WWF SARPO Harare

Following major donor inputs after 1996 for building or strengthening institutional capacity and NRM micro-project development, CAMPFIRE had grown to include 37 RDCs with AA status by 2001. Many of the latter, however, were not traditional wildlife producing districts.

Of these, 19 or 51% could be considered as fully participating, i.e. producer districts generating revenues for communities through sustainable natural resource management activities and receiving benefits in terms of

⁷ In Zimbabwe, Provinces are made up of Districts comprised of Wards. Wards in turn comprise a number of Villages. These spatially and physically defined groupings also reflect the lower level administrative structures of the country, namely WADCOs (Ward Development Committees) and VIDCOs (Village Development Committees)

⁸ Members of the CCG (subsequently, Service Providers and mostly NGOs), worked primarily through the WWCs and WWMCs

⁹ As reflected by those Rural District Councils granted Appropriate Authority

funded projects, training and membership of the Association (Table 2). Over 70% of wards (271) and villages (1,217) in these 19 districts could be considered also as fully participating producer communities.

Table 2. Number of fully participating communities in CAMPFIRE

No Districts	Full participation	%	No Wards	Full participation	%	No Villages	Full participation	%
37	19	51	271	194	72	1217	883	73

Source: CAMPFIRE Association

THE CAMPFIRE MODEL

In practice sport hunting and ecotourism have provided the primary economic and financial basis for the implementation of CAMPFIRE over the period 1989-2001. Although there is considerable biophysical and socio-economic variability between RDCs with Appropriate Authority, Bond (2001) describes a general model for the income or revenue earned from the use of wildlife and the subsequent allocation of this revenue (Fig.2). Consumptive (sport hunting) and/or non-consumptive (ecotourism) rights to wildlife and wild land are leased to private sector operators by the RDC. The RDC is primarily responsible for determining the conditions of such leases, including financial structure, duration and location and also are negotiates these conditions with the safari operator.

The number and types of leases vary according to the abundance of wildlife resources, the quality and diversity of scenic and/or cultural landscapes and market appeal. Most of the primary wildlife producing districts, however, have chosen to lease internationally marketed sport hunting rights to private sector partners because this has been the highest valued use to date (Cumming 1989, Bond 1994, Taylor 1994a). The decentralization of AA has encouraged both the application of market-based mechanisms by RDCs and greater efficiency of resource use by safari operators (Child, G 1995, Bond 1999). Lessees pay all their fees to the RDC, but the level of involvement of sub-district community representatives in the lease allocation process, whilst variable between districts, generally has been minimal (Bond 2001, Jones and Murphree 2001).

The gross wildlife revenue earned is allocated to district council levies, district wildlife management activities and to wildlife producer communities as represented by wards. Whilst the breadth and depth of wildlife management activities vary between districts, most have a small core team of personnel who undertake law enforcement, problem animal management and wildlife monitoring (for example, see Taylor 1994b). It is that revenue allocated to communities through Ward Wildlife Management Committees which is intended to provide the financial incentive for households to participate in the collective management of wildlife (Bond 2001). Wards choose to allocate revenue to management (salaries for resource monitors, allowances for committee members, fence repairs and maintenance), projects (grinding mills, schools, clinics) and household dividends (uncommonly, cash).

RESULTS

LIVELIHOODS

REVENUE EARNED AT DISTRICT LEVEL FROM WILDLIFE 1989-2001

Between 1989 and 2001 the revenue earned by Rural District Councils with Appropriate Authority exceeded US\$20 million (ZW\$463 million). Some 90% of this revenue was earned from the lease of sport hunting rights to commercial safari operators (Table 3). The remaining revenue (Fig. 3) came from the lease of tourism rights (2%), ivory sales and sale of hides (6%) and other minor resources such as crocodile and ostrich eggs and firewood (2%).

