CAMPFIRE – THE POLITICAL ECOLOGY OF POVERTY ALLEVIATION, WILDLIFE UTILISATION AND BIODIVERSITY CONSERVATION IN ZIMBABWE

With 15 figures, 3 photos and 4 tables

KARL VORLAUFER

Zusammenfassung: CAMPFIRE – Die Politische Ökologie der Armutsbekämpfung,Wildtiernutzung und des Biodiversitätsschutzes in Zimbabwe

Das Communal Areas Management Programme for Indigenous Resources wurde mit dem zentralen Ziel initiiert, die Armut in den ländlichen, jedoch wildreichen Peripherieräumen Zimbabwes zu mildern, indem den ländlichen Gemeinden das Recht einer nachhaltigen Nutzung des Wilds übertragen wurde. Hiermit verknüpft ist die Erwartung, dass die Bevölkerung die von ihnen nutzbare Ressource Wild nachhaltig sichern wird und so ein großer und artenreicher Wildbestand langfristig erhalten bleibt. Die Studie belegt, dass in das Programm zahlreiche Akteure auf verschiedenen Hierarchieebenen und mit oft unterschiedlichen oder sogar widersprüchlichen Interessen eingebunden sind. In einigen Distrikten sind die CAMPFIRE-Einnahmen insbesondere durch den Jagdtourismus in den letzten zehn Jahren zwar sprunghaft gestiegen, die in allen Distrikten jedoch insgesamt geringen Einnahmen haben die gravierende Armut der Zielgruppe des Programms, der ländlichen Bevölkerung, nicht mildern können. Der hohe und wachsende Wildbestand hat die Konflikte zwischen Mensch und Wild erhöht; die Kosten der großen Wildschäden können durch die bescheidenen CAMPFIRE-Einnahmen nicht kompensiert werden. Auch das Empowerment-Ziel, die Förderung einer *grass root development*, konnte bisher nur sehr eingeschränkt erreicht werden, weil u.a. die Entscheidungen insbesondere über die Verteilung der Einnahmen von oben nach unten verlaufen. Die Biodiversität, vor allem der hohe und artenreiche Wildbestand, konnte jedoch bisher gesichert und sogar ausgebaut werden, u.a. weil der Jagdtourismus nachhaltig betrieben wird, die Jagdquoten die Reproduktionsraten bei weitem nicht erreichen.

Summary: The Communal Areas Management Programme for Indigenous Resources was initiated with the main goal of alleviating poverty in peripheral rural areas of Zimbabwe that have an abundance of wildlife. This was to be achieved by granting to the rural communities the right to the sustainable use of wildlife. It is expected that the people will protect this resource, which they are allowed to use, and that thus large populations of different species of wildlife will be preserved long-term. The study revealed that a large number of actors are involved in the programme at different hierarchical levels and that they often have differing or even contradictory interests. In some districts there has actually been a precipitous rise in CAMPFIRE revenues in the past ten years, especially from hunting tourism. Nevertheless, in all districts this revenue is rather modest, and it has not alleviated the serious poverty of the programme's target group, the rural population. Because the populations of game are large and growing, the conflicts between humans and wildlife are increasing; the modest CAMPFIRE revenue cannot compensate for the costs of the large amount of damage caused by wildlife. Nor has the goal of empowerment, of promoting grass roots development, been reached to any great degree so far, partly because the decisions, especially about the distribution of revenue, are made from the top down. The biodiversity, especially the large diverse populations of wildlife, have, however, been protected and have even expanded, partly because the sport hunting is done in a sustainable manner, and the hunting quotas are far lower than the reproduction rates.

1 CAMPFIRE – goals and development

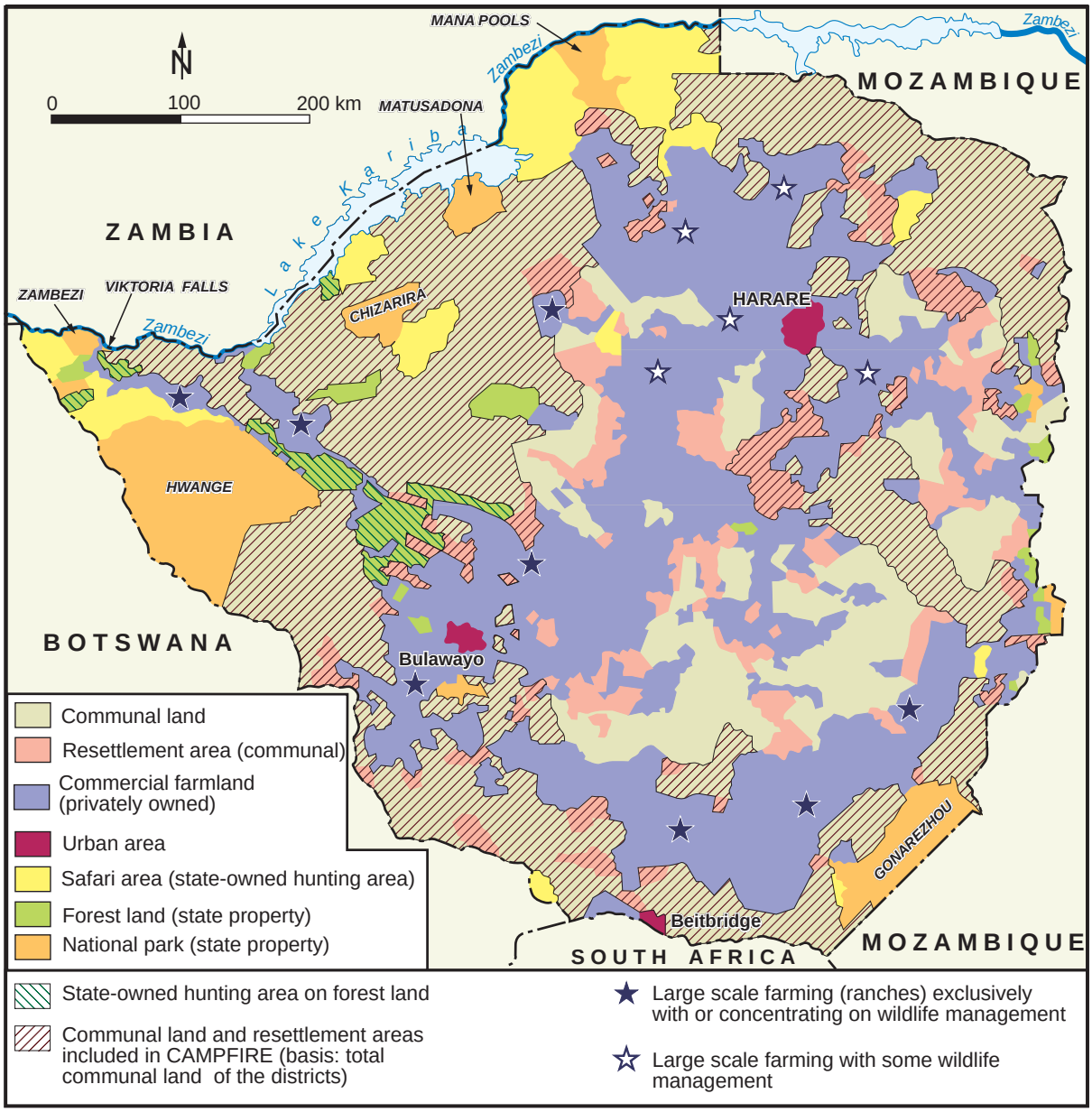
The Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) has gained international acclaim as the earliest project (WBGU 2000) to involve the rural population of marginalised areas in decisions on how to use their indigenous resources and the income resulting from this use[1]. "Conservation through utilisation", in particular of wildlife, is the ideal guiding the CAMPFIRE programme. It is based on the assumption that the local inhabitants can only be successfully involved in the long-term conservation of natural resources if they themselves can make decisions about how to utilise the resources of their homeland and if they stand to benefit economically from the conservation of nature and wildlife. CAMPFIRE's top priority goals are accordingly

– to improve the economic situation of the inhabitants by developing new sources of income that make sustainable use of natural resources;

– to conserve the biodiversity;

– to enable the people to participate in political decisions (empowerment).

[1] Cf.. MURINDAGOMO 1990, BARBIER 1992, BARNES 1994; very positive from a German viewpoint are NUDING 1996, GRIMM 1996; more critical are HECHT a. WEIS 1999.



Draft: K. Vorlaufer Cartography: U. Beha

Source: data and information from the Surveyor General of Zimbabwe; WWF Programme Office in Harare; survey by the author

Fig. 1: Hunting areas and land classification in Zimbabwe, 1999

Source: Data and information from the Surveyor General of Zimbabwe; WWF Programme Office in Harare; survey by the author

Jagdreviere und Landeigentumskategorien in Zimbabwe 1999

The CAMPFIRE programme has been running since 1988. It was hailed internationally as a successful example of the "reconciliation of economy and ecology" in the Convention on Biological Diversity (CBD) agreed on at the UN Conference on Environment and Development in Rio de Janeiro in 1992. The CBD goals are central components of the CAMPFIRE concept, to wit the commitment (1) to maintain biological diversity and (2) to make sustainable use of its components (AUER a. ERDMANN 1997). CAMPFIRE is therefore cited

by the UN as a positive example of the realisation of Agenda 21 (cf. www.un.org/esa/earthsummit/campfire, 28.05.98).

The explanation given in Zimbabwe, as in other parts of Africa (VORLAUFER 1998), for why wildlife populations and biodiversity are endangered was and is that colonial laws prohibited the people living near areas with abundant wildlife to make any use of this wildlife. Even subsistence hunting for meat, as traditionally practised by many ethnic groups, was punished as poaching (MACKENZIE 1987, 56f), while white hunters were allowed to hunt as a sport. Moreover, Africans were resettled out of the strictly protected national parks; they were prohibited access to watering places, pastures and fields and forbidden to make use of the forests (e.g. for gathering honey, wood for building or firewood). The protected wild animals caused considerable damage. In areas with agricultural settlements, the loss of crops, domestic animals and human life were and still are a continuous threat to the existence of many families. Consequently, the people living around the protected areas had to bear the opportunity costs associated with the proclamation of nature preserves alone, while they had no share or only a very minimal share in, e.g., the use of such areas for tourism. To a large extent they still do not. As a result the people did not consider wildlife to be a resource that should be protected, but instead as a competitor for land, water and food. This was one reason why the government was unable to put a stop to what it regarded as poaching, namely hunting to provide meat, hides or pelts or to prevent wild animals from causing damage.