Figure 2. The CAMPFIRE financial model for revenue generation and allocation

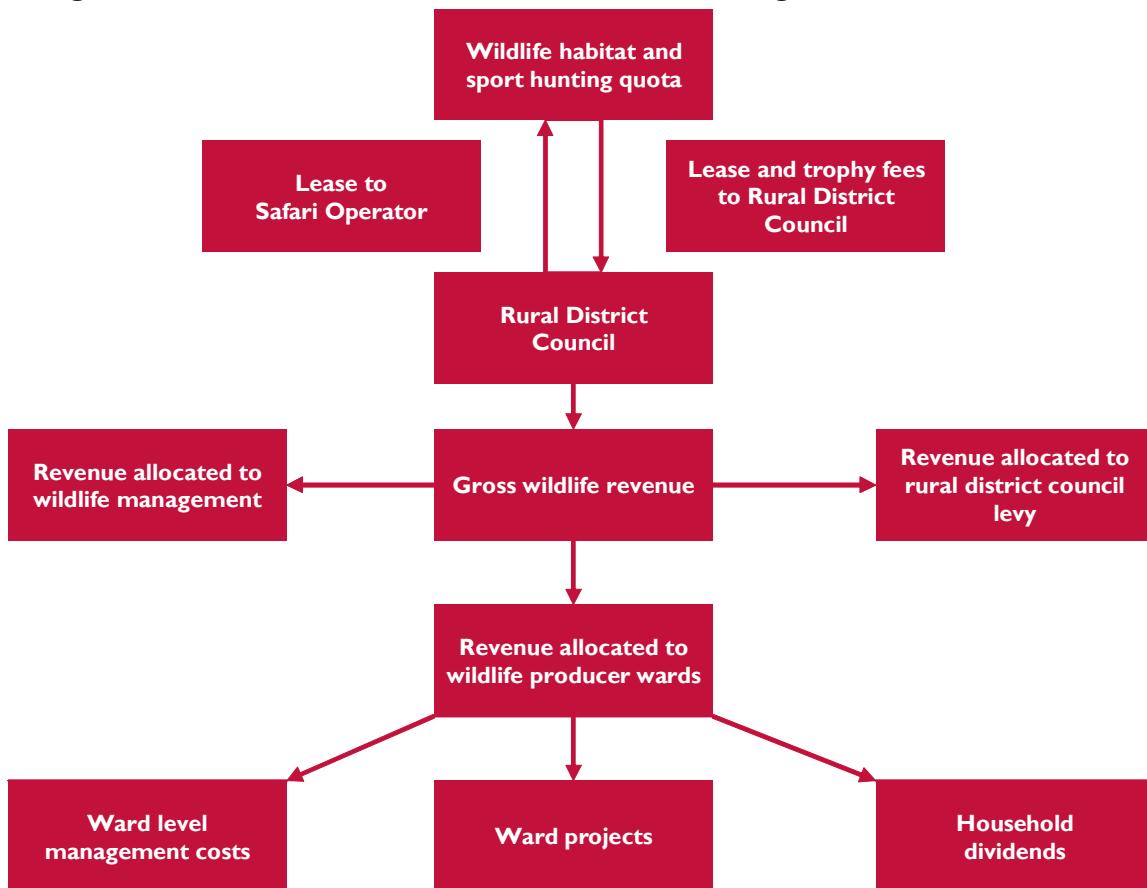


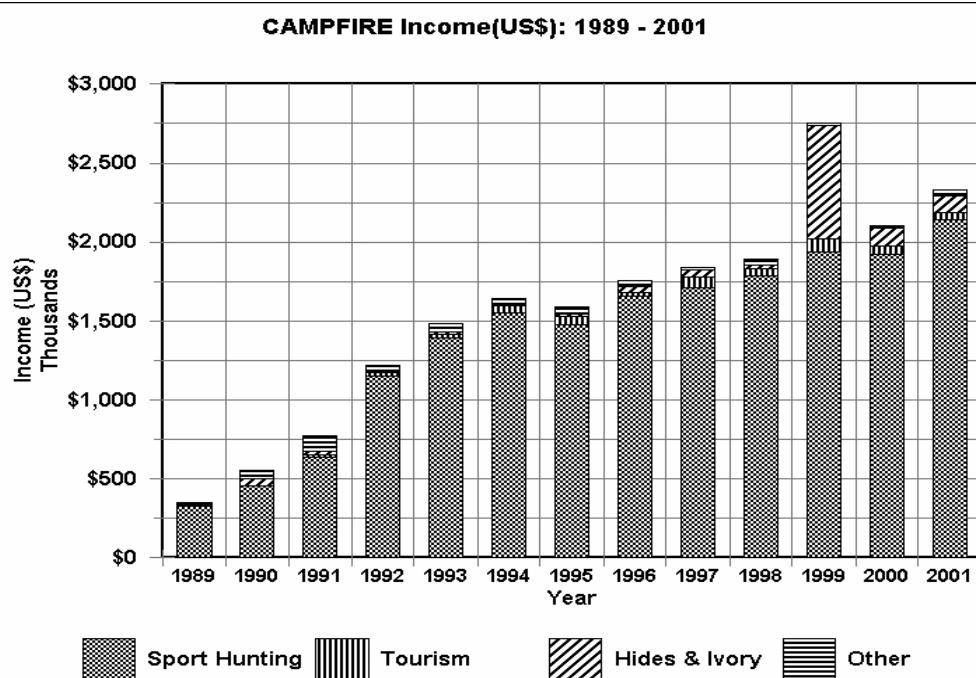
Table 3. Revenue earned by RDCs with Appropriate Authority for wildlife 1989 – 2001

	Sport hunting	Tourism	Sale of ivory & hides	Other	Total income
1989-2001 US\$	18,152,074	464,915	1,165,706	507,090	20,289,784
1989-2001 ZW\$	404,388,765	11,008,820	40,995,364	6,302,018	462,694,966
% of total by activity	90	2	6	2	100

Source: Bond (1999, 2001) & CAMPFIRE Monitoring & Evaluation Database, WWF SARPO Harare

Annual income at the commencement of the programme in 1989 was US\$350,000 (ZW\$750,000) when only two Appropriate Authority RDCs were in place and operational. This had increased to over US\$2 million (ZW\$128 million) in 2001 by which time there were 12-16 wildlife producing RDCs with Appropriate Authority (see Table 1 above). In 1999, income exceeded \$2,750,000 following a CITES-approved one-off sale of elephant ivory (Fig. 3).

Figure 3. Revenue (USD\$) earned from wildlife by CAMPFIRE 1989-2001



ALLOCATION OF REVENUE EARNED FROM WILDLIFE 1989-2001

Bond (2001) defines five categories for the allocation of revenue that the RDCs earned from wildlife. Councils with Appropriate Authority are not legally obliged to devolve revenue to sub-district levels but are encouraged to do so through a set of guidelines. Originally developed by DNPWLM in 1991 (Anon. 1991), the Guidelines for CAMPFIRE have been the subject of on-going debate (Jones and Murphree 2001). Recently revised, the guidelines have now been endorsed by the CAMPFIRE Association in its Financial Management Manual (Anon. 2003).

These seek to ensure that producer communities are the primary beneficiaries of the revenue earned and make the following recommendations. At least 50% of gross wildlife revenue should be devolved to ward level; up to 35% can be retained for wildlife management purposes at RDC level; and no more than 15% retained as a council levy. Apart from the council levy, the allocation of revenue over the past 13 years has been less than satisfactory in terms of the revenue guidelines (Table 4). Even wildlife rich and well-endowed districts have been unable to devolve the recommended 50% of revenue earned to wards and households (Taylor 1994b) and on average only 46% has been disbursed to community level. Significantly, some 14% (US\$3 million) remained unallocated over the 13 years, and generally, is assumed to have been committed to activities not related to wildlife and CAMPFIRE (Fig 4, Bond 2001).

Table 4. Allocation of revenue earned from wildlife by RDCs 1989-2001

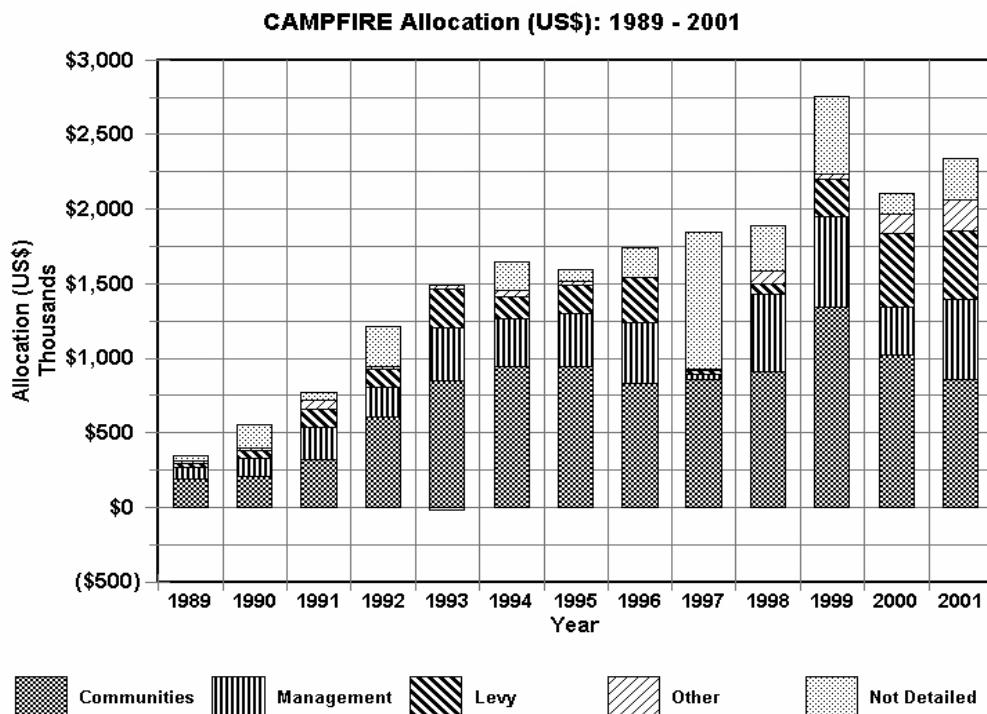
	Disbursed to communities	District level wildlife management	Council levy	Other uses	Not allocated
1989-2001 US\$	9,890,392	4,080,194	2,506,885	680,491	3,125,382
1989-2001 ZW\$	212,550,265	94,834,788	67,511,046	21,822,244	66,526,827
% of total by activity	46	20	15	5	14

Source: Bond (1999, 2001) & CAMPFIRE Monitoring & Evaluation Database, WWF SARPO Harare

Importantly, while there has been diversification beyond wildlife into ecotourism and other NR products, a number of RDCs have treated such income from these activities as General Revenue and not CAMPFIRE income. A study commissioned by CA (PwC 2001) suggests that these income generating activities may have provided as much as 30% more revenue than is reflected in the CAMPFIRE accounts (Child et al 2003). Furthermore, most if not all of this income fails to reach communities.

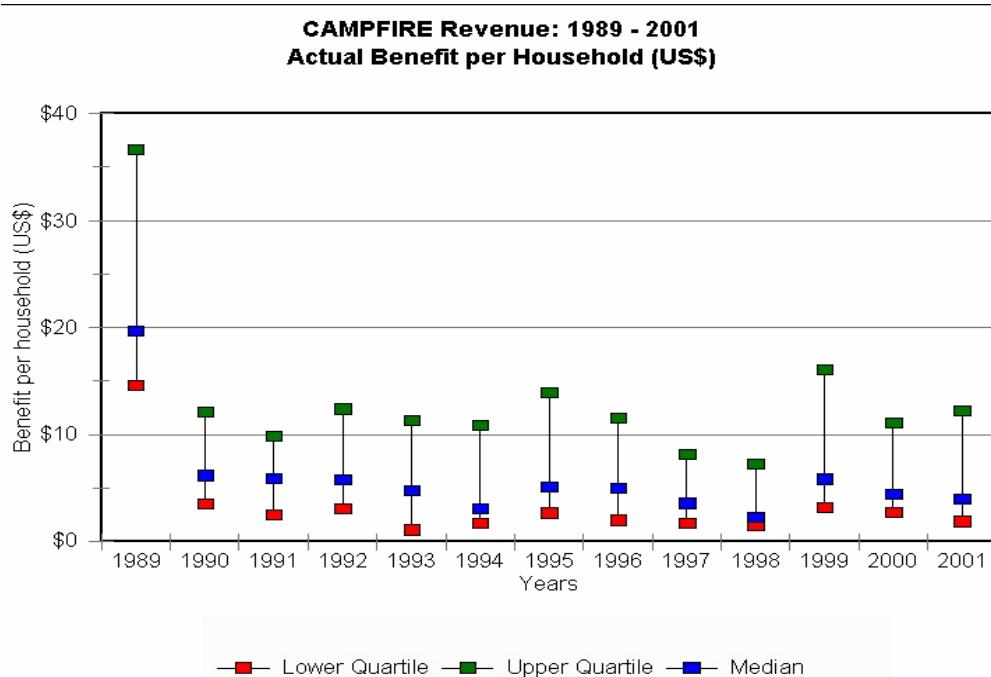
HOUSEHOLD BENEFITS

The total number of households receiving wildlife revenue increased from 7,861 in 1989 to 98,964 in 1995, thereafter declining to 76,863 by 2001 (Table 5). The financial benefit per household (ward dividend/number of households, Bond 2001) between 1989 and 2001 is low. In real terms the median benefit per household declined from US\$19.60 in 1989¹⁰ to US\$3.87 in 2001 (Fig. 5). In part this has been due to the decreasing wildlife production potential in the growing number of districts joining the programme. Overall, but excluding 1989, the annual financial benefit for 50% of households has amounted to US\$4.57 or less during the life of the programme.