The Parks and Wildlife Act, enacted by the South Rhodesian government in 1975, has been revised many times, but it is still basically valid today. This act already granted to private landowners rights to wildlife that had previously belonged to the state. Even before independence, in 1980, the Department of National Parks and Wildlife Management (DNPWLM) initiated the project "Wildlife Industries for All" (WINDFALL) (MURINDAGOMO 1990). For the first time rural communities were allowed to profit from the management of wildlife, in hopes of encouraging the idea of conservation among the inhabitants of communal land and in particular of reducing soil degradation. Fighting poverty was a lesser goal. WINDFALL limited itself to selling meat from animals shot in state-owned hunting areas at a reduced price to the inhabitants of communities bordering on the same areas (Fig. 1). The people took no part in decisions about the use of wildlife and did not receive any income from hunting tourism. Moreover, supplies of meat rarely reached the people in whose vicinity the hunt had taken place. Eventually WINDFALL was abandoned and CAMPFIRE established. Since 1982 landholders and not only landowners (like the white farmers), i.e. the inhabitants of communal land[2], can be granted "appropriate authority" (AA) status, i.e. proprietary rights to wildlife, provided the communities present a Wildlife Management Plan and demonstrate that they have the institutional capacity to carry out the plan. With the support of a number of international and national organisations (in particular USAID and WWF), AA status was initially granted to the districts of Nyaminyami and Guruve in 1988. By 1992 it had been granted to twelve further districts. By 2001 36 districts (of 55), with areas and populations of varying sizes, had joined the programme (Figs. 1, 2, 3). These represented most of the regions settled by smallholders. Formally it is not individual persons or communities that apply for AA, but instead the Rural District Councils (RDCs), who are legally the holders of the land titles and who determine the distribution and use of land. Thus the RDCs have an important voice in how game is exploited. They enter into contracts leasing the hunting areas to hunting operators and they initially receive all income resulting from the utilisation of game. This makes it very difficult for the inhabitants of the villages and wards to participate, although the producer communities, the target group of CAMPFIRE, with their (elected) Village or Ward Development Committees (are supposed to) have a share in the decisions[3]

1.1 The concept of Political Ecology and the goals of the study[4]

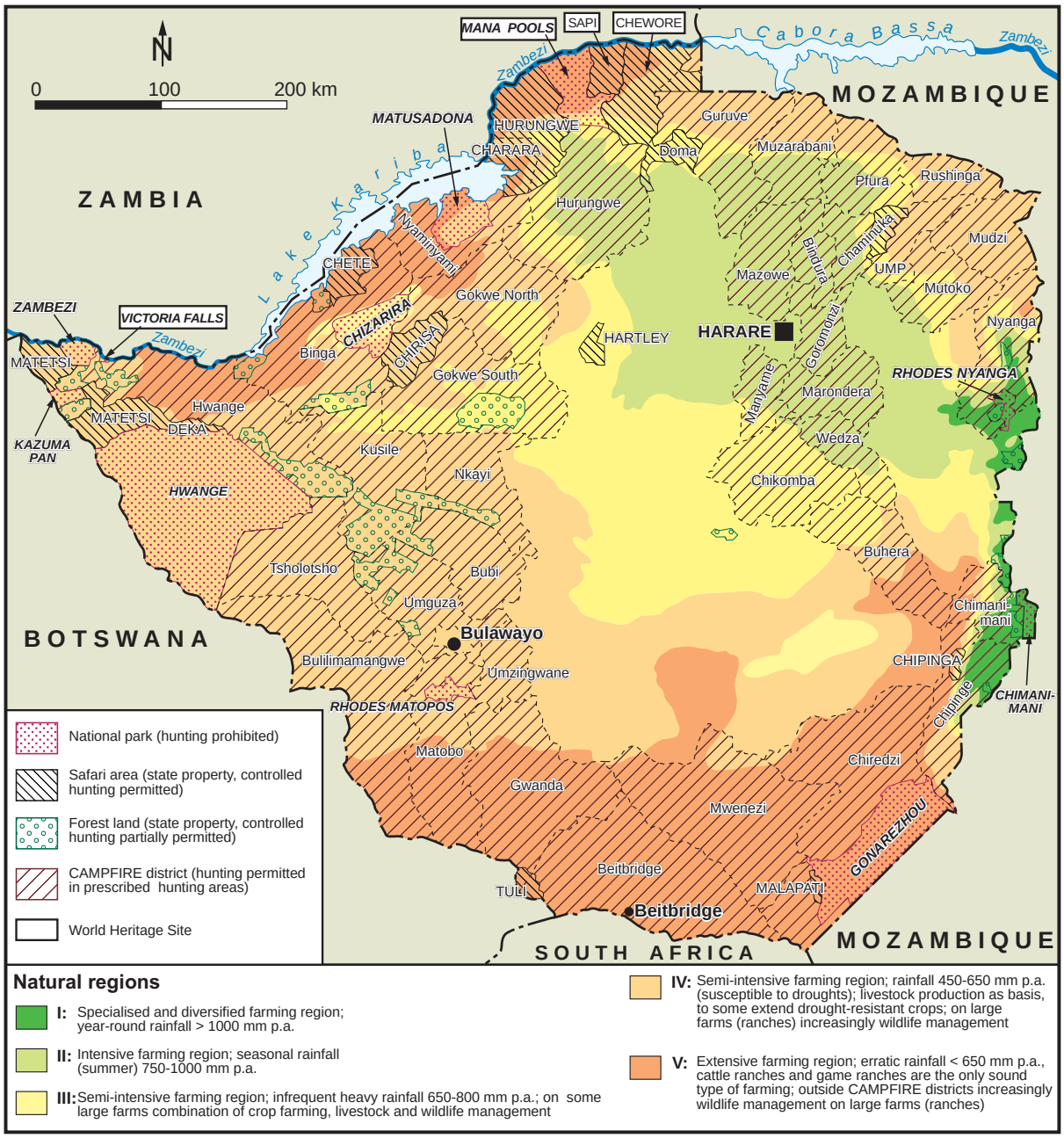
Involved in CAMPFIRE are a large number of actors with very different interests, who act at different levels with varying degrees of authority. These include in particular:

– The farming households living in (often extreme) poverty, who are almost totally excluded from the legal utilisation of the natural resources of their homeland

[2] According to the customary land law, Africans in communal lands are only holders, not owners of the land they cultivate.

[3] For details of the political and administrative problems of CAMPFIRE and the many actors included in the programme cf. MURINDAGOMO 1990, HILL 1996, HECHT a. WEIS 1999, ALEXANDER a. MCGREGOR 2000, LOGAN a. MOSELEY 2002.

[4] All data and information for which no source is cited were gathered by the author on two trips, financed by the DFG, in 1998 and 1999. Dr. I. Bond and A. Khumalo of the WWF office in Harare kindly gave me access to their collections of information and data.



Draft: K. Vorlaufer Cartography: U. Beha

Source: data and information from the Surveyor General of Zimbabwe; WWF Programme Office in Harare; survey by the author

Fig. 2: Zimbabwe: agro-ecological and agro-economic regions and CAMPFIRE districts, 2001

Source: Data and information from the Surveyor General of Zimbabwe; WWF Programme Office in Harare; survey by the author

Die agrarökologische und -wirtschaftliche Gliederung Zimbabwes und die CAMPFIRE-Distrikte 2001

but who suffer from damage caused by game in peripheral regions with large wildlife populations;

– The political actors/institutions from the local to the national level with their specific but often contradictory interests;

– National and especially international conservationists and their organisations, for whom rigid wildlife protection often (still) takes priority over the existential interest of the local people in exploiting their indigenous resources;

Photo 1: The Rural District Councils are important CAMPFIRE actors (*Photo*: Binga District, August 1999)
Die ländlichen Bezirksregierungen sind wichtige CAMPFIRE Akteure

– Actors in the national and transnational tourism business (who often have contradictory interests, like the hunting operators on the one hand and the safari operators on the other hand), who want to market the touristic resources of peripheral regions as intensively as possible;

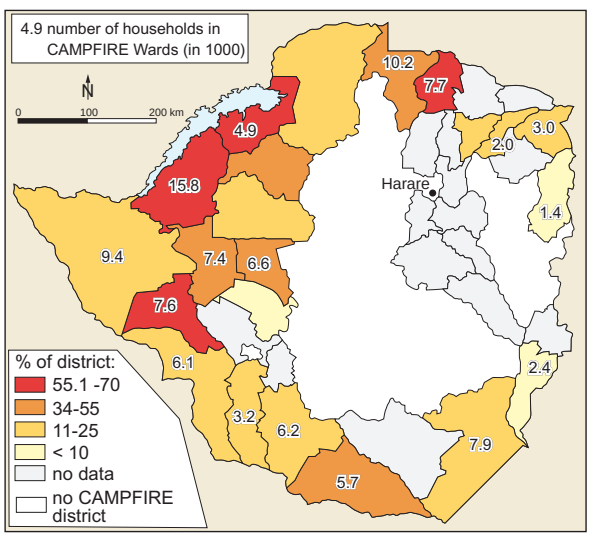


Fig. 3: CAMPFIRE wards: area in relation to total area of district (in %) and number of housholds in CAMPFIRE wards, 1998
Source: Data from WWF, Harare
Anteile (in %) der CAMPFIRE-Wards an der Fläche der jeweiligen Distrikte sowie Anzahl der in den CAMPFIRE-Wards lebenden Haushalte 1998

– National and international Non Government Organisations (NGOs), which often pursue different concepts or, like the WWF emphatically does in Zimbabwe, try to influence the interactions between the various actors and, via the concept of "protection of natural resources through sustainable use", to achieve a balance between the often contradictory interests. The goal is to alleviate the poverty of the inhabitants and simultaneously to protect the large wildlife populations with their biodiversity on a long-term basis.

On the basis of some approaches employed in the field of political ecology (cf. KRINGS 1999; BLAIKIE 1999), the primary goal of our study will be to visualise some of the patterns, mechanisms and conflicts in the interactions between the various actors in the regional context of Zimbabwe. We will also look at its achievements and at problems connected with the realisation of CAMPFIRE's original goals, namely (1) to protect the biodiversity, meaning in this instance game populations, and (2) to alleviate social and spatial disparities, i.e. to improve the living conditions of the inhabitants of communal lands. We will try to throw light on some of the contradictions and/or complementarities.

2 *Potentials and problems of the CAMPFIRE areas*

Almost all CAMPFIRE districts lie in peripheral regions, and almost all are in Natural Regions V or IV with their low agricultural potential. Typical of these regions is that precipitation is low and erratic, soils are poor and malaria is widespread, as is the tsetse fly,

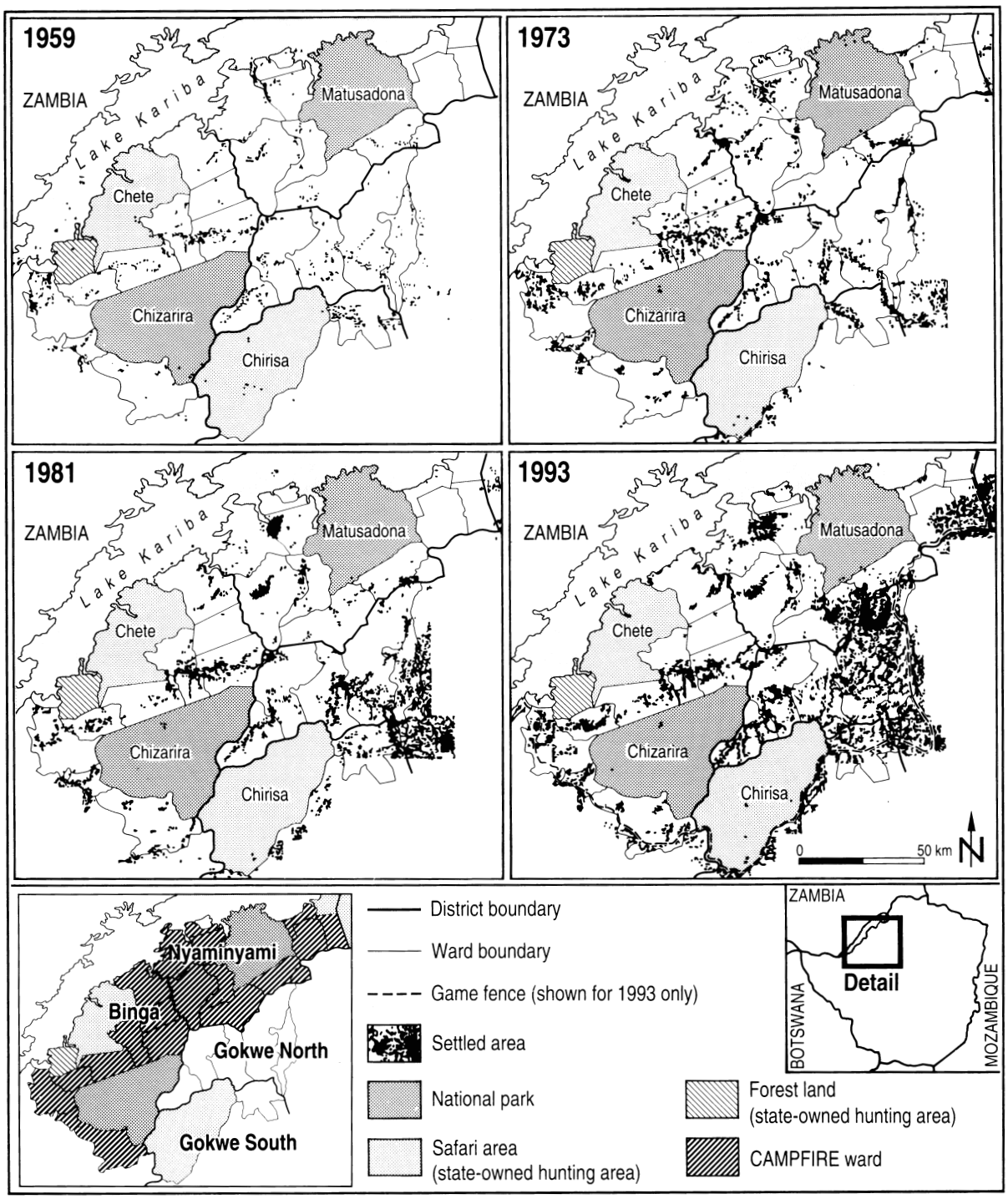
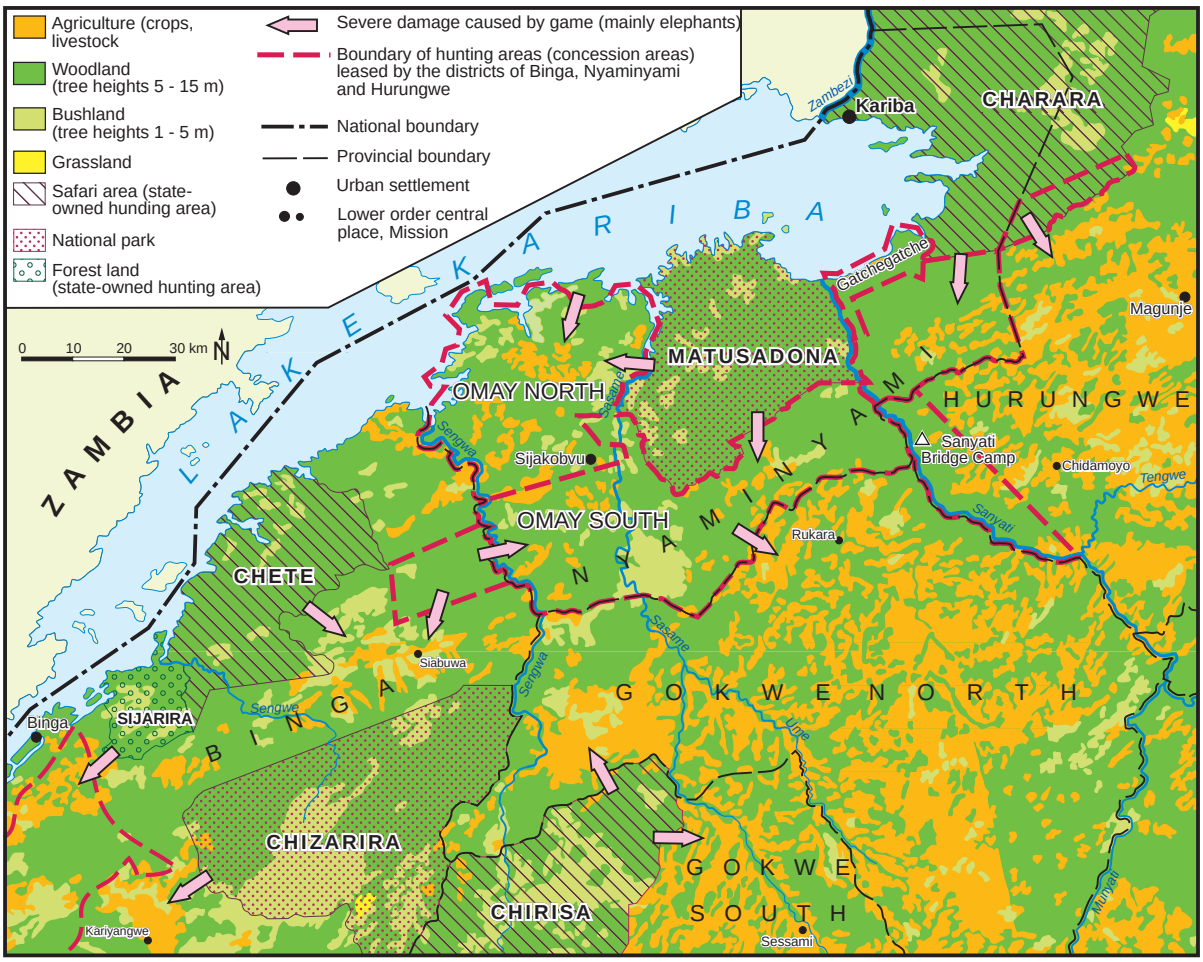


Fig. 4: Growth of the settled area in the districts south of Lake Kariba, 1959–1993
Source: Various documents from the WWF Programme Office, Harare, 1997 (basis: aerial survey)
Das Siedlungsflächenwachstum 1959–1993 in den Distrikten südlich des Karibasees

which limits the holding of domestic animals, especially in the Zambezi valley (Figs. 1, 2). In 1995/96, e.g., in Natural Region V 79.5% of the population lived below the poverty line and 61.8% in extreme poverty (CSO 1998), i.e., the minimum amount of food necessary for physical existence was lacking. In the province



Draft: K. Vorlaufer Sources: Surveyor General of Zimbabwe: vegetation maps 1:250,000 Bumi Hills, Binga, Mana Pools, Kariba, Copper Queen; survey by the author, 1999 Cartography: U. Beha

Fig. 5: Vegetation, land use, protected areas and hunting areas in the area south of Lake Kariba
Source: Surveyor General of Zimbabwe: vegetation maps 1:250.000 Bumi Hills, Binga, Mana Pools, Kariba, Copper Queen; survey by the author, 1999

Vegetation, Landnutzung, Schutzgebiete und Jagdreviere im Raum südlich des Karibasees

Matabeleland North, in which I studied the districts Hwange and Binga (Photo 1), values of 87.2% and 74.4% were reached.

Nevertheless, the population and the amount of settled and cultivated land have been growing considerably (Figs. 4, 5, 6). The Omay Communal Land, located around Matusadona N.P., is one of the CAMPFIRE districts with the largest amount of game. The populations of wild and domestic animals are large and growing (Fig. 6). Combined with an expanding area of settlement due to the strong population growth, this means that a lot of damage is done by wildlife. It was these conditions that led to the proclamation of Nyaminyami, together with the Guruve District, as Zimbabwe's first CAMPFIRE district in November 1988. All wards are involved in this programme; Nyaminyami has the highest CAMPFIRE income of all districts (Fig. 7).