Fig. 4. Allocation of revenue (US\$) earned from wildlife by CAMPFIRE 1989-2001

¹⁰ The 1989 value is biased upwards because there were only 2 districts, Nyaminyami & Guruve, with Appropriate Authority

Fig. 5. Actual average benefit per CAMPFIRE household by Ward 1989-2001 (after Bond 2001)



CONSERVATION AND NATURAL RESOURCES

WILDLIFE POPULATIONS

Following the commencement of CAMPFIRE in 1989, and as further RDCs were granted Appropriate Authority, increasingly more of the key wildlife districts were surveyed and censused for large mammals (Taylor and Mackie, 1997). Censuses have either been part of larger country-wide surveys or of specific CAMPFIRE areas. Consequently not all districts have been surveyed on a regular basis over the 14 year period 1988-2001, and this is reflected in the results (Table 6) which summarise elephant and buffalo counts for eight of the 12 primary wildlife producing districts. The number of annual counts any one district may have enjoyed varies from four to 12. Nevertheless, the results are adequate for the purposes of indicating broad trends (Fig. 6).

Table 6. Elephant and buffalo census results for CAMPFIRE 1988-2001

	Year	1988	1989	1991	1992	1993	1994	1995	1996	1997	1998	1999	2001
Elephant No districts	Number	4250	4181	5261	4824	6127	NS	10791	7270	6306	6981	10659	12707
	Density	0.45	0.34	0.43	0.30	0.31	0.26	0.61	0.32	0.31	0.38	0.68	0.77
	N	3	4	5	6	7	5	8	8	7	7	7	8
Buffalo No districts	Number	18177	15752	8758	7695	11475	NS	15824	5366	14033	8779	12262	14343
	Density	1.75	1.28	1.04	0.63	0.92	NS	0.96	0.45	1.13	0.70	1.0	1.21
	N	3	4	3	4	5	2	5	4	4	4	5	5

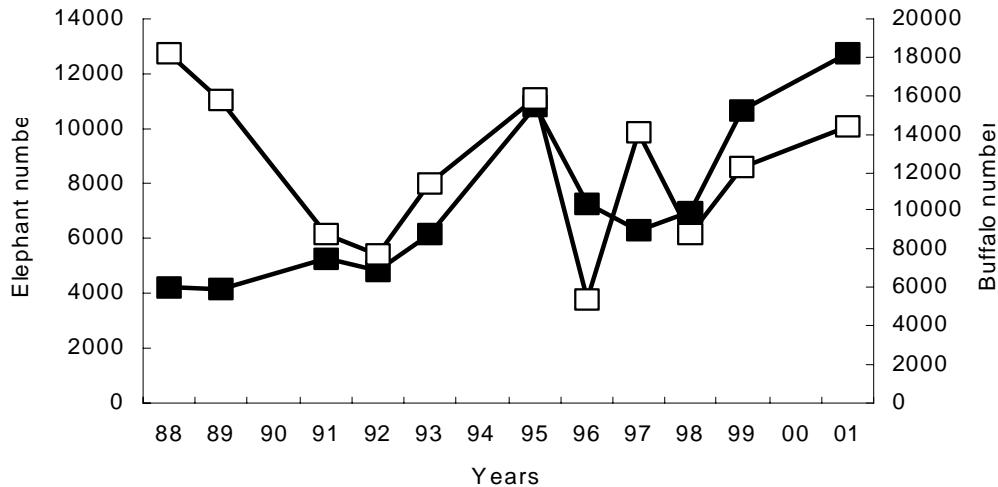
Source: Reworked from Taylor and Mackie (1997) & CAMPFIRE Monitoring & Evaluation Database, WWF SARPO Harare. NS = not surveyed

The estimated mean number of elephants was 6,840 at a density of 0.43 animals/km², ranging from a minimum of 4,181 in 1989 to a maximum of 12,707 elephants in 2001. Densities are approximately half or less those found in State protected areas, but consistent with the maintenance of woodlands and healthy habitats for other wildlife populations (Taylor and Cumming 1993, Cumming *et al.* 1997). These results also

conform to increasing national and regional elephant herds which have grown at an average 4-5% per annum over the past decade or more (Price Waterhouse 1996, Blanc et al 2005).

Due to sampling difficulties, estimates of buffalo numbers tend to be highly variable (Taylor and Mackie 1997), and buffalo are not present in all wildlife districts (Table 6). The mean number estimated was 12,042 buffalo at a density of 0.96 animals/km². This is low for the southern savannas and numbers may have been influenced by a regional rainfall deficit, coupled to periodic droughts over the past decade or more (Foggin and Taylor 1996). As a general observation elephant numbers have increased in CAMPFIRE areas and buffalo numbers are either stable or have declined slightly over the past 14 years.

Figure 6. Elephant and buffalo numbers for CAMPFIRE areas 1988-2001.