3 Wildlife management as the optimum form of land use?

In view of the limited natural resources in vast areas, the question arises whether a consumptive and/or non-consumptive form of wildlife management that exploits the resource game for tourism in the form of hunting and/or animal observation is, economically speaking, an optimum type of land use. This is commonally answered in the affirmative for the CAMPFIRE districts, as for other marginal areas of Zimbabwe (VORLAUFER

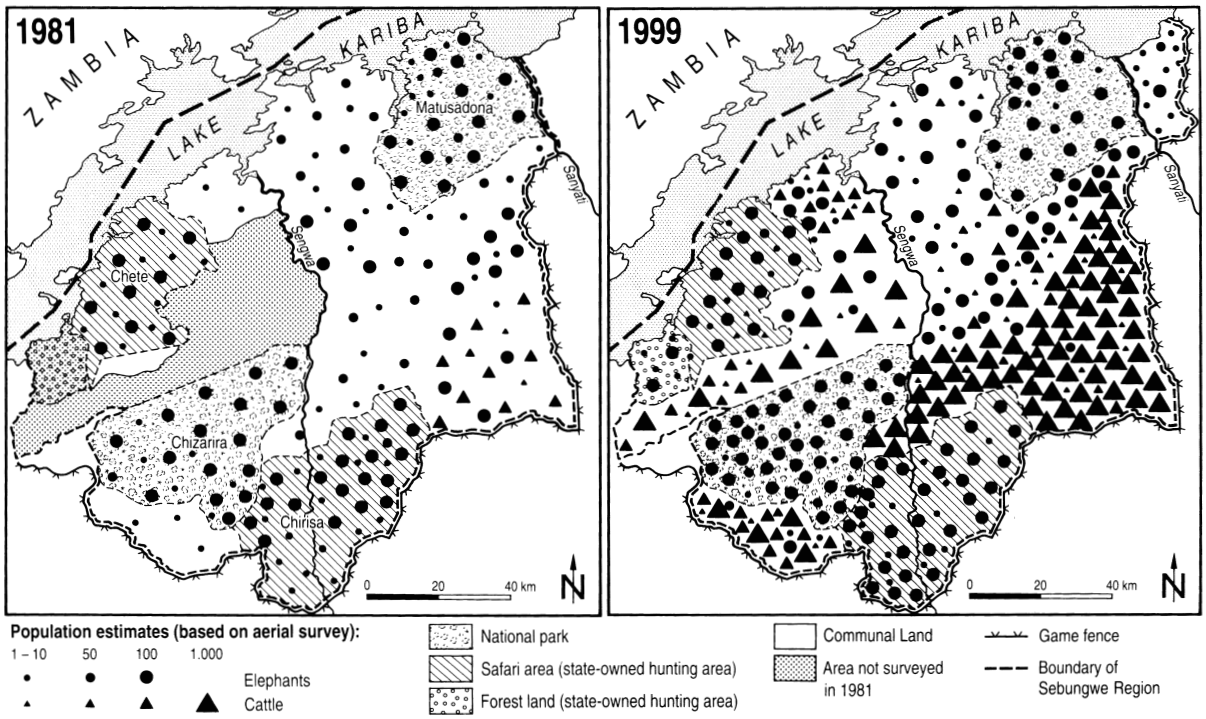


Fig.6: Populations of elephants and cattle in the districts south of Lake Kariba, 1981 and 1999 (August)
Source: CUMMING et al. (1997), DUNHAM (1999)

Der Besatz mit Elefanten und Rindern in den Distrikten südlich des Karibasees 1981 und 1999 (August)

2001) or Africa (VORLAUFER 1998; KRUG 2000), with the following arguments:

– rain-fed farming produces only low yields, if at all, because of the low and unreliable precipitation and poor soils;

– irrigation farming would be technically possible, for instance in the region south of Kariba Dam, but for the time being it is hardly feasible on a large scale;

– although in the region south of Lake Kariba eradication programmes have limited the range of the tsetse fly to the Zambezi valley and the landscapes along the banks of Lake Kariba, livestock raising can provide only a limited livelihood for a large population, because of the climatic conditions in Natural Region V and to some extent in Region IV.

Contrasting with these unfavourable agricultural factors is the fact that game, compared with domestic animals, (1) is better adapted to the natural conditions, (2) can survive dry spells and droughts better, (3) can make more optimal use of the vegetation and (4) is generally more resistant to disease and has a higher reproduction rate than, e.g. cattle – an important aspect, considering the high and frequent losses after droughts.

The CAMPFIRE approach therefore assumes that game management that adheres to the basic idea of sustainability is the optimum form of land use for large parts of the CAMPFIRE districts, because it can yield higher monetary proceeds per unit area via hunting tourism than alternative uses could. Moreover, the biomass per ha can be higher for game than for domestic animals. If the hunting quota does not exceed the reproduction rate, game management can even make a greater contribution to the meat supply of the inhabitants than extensive livestock raising, which might just barely be possible. Consequently it is assumed (CHILD a. PETERSON 1991) that the indigenous population will give priority to game management over livestock raising and especially crop farming, which is practically impossible in large parts of the communal land. In view of the strong increase in the amount of livestock (Fig. 6), resulting in increasing overgrazing, desertification and destruction of resources, we can, however, surmise that the decision in favour of "game management" as an (ostensibly?) optimum form of land use is guided only secondarily by economic (and ecological) criteria. This is substantiated by studies on other regions (ALEXANDER et al. 2000). The way of life, particu-

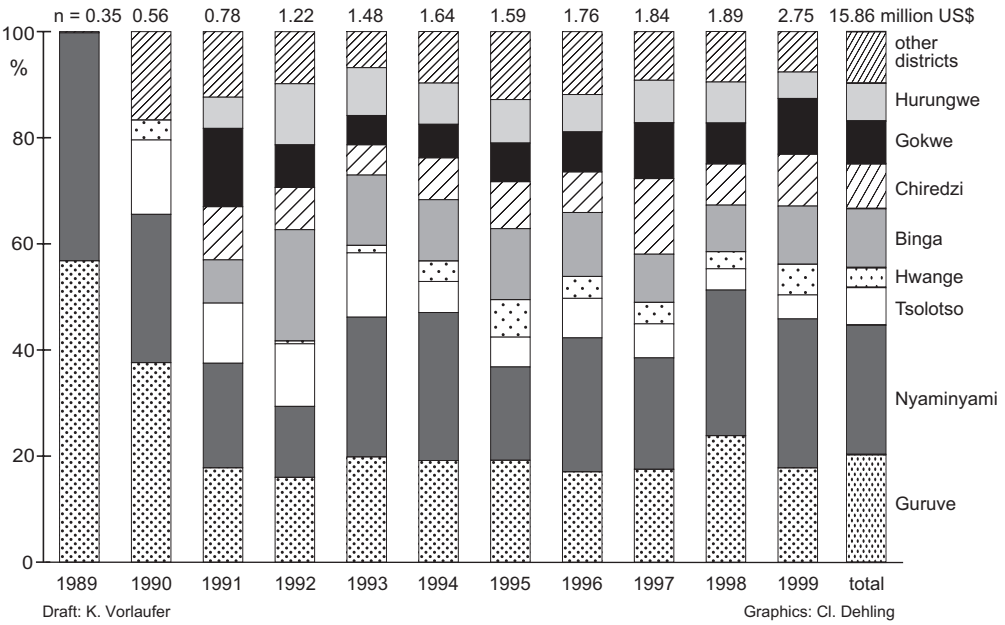


Fig. 7: Distribution of CAMPFIRE revenues by district, 1989–1999
Source: Data from WWF, Harare

Die Verteilung der CAMPFIRE-Einnahmen auf die Distrikte 1989–1999

larly in the areas settled by the Ndebele (e.g., around the Hwange N.P., in Binga and Nyaminyami), was based in former times predominantly on cattle raising, and still today cattle raising plays an important role. Cattle are the basis of social prestige and political power and consequently manifold economic advantages. Cattle enable a man to make the bride price payments to marry wives and found a large polygamous family. Moreover, many Africans view the habitat of game as a dangerous wilderness that is to be destroyed and dominated. Additionally, landholding for the purpose of livestock raising or crop farming has a high intrinsic value in Zimbabwe, where land was robbed by European settlers, and this cannot be offset by a communal right to utilize game. It is therefore questionable whether giving the people a share in the monetary income from communal wildlife management is sufficient to induce them to give priority to game management.

By contrast, in the eyes of the DNPWLM, which is responsible for conservation and for the unpopulated National Parks and Safari Areas, there is ecological and economic rationality in long-term protection of wildlife even in communal land. They consider the preserves a genetic pool for wildlife, which is strictly protected in the preserves, but migrates out into the adjoining communal land in periods of drought searching for watering places and pasture. For the DNPWLM the preserves and the communal land are an ecological unit; consequently, were the entire communal land to be settled and farmed, game would have no chance to survive in the long run even in the National Parks. The attractiveness of the National Parks for safari tourism would then decrease, with the result that tourism, an economically important sector, would decline and the national economic (opportunity) costs might exceed the benefits derived from dividing up and settling the entire communal lands.

4 The hunting areas – basis of CAMPFIRE revenues

In 1982 the government transferred the right of game management to the rural communities; in 1984 the Village Development Committees (VIDCOs) and Ward Development Committees (WADCOs), which today are jointly responsible for CAMPFIRE, were established. In 1986 the RDCs were entrusted with the responsibility for wildlife management. They are obligated to gradually hand over these responsibilities to the wards and villages. In the districts of Chiredzi, Binga, Nyaminyami and Guruve, the WADCOs and VIDCOs already have important functions. They carry out game counts and fix the maximum hunting quotas

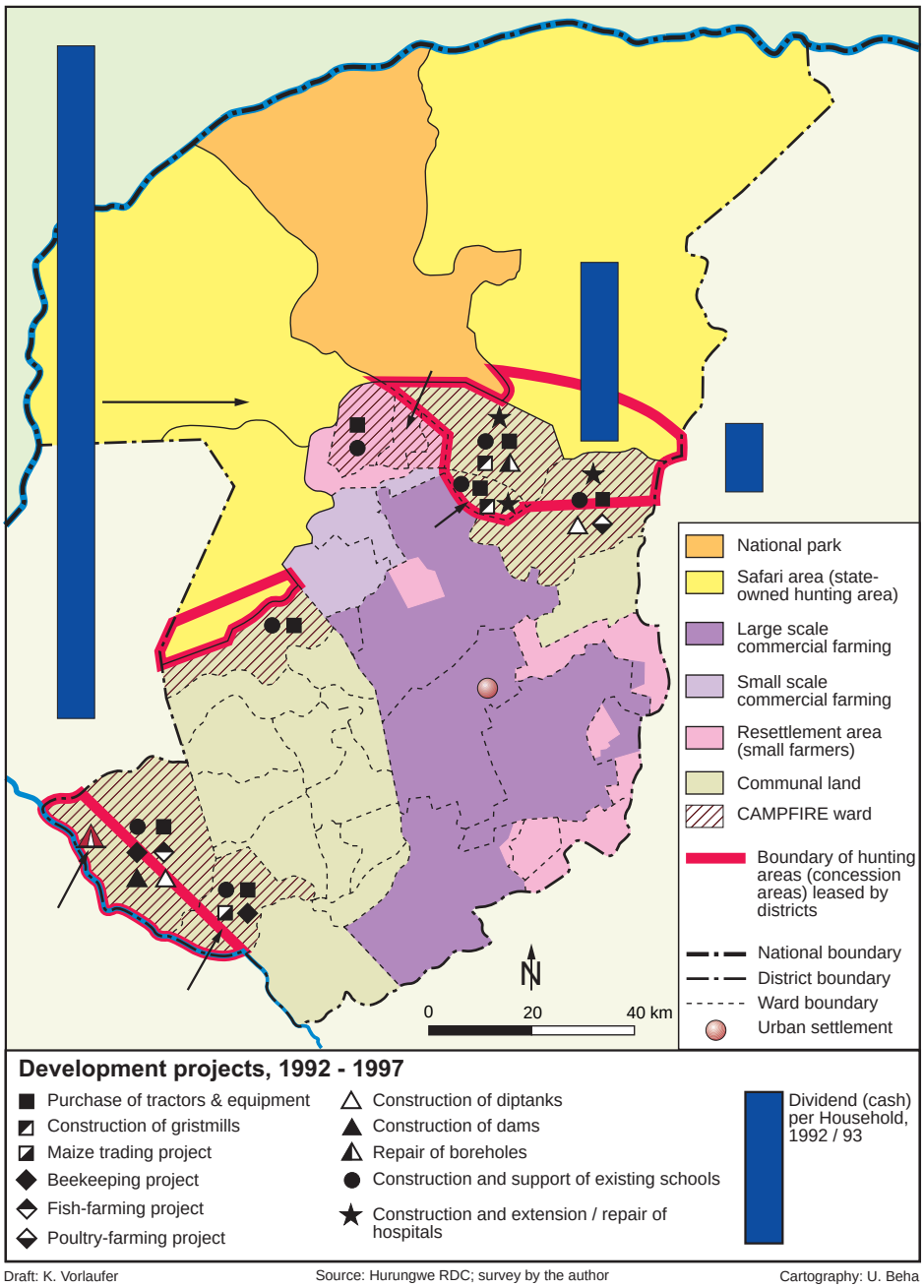


Fig. 8: Land classification, protected areas, hunting areas, CAMPFIRE wards and expenditure of CAMPFIRE revenues in Hurungwe District, 1992–1997
Source: Hurungwe RDC; survey by the author