Closed squares indicate elephant and open squares, buffalo

QUOTA OFFTAKES AND TROPHY QUALITY

Child et al (2003) show that the value of big game trophies has been maintained in CAMPFIRE areas, suggesting that trophy hunting and monitoring systems are effective. A review of quotas, off take, trophy quality and “catch effort” across four key species, elephant, buffalo, lion and leopard, however, indicate that while national quotas and actual off takes for elephant and buffalo were increasing between 1992-2002, trophy quality for these two species has been declining (Grobbelaar and Masulani, 2003). For lion and leopard, off takes have either declined or are stable, whilst trophy quality is stable for leopard and increasing for lion. There is also a strong correlation between increasing quotas, declining trophy quality and increased “catch effort”.

There has been a noticeable shift in DNPWLM quota setting policy in the latter half of the 1990s. Whereas quotas were set to maximise returns prior to 1996, thereafter there was a switch in emphasis to more sustainable trophy quality, which resulted in a reduction of most quotas. Although attribution of causality is difficult, this shift may be linked to the growing acceptance and adoption of a participatory approach to quota setting and monitoring (Taylor, 2001), successfully initiated in CAMPFIRE areas. This methodology emphasises the adaptive management of quotas in response to indices of animal abundance, trophy quality, community monitoring, illegal off takes and safari operator “catch effort”.

MAINTENANCE OF WILD LAND AND WILDLIFE HABITAT

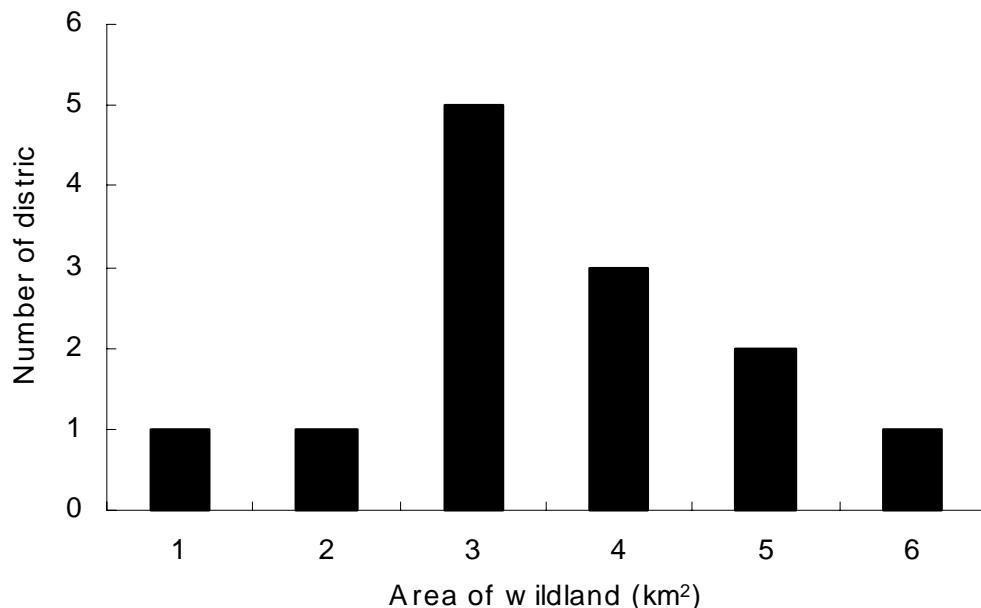
1. As an initial assessment of the likely extent of wild land and habitat within CAMPFIRE areas, Taylor (1999) used wildlife producing wards¹¹ as a proxy for this land, recognising that such wards comprised a mosaic of wild and settled land. On average wildlife producer wards made up 36% of the total number of

¹¹ Producer wards are used as a proxy for the area of wild land

wards in CAMPFIRE districts, with their land area of 39,580 km² constituting 55% of the total area under the programme.

For 12 primary wildlife districts the amount of wild land varied from less than 500 to over 5,000 km² with an average size of 3,300 km² (Fig.7). Of these, three districts had wild land in excess of 90% of the district area, six had 50-70% wild land and in three districts only, less than 35% of the district constituted wild land.

Figure 7. Size frequency distribution of wild land in CAMPFIRE areas based on producer wards



The availability of wild land is negatively correlated with human population density ($p<0.01$), with the maintenance of wild land (> 50% of area) more likely under lower rather than higher population densities (<10 persons/ km², Taylor 1995, 1999). At a coarse scale of resolution, these results suggest that wild land has been maintained in an intact state. This also has implications for potential household earnings from wildlife with those areas sparsely populated and relatively high wildlife densities standing to benefit more (Bond 2001, Murombedzi 2001).

2. Using a combination of aerial reconnaissance, aerial photography, resource inventories and field visits, habitat maintenance and productivity was assessed for three WWF Project areas by Conybeare (1998). In three wards of three districts in the Zambezi valley, loss of wild land and habitat over eight years between 1989 and 1997 was minimal (Table 7), amounting overall to no more than 2% of a total 1,650 km². The major threat was identified as population growth and demand for more agricultural land.

Table 7. Wildlife habitat loss in WWF project areas between 1989 and 1997 as reflected by change in size of ward wildlife area

Site	Wildlife area 1989		Settled area 1989		Settled area 1997		Wildlife area loss	
	km ²	%	km ²	%	km ²	%	km ²	%
Kanyurira Guruve RDC	457	96	18	4	26	5	8	2
Wildlife Corridor North Gokwe RDC	540	100	Nil	Nil	3	1	3	1
Negande Nyaminyami RDC	654	91	60	9	72	11	12	2

Source: Conybeare (1998)

3. Using a combination of aerial photography and remotely sensed imagery, Dunham et al (2003) have recently examined more critically, the area and quality of wildlife habitat in selected CAMPFIRE areas. Quality was defined from the perspective of elephant cow herds which avoid not only (1) cleared patches of natural habitat, but also probably (2) a zone of habitat around the periphery of the cleared patch. Such patches can be categorized as “poor quality habitat”. A third category of habitat (3) may also be of poor quality even though sufficiently distant from settlement or cultivation to be unaffected by “edge effects”, if this patch is smaller than the minimum size of the home range of an individual or group. Finally, there are those patches (4) of good quality habitat unaffected by human activity comprising natural vegetation.

These ecological consequences are dependent on the proportion of the area in question that is settled and/or cultivated and on the spatial distribution of such settlement and cultivation. For example, even if only a small proportion is settled/cultivated but widely scattered, a high proportion of the area falls into category (2) above.

Notwithstanding the problems associated with using and comparing different methods of mapping (1:25,000 black and white aerial photographs and LANDSAT satellite images), it was established for three Zambezi Valley districts that the percentage of habitat destroyed by settlement/cultivation had increased markedly between 1981 and 1999. The percentage of poor quality habitat in both categories (2) and (3) while variable between years also increased but marginally so compared to the baseline year. The percentage of good quality habitat declined by half in Binga District and almost totally so in North Gokwe¹² (Table 8). Only Nyaminyami District retained much of its original natural habitat. Natural habitat in both Binga and Gokwe was < 50% coverage in the baseline year compared to Nyaminyami which was > 50%.

Table 8. Summary statistics for three CAMPFIRE districts for which settlement and cultivation were mapped from aerial photography and remotely sensed imagery. Values are percentages¹³

Habitat quality defined from the perspective of elephant cow herds		District & Year									
		Nyaminyami			Binga North			Gokwe North			
Habitat quality	Defined as:	1981	1993	1999	1981	1993	1999	1981	1993	1999	
1. Habitat destroyed	Settlement/cultivation	5	18	16	16	23	23	27	57	57	
2. Poor quality habitat	Natural vegetation inside 2km buffer zone around settlement & cultivation	30	42	27	42	44	55	43	34	40	
3. Poor quality habitat	Natural vegetation patch outside buffer zone but <57 km ²	1	2	<1	0	<1	2	<1	<1	1	
4. Good quality	Natural vegetation	63	38	57	43	33	21	30	8	2	

Source: Dunham et al (2003)

Child et al (2003) point out that no simple uniform or systematic approach to measuring wildlife areas over all CAMPFIRE districts has been undertaken and that this is a serious omission. Nevertheless, primary wildlife producing districts have been assessed, albeit at coarse levels of resolution and using imperfect methods. Dunham et al (2003) also suggest that rather than focusing on human-wildlife interactions from the perspective of the problems that animals cause to people, further work is required on the effects that people have on the spatial distribution of wildlife, especially those species that contribute to CAMPFIRE revenues, notably elephant and buffalo.

¹² Note that habitat assessment by Dunham et al (2003) was for all of North Gokwe District whilst that of Conybeare (1998) was confined to the Wildlife Corridor, an area set aside by North Gokwe residents for wildlife

¹³ Values are the percentages of each district that were in each habitat category. Data for 1981 & 1983 were calculated from the maps and settlement compiled by Cumming et al (1997). Data for 1999 are provisional. Methodological differences between 1993 and 1999 compounds attempts to make reliable comparisons between these years (Dunham et al 2003)

GOVERNANCE

FISCAL DEVOLUTION AND INSTITUTIONAL DEVELOPMENT

From the inception of CAMPFIRE to the mid-90s, the amount and proportion of revenues devolved to producer communities increased rapidly, providing the primary impetus for wildlife conservation and for improvements in community institutional development and governance. Subsequently, the rate of devolution levelled off and after 2000, the process reversed itself (Child et al 2003). By 2001, only 38% of revenue was being returned to producer communities with 20% being used for CAMPFIRE management and over 40% retained by RDCs for general purposes, compared to the guideline upper limit of 15%.

Nevertheless, in 2003 the concept and level of devolution in many districts was still strong. This is confirmed by ZimTrust (2001), which reported the strong correlation between fiscal devolution and institutional development. Through NRMP II investments, such as the CAMPFIRE Development Fund (CDF) and the establishment of community Trusts, these principles are being adopted in most projects as the norm rather than as previously contentious issues. There still remains, however, a high level of taxation imposed on producer communities by RDCs through their various levies. More recently, and in response to these adverse and imposed conditions, some wards and village collectives, notably in Chiredzi, Chipinge, Guruve¹⁴ and Nyanga¹⁵ Districts, are beginning to negotiate directly with safari operators and other private sector partners, direct payments of hunting and ecotourism revenues. Some RDCs, especially their technical staff, tend to support such innovation, even if only implicitly, recognising their own limitations and inability to overcome this problem.

Child et al (2003) comment that one of the more notable achievements of CAMPFIRE has been the strength of institutional development at the producer community level. The use of wildlife dividends appears to be decided democratically, that people retain and sometimes (uncommonly, Bond 2001, see above) use their right to have household cash benefits and that many projects are implemented properly. Finances are reasonably well managed in a transparent and peer reviewed manner, thus preventing widespread or large-scale misuse.