Landeigentumskategorien, Schutzgebiete, Jagdreviere und CAMPFIRE-Wards im Hurungwe District sowie die Verwendung der CAMPFIRE-Einnahmen 1992–1997

on this basis, and they decide how to use their share of the CAMPFIRE revenues. The wards have not yet been conceded the right to finalise contracts with safari operators regarding hunting concessions and thus possible proceeds from game utilisation, because the elected members of the WADCOs do not have adequate legal and economic experience to be able to negotiate advantageous contracts.

Table 1: Distribution of CAMPFIRE revenues in Hurungwe District, 1998 (in 1000 ZW$)

Die Verteilung der CAMPFIRE-Einnahmen im Hurungwe District 1998 (in 1 000 Z$)

	sum	%
1) Wards[1)]	751.6	22.4
2) Village Development Committees (VIDCOs)[2)]	927.3	27.6
3) Council (levy)	503.7	15.0
4) Management	761.2	22.7
5) DNPWLM[3)]	414.1	12.3
Total revenues	3,357.9	100.0

[1)] Three wards; [2)] 14 VIDCOs in 5 Wards; [3)] 20% of the trophy fee revenues generated from parts of concession areas leased by the RDC that are located in Charara and Chewore Safari Area, must be paid to DNPWLM

Source: Hurungwe RDC

Hunting concessions are awarded by means of public bidding. The concession areas awarded by the RDCs generally do not cover their entire administrative district. Usually they only comprise unsettled or sparsely settled areas with a large amount of game, often in the immediate vicinity of National Parks or Safari Areas (e.g. Hurungwe District, Fig. 8). As a rule the contracts are for a five-year period, and they generally have a clause stating that the "concession fees" can be adjusted annually in accordance with the income the hunting operator can achieve via trophy fees or with the exchange rate of the US dollar. These concessions are often granted for different periods even within a given district. In Nyaminyami, e.g., in 1998 two concessions (Gache-Gache, Kanyati) were leased for only one year, the other two (Omay A, B) for five years (Fig. 5). Working for several years with a hunting operator who is established on the international market offers a greater insurance that the maximum quotas, which are fixed annually by the DNPWLM in accordance with the current wildlife populations, are actually realised, i.e. that the huntable animals can be "sold".

Because the hunting operators often do not exhaust the hunting quotas, especially those for small animals that are less attractive for trophy hunters (main reason: lack of demand), in many districts the contracts have a clause calling for guaranteed payment by the operator for unused quotas. The operator bears the risk in case he does not completely fulfil the quotas. The trophy fees are proposed by the DNPWLM and then fixed for each animal species. The rent to be paid by the hunting operator to the RDC is calculated anew each year on the basis of the quotas and the trophy fees.

In some districts the concessions also include parts of the Safari Areas that are under the supervision of the DNPWLM (e.g. Hurungwe, Fig. 8). For these the hunting operator must pay a Right To Hunt Fee. This goes to the National Park authority, which additionally receives 20% of the trophy fees (e.g. Hurungwe, Table 1).

In the pre-CAMPFIRE era, when hunting tourism already played a certain role in the communal areas, approx. 60% of the earnings of the hunting operators were (and still are today) used to cover the costs incurred; around 40% were profits, of which the district administrations generally received a maximum of 15%. There is strong competition for hunting concessions, often with as many as 12 safari operators competing for a contract. Because of this CAMPFIRE has often been able to raise the RDCs' share to 75%, whereas only a quarter of the profits, or just 10% of the gross turnover, remained for the hunting operators.

Previously drastic losses were often incurred due to changes in the exchange rate of the Zimbabwe dollar. To compensate for this, the hunting operators offer hunting expeditions on the basis of the US dollar. Until recently the concession fees could be paid in the local currency, and to some extent they still can be today, with the result that the RDCs did not participate in the rising value of the proceeds of the hunting operators in US dollars. Meanwhile, the CAMPFIRE earnings are linked to the US dollar. The districts' revenues are in US dollars, and the real income has risen dramatically. It has been possible to more than compensate for inflation. In 1989–99 the US dollar earnings rose by a factor of five, in Zimbabwe dollars by a factor of almost 30 (Fig. 9). For the extremely poor CAMPFIRE districts the CAMPFIRE earnings are an important factor, but not one that improves the economic situation of the inhabitants noticeably. The average per capita earnings (Fig. 10) are still very low. Although they rose strongly, even in 1999 they amounted to less than 1% of the GDP of a given district.

5 Diversification of CAMPFIRE revenue

Up to 1998 more than 90% of all CAMPFIRE revenue was derived from hunting tourism. To lessen the one-sided dependence on consumptive wildlife utilisation and on only one segment of tourism, namely trophy hunting, the districts are trying to expand their supply of touristic attractions. A prominent example for the necessity of this diversification strategy is Mahenye Ward in Chipinge District (data from Chipinge RDC). Mahenye is the southernmost ward in the district. To

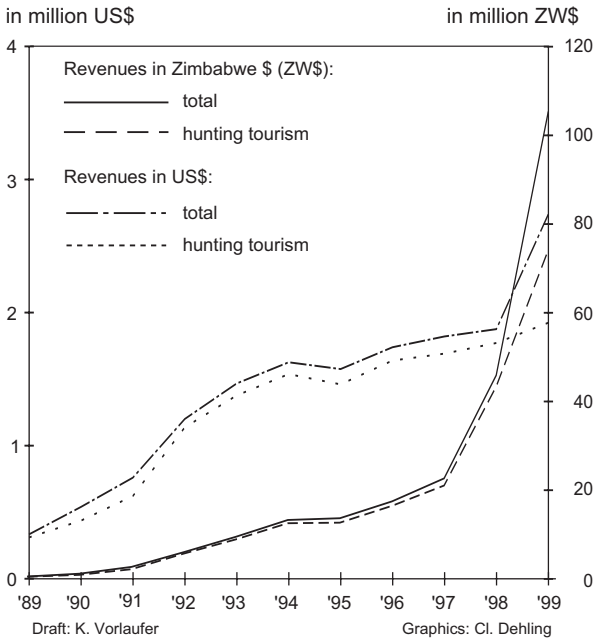


Fig. 9: Growth of CAMPFIRE revenues, 1989–1999 (from hunting tourism and total)
Source: Data from WWF, Harare

Die Entwicklung der CAMPFIRE-Einnahmen aus dem Jagdtourismus und insgesamt von 1989–1999

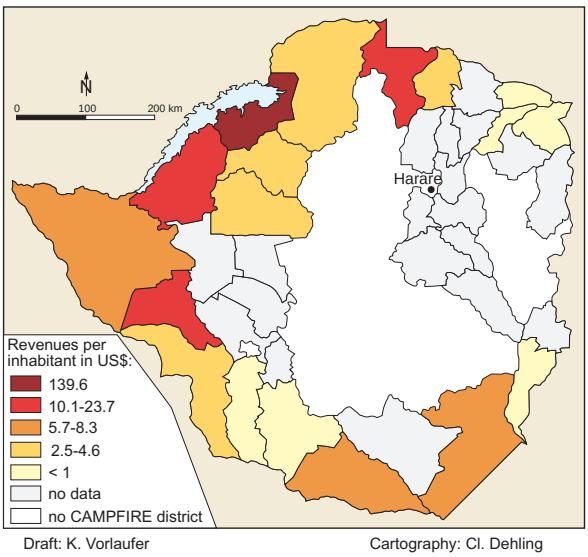


Fig. 10: Average CAMPFIRE revenues per inhabitant (1992) by district, 1989–1999
Source: Data from WWF, Harare

Durchschnittliche Einnahmen pro Kopf der Bevölkerung (1992) in den CAMPFIRE-Distrikten von 1989–1999

the west it borders on Gonarezhou N.P. and to the east on Mozambique (Fig. 2). Because of this peripheral location the area has only weak links to a larger market. Moreover, the ward is located in Natural Region V, where farming is negligible due to the low and unreliable precipitation. The exclusively subsistence oriented production of maize and sorghum produces only low yields, which are further reduced by frequent damage caused by wildlife, particularly elephants. Each of the 849 households (1997) with around 4200 persons cultivates only 2–4 ha; the crop yield is approx. 100–200 kg maize/sorghum for a family of approx. five persons, in case there is no damage due to game. Animal husbandry (cattle, goats) is also not very profitable. For one livestock unit (= 350 kg) 35 ha (!) are required. With CAMPFIRE the role of game was reassessed. Hunting tourism, which was initially chiefly promoted, yielded too little income, however.

With the participation of the inhabitants, an expansion of safari tourism was encouraged. The central source of income today is a joint venture with the hotel chain Zimbabwe Sun. On the basis of a ten-year contract the investor was granted land to erect two lodges. The community guarantees rights of access to the neighbouring Gonarezhou N.P. and the protection of the "wilderness" (approx. 50% of the area of the ward, around 110 km^2) from agriculture and settlement. The Mahenye community obligates itself in this manner to protect the biodiversity and the game populations in a large part of the area under its control. In addition to building the two lodges, Zimbabwe Sun guarantees to construct a landing strip for planes, to connect the electricity and telephone lines of the infirmary, the primary school and the police station to the networks outside the ward and to employ people from Mahenye. In 1998 the "photographic fees" to be paid by the lodges accounted for 57% of the entire CAMPFIRE revenue (Z$963,623) and "only" 41% came from "hunting tourism" (others: 2%). 56% of the income was divided up evenly among 849 households as dividend. In addition, investments were made in three communal projects (school, community office, maize mill).