In terms of good governance, in excess of 100 democratically elected and constituted village and ward CAMPFIRE committees exist in 23 districts. These structures provide for a high level of community participation and decision-making with a transparent flow of information relating to key issues, planning and projects. These committees have been equipped with basic organizational skills including holding meetings, minute-taking, book-keeping, and the fundamentals of project and financial management. In the primary wildlife producing districts, the community leadership and locally employed NR monitors are able to organize and implement a number of wildlife management skills including counting wildlife, setting quotas, monitoring hunting, marketing wildlife and undertaking problem animal mitigation measures. Fire management has been implemented in the four districts of Chipinge, Chiredzi, Gokwe North and Guruve. Illegal activity is also monitored and penalties imposed on offenders. However, the basis for such achievement is inextricably linked to the incentive to do so which in turn, is directly related to the strength of the associated benefit.

¹⁴ See Ingwe Safaris 2005 Year End Report to Guruve Rural District Council

¹⁵ See Minutes of the Gairesi Development Trust & the Nyanga Downs Fly Fishing Club, 2005/06

CONCLUSIONS

CAMPFIRE (and its equivalents elsewhere in southern Africa), confirms the concept that the devolution of responsibility and accountability for natural resource management can be highly effective for the collective and participatory management of such resources. Such devolution also leads to improved local institutions and governance. However, it is pertinent to examine also, the assumptions or external factors underlying the success or otherwise of CAMPFIRE. Based on the “Monitoring and Evaluation Plan for CAMPFIRE” (Wright 1998), four areas of assumption and their indicators were identified as necessary for the successful implementation of CAMPFIRE. These are government policy, markets for natural resources, climate and macro-economic performance (Table 9). A review of these assumptions indicates that at least three are presently unfavourable for CAMPFIRE (WWF SARPO 2003).

Firstly, the commitment of Government to creating and sustaining an enabling policy framework for devolved natural resource management has not been achieved through legislative changes. More recent policy changes, especially those from PWMA indicate a re-centralisation of wildlife management¹⁶. Most NR and land legislation still continues to ensure state control of resources and land. Furthermore, under an adverse macro-economic environment, PWMA and other NR agency budgets have declined dramatically in recent years.

Secondly, although the markets for wildlife products appear generally robust, particularly on State and Communal Land, a collapse of the wildlife industry on former large-scale commercial farmland, although not yet impacting significantly on CAMPFIRE, does have implications for both State and communal areas as all three are linked, each adding value to the other. National hunting revenues peaked at US\$22m. per annum in 1998 but have since declined to US\$16m. in 2001 (Booth 2002). This is also reflected in the number of sport hunting days sold, declining from more than 20,000 in the late 1990s to 18,000 in 2001.

Thirdly and importantly, the macro-economic indicators examined all point to declining economic performance. The increase in unemployment and the decline in real wages act to place increasing pressure on land and other natural resources in the communal lands of the country.

Direct and causal links between rainfall and CAMPFIRE are difficult to establish. The long-term impacts of cumulative and variable rainfall deficits ($> 1,000$ mm by 2001) experienced over the past 20-30 years remain difficult to predict. It is climatic variability, however, that provides one of the strongest justifications for adopting wildlife, and other NR-based land uses as an alternative and sustainable strategy for social, economic and ecological betterment.

To further promote the principles of CAMPFIRE as originally envisaged, specifically meaningful devolution, as opposed to re-centralisation of authority, over natural resource production systems to producer communities (Murombedzi 1994, 2001) CAMPFIRE needs to emulate more recent experiences in the region. This includes the need to legislate for appropriate authority status and land rights at sub-district units of decision-making, preferably at the level of the village. Promotion of local level proprietorship, including the establishment of community trusts and/or cooperatives must continue. Whilst capacity is not a limiting factor, long-term leadership must be strengthened.

RDCs still retain excessive control, especially revenue retention resulting in the intended primary beneficiaries being severely disadvantaged. Given the poor macro-economic indicators and without the appropriate incentives, these producer communities are likely to continue or return to former unsustainable practices on marginal agricultural land, confirming the analyses of Cumming and Lynam (1997), Conybeare (1998) and Dunham et al (2003) reported above.

¹⁶ See Statutory Instrument (SI) 26 of 1998

Table 9. Assumptions and indicators for CAMPFIRE (Modified from WWF SARPO 2003)

Assumption	Area of indicator	Indicator	Comment
1. Continued Government commitment to devolve CBNRM to local levels	Changes in policies for wildlife, forestry and other NRs DNPWLM/PWMA have personnel and other resources for their CAMPFIRE Projects	<ul style="list-style-type: none"> Wildlife policy & legislation Forestry policy & legislation Land policy & legislation DNPWLM/PWMA real budget (USD\$) 	No substantive revision of NR legislation or defined legal framework for devolved NRM in communal areas; Policy remains fragmented and largely centrally controlled ¹⁷ DNPWLM/PWMA budgets reduced from c. \$200/km ² to c. \$10/km ² over past 20 years ¹⁸
2. Favourable market environment for CAMPFIRE products &/or services exist &/or maintained	Demand for CAMPFIRE products and services maintained / expanded	<ul style="list-style-type: none"> The total number of days of sport hunting per annum. The gross value of sport hunting per annum. The trophy fees paid for key species at the Zambezi Valley Auction Hunts 	Increasing number of tourists, including sport hunters and associated revenue declined dramatically with land reform-related political instability. Declines, followed by an increase since 2001 in trophy fees requires further analysis ¹⁹
3. No extreme climatic conditions	Frequency and distribution of droughts and other extreme climatic events	<ul style="list-style-type: none"> Mean annual rainfall 	No clear links between 9 years of below (5 drought years) and 5 years above average rainfall (3 flood years) and CAMPFIRE performance &/or land use change. Nevertheless, food shortages are common in most CAMPFIRE districts on an annual basis
4. Favourable macro-economic environment prevails	Macro-economic performance maintained or increased	<ul style="list-style-type: none"> Changes in Gross Domestic Product (1990 - 2001). Changes in per capita gross domestic product (1990 - 2001). Z\$:US\$ exchange rate (1990 - 2001). Proportion of total population in formal employment (1990 - 2001) Real wages (1990 – 2001) 	GDP shrank from \$8.4m. in 1996 to \$3.3m. in 2001 with GDP/capita constant from 1991 to 1997 at c. \$700. By 2001 GDP/capita had declined to c. \$238 Between 1990 and 1997 ZW\$ devalued from ZW\$2.47 to ZW\$12.44 and to ZW\$55 in 2001 when it was fixed Proportion of population in formal employment has declined from 14% in 1980 to < 9% by 2001 with real wages < 50% paid in 1980

This is compounded by the CA still precluding producer community membership and limiting such membership to RDCs, thereby continuing to avoid addressing policy issues such as devolution of AA to sub district level.