In the districts of Mazarabani (since 1989), UMP (1993) and Hurungwe (1995) village communities (Hurungwe), the RDC (Mazarabani), or 68 households from five villages united in a co-operative (UMP) have built simple tourist camps (huts, camp sites). Although very small sums were invested (in each case only around Z$250,000 up to 1997) and labour costs are low (1997 a total of 12 employees), at least until 1997 these could not be run profitably because the demand was too low

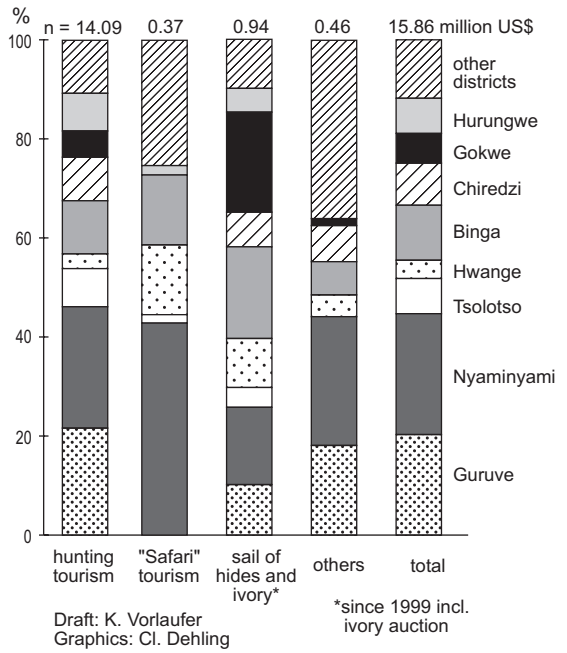


Fig. 11: CAMPFIRE revenues (in US$) by source and district, 1989–1999

Source: Data from WWF, Harare

Die CAMPFIRE-Einnahmen der Distrikte von 1989–1999 nach verschiedenen Einkommenskategorien in US$

(in 19097: occupation rate 10–14%). These minimal effects on local employment and income mean that even this CAMPFIRE approach does not appear very attractive to the inhabitants so far.

Whereas the hunting client is entitled to the trophies resulting from hunting tourism, including the ivory from elephants that have been shot and hides/pelts, the trophies resulting from Problem Animal Control (PAC, official culling of problem animals), i.e., especially ivory and hides/pelts, are sold by CAMPFIRE. Partly because of the strict international ban on the ivory trade until 1999 and the comparatively small number of elephants culled through PAC, the earnings from these activities were, however, modest. Essentially the only direct benefit for the farmers living in or near the hunting areas (until 1999) was that the villages in whose vicinity the safari took place are entitled to the meat of the animals killed by hunters and PAC. A reasonable solution would appear to be to legalise hunting for meat on a greater scale. So far only the inhabitants of a few districts (especially Nyamiyami) are allowed to do so to any degree. This would provide the inhabitants with more protein and help to regulate the size of the wildlife populations and reduce the damage they cause. It might also help improve the acceptance of CAMPFIRE.

5.1 Sale of ivory, a potentially important source of revenue

Intensive illegal hunting of ivory in the 1970s and 1980s led to a strong decline in Africa's elephant population. As a consequence, in 1988 an international agreement (CITES) was reached banning the ivory trade. In the last decade, however, the elephant population has increased so greatly, also in the CAMPFIRE districts, that it exceeds the carrying capacity of vast areas. Zimbabwe was no longer able to sell the large and constantly accumulating amounts of ivory (due to the natural death of many animals, seizure from poachers, ivory from PAC, etc.). According to the data of the CAMPFIRE Association, the body representing the interests of all CAMPFIRE districts, 26% (1999) of the ivory stored by the DNPWLM came from communal land. In view of the high prices for ivory on the world market, a legalisation of ivory sales would increase CAMPFIRE revenues considerably. For several years already Zimbabwe has been urging that the ban on ivory sales be relaxed. In 1997 the CITES conference granted Zimbabwe temporary permission, limited until April 2000, to sell ivory to only one country, Japan, on condition that the revenue be used for conservation and to improve the economic conditions of the people living in the elephant habitats. In April 1999 most of the stored ivory was auctioned off to Japanese buyers. From this sale the CAMPFIRE districts received around Z$21.8 million (US$0.57 million) in 1999 and thus approx. 20% of all CAMPFIRE revenue. The absolute and relative significance of the income from ivory sales varies extremely, however, from district to district (Fig. 12). About 56% of all earnings benefit only three districts (Binga 23.8%, Gokwe North 18.8%, Nyaminyami 11.1%). In most of the districts a large proportion of this income was distributed down to the village level. In the opinion of local experts, the sale of ivory (and the reduction of elephant populations) will continue to be essential in the future, so that the people who suffer from the large amount of damage done by wild animals can receive income that will help them to accept the idea of conservation (and with it CAMPFIRE). For this reason Zimbabwe is calling for a relaxation of the CITES ban.

6 Distribution and use of CAMPFIRE revenue: the crucial problem

CAMPFIRE has set itself the goal of making conservation, i.e. the lasting protection of biodiversity, possible. It attempts to do so by ensuring that the people living on communal land reap economic benefits from

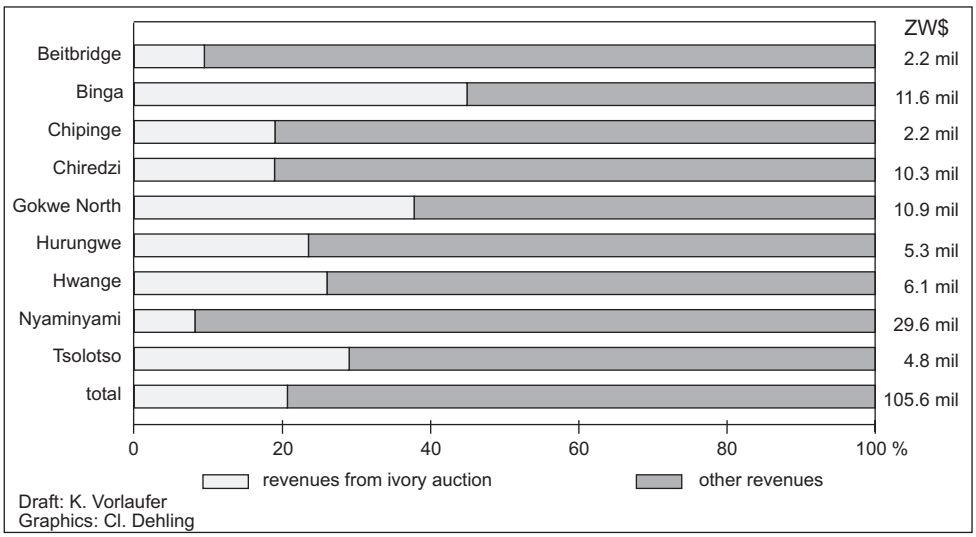


Fig. 12: Relative and absolute importance of revenues from the ivory auction for selected districts, 1999
Source: Data from WWF, Harare

Die relative und absolute Bedeutung der durch die Elfenbein-Auktion erzielten Einnahmen in ausgewählten Distrikten 1999

hunting tourism, so that they will give up poaching, actively participate in conservation and accept the opportunity costs that ensue when large areas are reserved for conservation and hunting tourism. These expectations are only realistic, however, if an adequate share of the earnings from conservation and hunting tourism goes to the communities. The distribution of CAMPFIRE earnings is therefore a crucial factor in the success of CAMPFIRE. Large income disparities (Figs. 7, 10) between and within the CAMPFIRE districts are typical, and they make it more difficult for a large portion of the population to accept the programme. Moreover, quite a number of the recipients of CAMPFIRE income live in large cities, where they work in nonagricultural jobs; but nevertheless participate in the programme because they originally came from the district (LOGAN a. MOSELEY 2002). It is clear that the local population is not a homogeneous group of actors; it is composed for the most part of individuals with specific interests of their own.

In the early years of CAMPFIRE, up to about 1991, only a modest proportion of the low CAMPFIRE earnings went to the inhabitants; a large share went as fees for wildlife management to the RDCs and thus to the administrative seats, which are located predominantly in the central, more densely populated parts of the communal land. The population of the peripheral areas bordering the hunting areas or preserves, who have to bear most of the costs of conservation, received only modest amounts of income. In the early 1990s there were increased endeavours to change the system governing the fees paid to the RDCs and the costs of wildlife management and to pay a dividend directly to the inhabitants. This direct payment proved to be inefficient and not to make much sense. The sums paid to the individual households were so small (example Hurungwe, Fig. 8) that they were not able to make large scale investments, for instance for improvements in farming. The money was primarily spent to satisfy immediate desires. The criteria on which the distribution was based were not very transparent. To a large extent the inefficiency and corruption of the administration conveyed a negative image of CAMPFIRE to the population.

Because of this predominantly negative experience, in the past few years the general tendency has been to invest CAMPFIRE funds in communal projects that are visible to the public (example Hurungwe, Fig. 8; Photo 2). In Hwange, Binga und Nyaminyami districts, e.g., investments were made in small-scale industries to achieve a diversification of the economy, which was previously dependent on farming and scarcely capable of development. Since 1998 in Binga und Nyaminyami two workshops, each with five employees, have been making envelopes and writing paper from used paper and elephant dung (!), and two tanneries have opened with a total of eight employees (1999).

The Hurungwe District is a good example of a district in which a large part of the CAMPFIRE earnings were distributed down to the lowest, the village level, to a total of 14 VIDCOs (Table 1), on whose territories animals were killed[5]. The average share to which each

Photo 2: Many small projects like this general store in Nyaminyami District are financed by CAMPFIRE revenues (*Photo:* Nyaminyami District, August 1999)

Viele kleine Projekte, wie dieser Gemischtwarenladen im Nyaminyami District, werden durch CAMPFIRE-Einnahmen finanziert

"village" is entitled is, however, only around Z$66,000 (at the end of 1998 approx. US$1,750); the amounts range from Z$182,377 to only Z$4887. Even in the village with the highest earnings the sums are too small to allow significant investments in infrastructure for local development.

In 1999 Mahenye Ward/Chipinge District received Z$1.9 million (=US$49,818), the second largest amount of any of the total of 144 wards in all CAMPFIRE districts. This was also a peak value for the average earnings per household, namely Z$2250 (US$59). On average each of the total of about 107,000 households living in all CAMPFIRE wards had a share of only Z$670 (US$17.5). Even for Mahenye, which profits disproportionately from CAMPFIRE, it is obvious that these earnings, though extremely high in relation to other wards, are too minor to have any great economic effect.