Child et al (2003) conclude that the greatest contribution of CAMPFIRE has been the lesson that fiscal devolution leads to improved rural democratisation, governance and NR management. As this paper has articulated, this achievement has been, and will continue to be embedded in, and constrained by a number of fundamental issues, mostly in the policy arena, and yet to be satisfactorily addressed. Nevertheless, where devolution has been successful, promising results have been achieved. While communities are able to manage funds, implement projects and contribute to wildlife management, appropriate and strategic interventions by way of technical advice and guidance are still required. Building long term relationships and trust, together with back-stopping and reinforcement, is invariably needed for longer rather than shorter periods of time.

¹⁷ See Woods (1991) and Rukuni (1994)

¹⁸ See Cumming, Martin & Taylor (1981) and Cumming and Jones (2005)

¹⁹ See Booth (2002)

LINKS TO UNCCD

Recognizing that desertification is a major global economic, social and environmental problem, the United Nations Conference on Desertification adopted a Plan of Action to Combat Desertification (PACD) in 1977. Despite this, by 1991 the problem of land degradation in arid, semi-arid and dry sub-humid areas had intensified. At the UNCED (Earth Summit) in Rio de Janeiro in 1992, a new integrated approach emphasized sustainable development at the community level, with the Conference calling for a Convention to Combat Desertification, especially in Africa. The CCD came into force in 1996 with the first CoP being held in 1997. By 2002, over 179 countries were Parties to the Convention.²⁰

National Action Programmes (NAPs) are one of the key instruments in implementing the Convention. These are developed using a participatory approach at local levels, providing practical measures for combating desertification. NAPs are strengthened by Sub-regional and Regional Programmes (SRAPs and RAPs). In 1997 the Southern African Development Community (SADC) submitted its SRAP document through the Environment and Land Management Sector (ELMS).²¹ This was followed by Zimbabwe's NAP submission in 2000?²²

The SADC SRAP has as its objectives the strengthening of the policy, legal and institutional foundations for environmental management, enhancing public awareness and mobilizing their active participation in combating desertification, land degradation and the effects of drought.

The SRAP focuses on seven priority programmatic areas of intervention:

- Capacity building and institutional strengthening
- Strengthening of early warning systems (food security)
- Cooperation in the sustainable management of shared natural resources and ecosystems
- Information collection, management and exchange
- Development and transfer of appropriate technology to the community level
- Development of alternative energy sources
- Socio-economic issues

Of these, cooperation in the sustainable management of shared natural resources and ecosystems is most closely aligned with CBNRM initiatives in the region, drawing attention to the promotion of sustainable management of biodiversity including wildlife and other shared natural resources. There are several SADC sectors and institutions whose mandates are linked to the SRAP. The Food, Agriculture & Natural Resources (FANR) cluster includes, *inter alia* cooperation on Environment and Land Management, Forestry and Wildlife. Key wildlife strategies include promotion of CBNRM, TFCAs, common management practices, sustainable wildlife utilization and capacity building.

In the Zimbabwe NAP, desertification is interpreted as land degradation. The underlying causes of land degradation are identified as general poverty and over-dependence on land and natural resources for sustaining livelihoods. The NAP process aims to mitigate the effects of drought and control land degradation. As with the SADC SRAP, the Zimbabwe NAP focuses on eight priority areas:

- Energy issues

²⁰ Source: <http://www.unccd.int/>

²¹ See SADC-ELMS Sub-Regional Programme to Combat Desertification in Southern Africa. Unpublished Report 1997

²² See Republic of Zimbabwe (Undated): The National Action Programme (NAP) in the Context of the UNCCD in Zimbabwe. Ministry of Mines, Environment and Tourism, Harare.

- Land use planning and soil conservation
- Water resources management
- Education, public awareness and capacity building
- Provision of alternative livelihoods and poverty alleviation
- Land tenure system
- Strengthening policy, legal and institutional arrangements
- Research support

Whilst a number of these have direct or indirect links with CAMPFIRE, notably land use, tenure, alternative livelihoods and policy and legal frameworks, these linkages are weakly developed and articulated and/or misguided in the NAP. For example whilst there is emphasis given to decentralization, the focus is to empower RDCs to take charge of resources and development issues, rather than sub district institutions, as CAMPFIRE has been trying to achieve. An evaluation of the NAP Catalytic Phase found that the role of RDCs in relation to rural communities was ill-defined, even though the programme had made a positive impact at community level.

Nevertheless, the NAP recognizes that current land use planning is top-down and not participatory, that plans are biased towards agriculture at the expense of other uses and that problems of ownership arise in common property resources such as forests, woodlots, water and grazing lands. Suggested interventions include further debate on land tenure, the adoption of the CAMPFIRE approach to managing common property resources, and greater economic diversification in communal areas to include eco-tourism and wildlife production. Linked to District Environment Action Plans (DEAPs), the NAP is project based rather than exploring strategic interventions that can create and catalyse change.

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