Some districts use their CAMPFIRE revenue primarily for investments in agriculture. In Hwange and Tsolotsho, e.g., funds have been used to build up herds of goats. In Hurungwe D., among other projects (Fig. 8), six tractors were purchased for the six CAMPFIRE wards of the district. These tractors are used for road construction and agricultural work.

[5] The villages and wards often do not feel that this distribution pattern does justice to the problem, since the village or ward in which the animal was killed is often not identical with the village/ward in which the (migrating) animal may have caused the greatest damage.

Instead of splitting the money up and investing in a large number of projects that would have only minor economic effects, the Nyaminyami RDC invested the entire record revenue from the 1998/99 hunting season (approx. Z$19 million) in the construction of a secondary school. In 1999/2000 a dispensary for around 5000 households was built from the money earned from the ivory auction (chap. 5.1).

All CAMPFIRE revenues initially go to the RDCs, which are answerable to the Ministry of Local Government. The RDCs usually distribute the revenue to the wards, the next lower level of the administration, after retaining a certain sum to cover their administrative costs. In most districts the wards receive about 50% of the proceeds as a direct payment (Fig. 13). From these the WADCOs established in the wards finance development projects and/or they pass some of the money on to the villages within whose boundaries the game was shot. The VIDCOs finance smaller scale village projects or, to a lesser extent, give money directly to households that suffered from damage due to game. In some districts, e.g. in Chipinge, the revenue is divided up equally among all households of a ward.

Thus the funds are distributed from the top down. Often only a small remainder is left for the villages, the so-called producer communities, who are by law the owners of the game found and shot in their territory. This procedure counteracts the CAMPFIRE paradigm of "grass roots development".

The manner in which the CAMPFIRE revenue is used is still unsatisfactory. For years the wards and

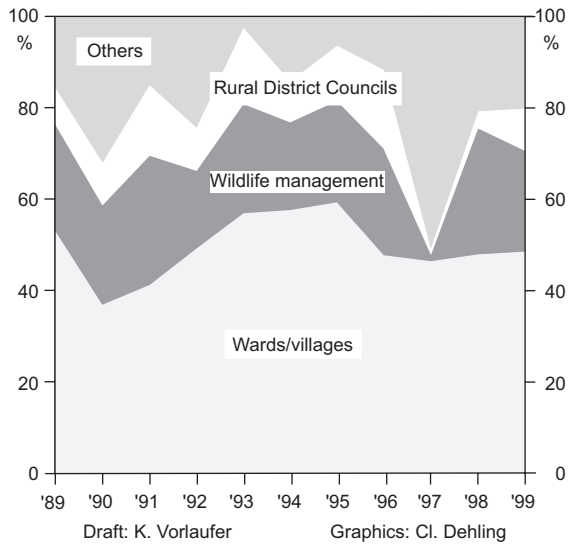


Fig. 13: Allocation of CAMPFIRE revenues, 1989–1999
Source: Data from WWF, Harare

Die prozentuale Verteilung der CAMPFIRE-Einnahmen auf die verschiedenen Empfänger 1989–1999

villages have received just around 50% of all income (Fig. 13), although the goal is an 80% share. Though wards in which game is shot receive a larger share than wards located far from the hunting areas, within the wards the villages that have to bear the main burden of conservation do not benefit adequately. One example: in Tsolotsho District an electric fence, approx. 210 km long, was erected parallel to the boundary of Hwange N.P. and about 10–15 km from it to keep game from causing damage in the densely populated areas. The people living in the buffer zone between the electric fence and the National Park, the main CAMPFIRE hunting area, were compelled to move "voluntarily", the argument being that the authorities could no longer guarantee to protect them from damage in the buffer zone with its constant high game population. The people who were resettled did not receive any compensation for abandoning their settlements (MADZUDZO 1996).

In isolated cases CAMPFIRE has led to the revocation of traditional rights to exploit wildlife. A pertinent example is Bulilimamangwe District, which borders on Botswana. Before CAMPFIRE was implemented in 1990, small groups of San (Bushmen) lived as hunter-gatherers in peripheral areas. Their living space was designated as a CAMPFIRE area and the San were forcibly resettled in a village as sedentary farmers (relatively unsuccessfully so far). They were prohibited to hunt and gather within the project area. In contrast to the majority ethnic groups (Ndebele, Kalanga), who are agro-pastoralists, the San were given fields bordering on areas with large game populations. As a result they suffered a lot of damage (MADZUDZO 1996), especially because the settlements of other ethnic groups, but not those of the San, were protected with fences erected with CAMPFIRE funds. Thus the social conditions of the San have changed for the worse because of CAMPFIRE.

The way in which the funds are distributed in Hwange District is more or less typical, although the structure of the revenue is specific to Hwange (Fig. 14). In contrast to most of the other districts, Hwange gets most of its revenue from rafting and the sale of crocodile eggs gathered along the Zambezi. The revenue from the bed night levy comes from two luxury hotels (not owned by CAMPFIRE!). The revenue from rafting, the sale of crocodile eggs and the bed night levy go only to the so-called producer wards, in which the money was earned (four/five in once case and two in the other). The other revenue is distributed on the basis of a complex formula similar to that used in many districts (Fig. 14). The objective is to give the wards in which the income was earned, e.g. the game was shot, an appropriate share. On the other hand, wards without direct CAMPFIRE income should also share in the total revenue of the district. The per capita earnings vary considerably from ward to ward. Even in the ward with the highest revenue (Sidinda), the share for each inhabitant was only around EUR 1, according to the exchange rate for 1999. In nine wards it was less than EUR 0.30. Even if all revenue between 1989–99 is considered, the average sums per inhabitant of the district are extremely low (Fig. 10). The CAMPFIRE revenue cannot serve as the starting point for any long-term economic development.

CAMPFIRE's most important principle is to involve the rural population in decisions about how CAMPFIRE revenue should be used. In the early years the households in many producer communities in which game had been shot received direct payments as dividends. Still today, when some of the revenue is to be diverted for communal projects, heated arguments erupt at village meetings, where the use of the funds is determined by majority decision. Often many members of the community cannot read and write. To help them understand joint decisions made by the community, graphic methods are often resorted to. For instance, distribution ceremonies lasting several days are held, at which all income is first placed on a table. Although there may have been a decision to spend part of the funds to which the households are entitled for community projects, the dividends are first ceremoniously handed over to the households. They then allocate the money they have received to the individual

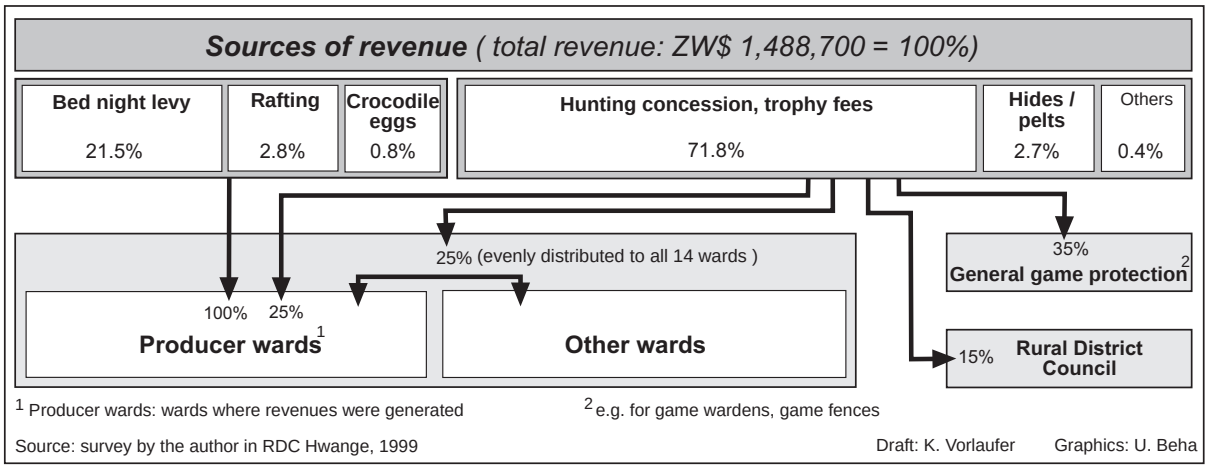


Fig. 14: Distribution of CAMPFIRE revenues in Hwange District, 1998
Source: Survey by the author in RDC Hwange, 1999
Schema der Verteilung der CAMPFIRE-Einnahmen im Hwange District 1998

projects according to the agreed upon formula. They do so visibly for all present. It is hoped that with this bottom-up approach the people can be induced to accept CAMPFIRE and that the paradigm "grass roots development" can be realised. Hopefully the insight can be transmitted that both game and CAMPFIRE projects are the property of the people and must be lastingly protected and sustainably used.

7 Damage caused by wildlife and CAMPFIRE's problems with acceptance

Of cardinal importance, if the people are to accept CAMPFIRE, is the question of how to prevent or compensate for the damage caused by game. As the population and its need for land grows and the wildlife populations increase, the conflicts between humans and wildlife intensify. In the wildlife preserves and National Parks and in the Safari Areas in which limited hunting is allowed, the regulations are so strict that the wildlife populations have increased greatly in the past decades and far exceed the carrying capacity. Especially the elephant population has grown in some parts of the country in the past decades. The result is that, particularly in the dry season, the water and pasture resources in the protected areas are no longer adequate. Game moves into the adjoining settled areas and causes enormous damage to crops, domestic animals and even humans. The elephant population in and around Hwange N.P., e.g., is estimated at around 35,000 animals, although the capacity of the area is only about 15,000 elephants. As a result of overpopulation, the vegetation of the park is highly degraded (Photo 3). In the dry season there is an egregious lack of water. Many elephants leave the protected areas in search of water and wander out of Hwange N.P. along the drying out rivers to the perennial Zambezi following old migration routes. The tributaries of the Zambezi are, however, the settlement axes of the growing population. Of 31 farmers interviewed in Hwange District 27 identified the increasing damage caused by wildlife and the threat to their lives posed by elephants as one of their main problems in life.

The Zimbabwean newspaper, the Herald, reported on 24 March, 1998, that 50,000 ha of cotton and maize fields had been destroyed by elephants in Gokwe North District. In four villages the entire harvest was destroyed. The inhabitants cannot survive without food aid. Crop losses due to buffalo, bush pigs and baboons are also high. There is considerable loss of domestic animals to animals of prey (BUTLER 1997). The costs of the damage caused by wildlife are generally much higher than the benefits received in the form of revenue.

In the opinion of the interviewed CAMPFIRE managers, PAC and safari hunters come nowhere near reducing the elephant population adequately to ensure the ecological stability of the region. Even raising the hunting quota would only bring limited relief, because it is difficult to market a large number of elephants. In the eyes of the CAMPFIRE managers, reducing the elephant populations would require the so-called culling practised in South Africa, i.e. the shooting of entire herds. That the elephant populations have increased enormously even in densely populated regions is substantiated by my interviews with 12 farmers in the

Photo 3: The fast growing elephant population in protected areas as well as in many CAMPFIRE districts causes severe damage to the human population and large scale degradation of vegetation (*Photo:* Hwange National Park, August 1999)

Die rasch wachsende Elefantenpopulation verursacht in geschützten Bereichen wie auch in vielen CAMPFIRE-Distrikten schwere Schäden für die Bevölkerung und eine großflächige Degradation der Vegetation

western part of Hwange District. Seven of the farmers had never seen an elephant until ten years ago; now large herds regularly roam through the village fields. Although almost all interviewed farmers were familiar with the basic ideas of CAMPFIRE and most could name projects financed by CAMPFIRE earnings, the prevailing opinion was that the individual farmer has almost no benefit from CAMPFIRE, but has to bear the burden of conservation connected with the programme. The majority complained that no compensations for damage due to game are paid from the CAMPFIRE revenue.

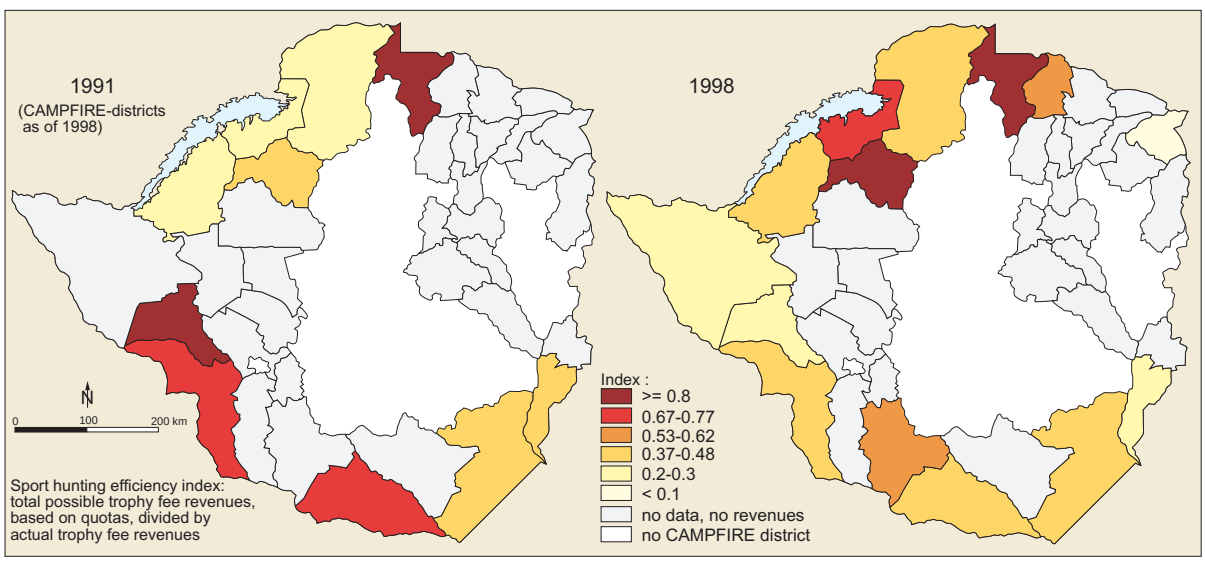


Fig. 15: Sport hunting efficiency index of CAMPFIRE districts, 1991 and 1998
Source: Data from WWF, Harare

Der Jagdeffektivitätsindex in den CAMPFIRE-Distrikten 1991 und 1998

The compensation payments that were sporadically made did not prove to be practicable or appropriate for a strategy of sustainable development. So much damage was reported that the payments made to individual farmers were very small, and the sums that were paid out were almost entirely spent by the men, often for alcohol. It was not possible to verify the damage reports. Moreover, it proved difficult to make payments to so many recipients, because of the shortage of banks. Because of the strong increase especially of the elephant populations more and more districts have to use a growing proportion of their CAMPFIRE revenue to erect protective fences.

8 Hunting tourism and biodiversity conservation

A consumptive utilisation of wildlife is sustainable if it does not diminish the population and does not have a negative influence on the natural age and sex structure and the genetic variability. It is also important that the species' function within its ecosystem will not be impaired, because each species has its specific role in maintaining the diversity of fauna and flora. To achieve this goal annual hunting quotas are set for each hunting area and for each exploitable species, i.e. maximum off-take rates for trophy hunting and for hunting for meat (which was only very recently legalised). On the basis of data on the population size gathered with various methods (aerial surveys and counts on the ground) the local communities compile and decide on a quota. Here CAMPFIRE's goal of a bottom-up approach is realised. The hunting operator who has leased a hunting area also submits his population estimates and quota proposals. Although the communities hold the rights to wildlife utilisation, the quota proposals must be approved by the DNPWLM, which can revise the proposal in case the off-take rate is too high. Usually the highest quotas are those set by the communities and the ultimately binding quotas of the DNPWLM are the lowest (Table 2). The local population tends to overestimate the population in the hope that more animals will be killed, which would give them more income and reduce the damage caused by animals. The hunting operators' proposals are influenced by their perceived chances of marketing the animals, as evidenced, e.g., by the low off-take rate for impala, which are more difficult to market. The quotas for elephants are set by the DNPWLM subject to the CITES proviso, according to which a total of only 400 animals may be killed annually in Zimbabwe. For cheetahs, leopards and crocodiles the quotas are also set exclusively by the DNPWLM in accordance with CITES provisions. Hunting of rhinoceros and wild dogs, *inter alia*, is strictly prohibited. The trophy fees are set by the RDCs, though at the recommendation of the national park authorities (which is almost always accepted). To a large extent the hunting quotas are not exhausted. Hence the possible income sources are not fully exploited, although the sport hunting efficiency index was improved from 1991–98 in important hunting areas (Fig. 15). Especially the high quotas for most antelope species are by no means achieved (Table 4), whereas the demand for elephant and buffaloes is relatively high. With their antelopes the CAMPFIRE districts have to compete with the hunting ranches of Zimbabwe, Namibia and South Africa.

Table 2: The Quota proposals made by the communities (Com) and the hunting operators (HO) compared with the quotas of the DNPWLM (NP), trophy fees (in US$) and off-take-rates[1)] in the most important hunting areas[2)] in Binga District,1999 (selected species)

Die Quotenvorschläge der Communities (Com.) und der Jagdveranstalter (JV) im Vergleich mit den Quotenfestlegungen des DNPWLM (NP) sowie die Trophäengebühren (in US$) und die Entnahmeraten (Off-take rate)[1)] 1999 am Beispiel der wichtigsten Jagdreviere[2)] des Binga District (ausgewählte Tierarten)

Species	Com	HO	NP	Trophy fees	Off-take rate
Elephant (m)	31	18	13	6800	0.75
Elephant (f)	28	23	21	2000	4.0
Buffalo (m)	185	125	55	800	2.0
Buffalo (f)	107	7	7	400	3.0
Waterbuck	81	11	7	800	2.0
Leopard	33	22	16	1500	8.0
Lion (m)	19	6	5	2500	8.0
Sable antelope	18	6	5	1100	1.5
Eland	14	6	5	1000	1.5
Zebra	29	13	13	450	5.0
Kudu	52	22	16	500	1.5
Impala (m)	290	125	190	50	3.0
Impala (f)				25	5.0

[1)] In % of estimated population; [2)] Hunting areas Siabuwa, Lusulu, Manjolo
Source: Binga RDC

Because the hunting quotas lie far below the reproduction rates (Table 3) and are not fully exhausted, no reduction of the populations has occurred. Indeed, many species have multiplied so strongly that elephant overpopulation is a great threat to ecosystems, like the miombo forest (CUMMING et al. 1997), which have already been partially degraded. Even the massive poaching (for meat, not trophies), especially of antelopes and bush pigs, in areas bordering on densely populated regions has not helped to reduce the overall populations (though it has possibly locally). Nor is the

Table 3: Population growth and maximum hunting quotas shown for some species, that are important for hunting tourism

Bestandswachstum und maximale Jagdquoten am Beispiel einiger für den Jagdtourismus wichtiger Tierarten

	Elephant	Buffalo	Lion	Leopard	Hippo
Natural population growth/year	5.00%	7.00%	12.00%	12.00%	10.00%
Maximum hunting quota (off-take)	0.75%	2.00%	5.00%	5.00%	2.00%
Net population growth	4.25%	5.00%	7.00%	7.00%	8.00%

Source: CHILD, B., WARD, S. a. TAVENGWA, T.: Natural Resources Management by the People. Zimbabwe's Campfire Programme, Harare 1997

sex and age structure negatively influenced by trophy hunting. Safari tourists prefer to hunt males and older animals, because in many species they alone have attractive horns, antlers and tusks (trophies). Because of the polygamous reproductive behaviour of the animals only a relatively small portion of the male cohort is required for reproduction, and older animals ("with mature trophies") are often near the end of their life span anyway. The off-take rate of male animals can therefore be much higher than if both sexes were to be hunted equally. This selective utilisation by hunters is taken into consideration in the quotas (Table 2, 4).

9 The upshot: CAMPFIRE is only a partial success

Through the CAMPFIRE programme rural communities were granted the right to utilise wildlife. This approach is based on the assumption that if the people participate directly in the income from consumptive and non-consumptive utilisation of game, they will view game as a resource that must be used sustainably and that this will help to reduce poaching. On the other side, in peripheral areas with an abundance of game

Table 4: Hunting quotas and hunted animals (selected species) in the CAMPFIRE districts (C) compared to the total hunted animals in Zimbabwe (Z) 1998, the hunting quotas of CAMPFIRE 1999, 2000 and 2001, the average trophy fee per animal (in US$) and the total CAMPFIRE trophy fees revenues in 1998

Jagdquoten und erlegte Tiere (ausgewählte Arten) in den CAMPFIRE-Distrikten (C) im Vergleich mit der Zahl erlegter Tiere in Zimbabwe (Z) insgesamt 1998, die Jagdquoten für CAMPFIRE 1999, 2000 und 2001, die durchschnittlich erzielten Trophäengebühren pro Tier (in US$) und die CAMPFIRE-Einnahmen aus Trophäengebühren insgesamt sowie der Anteil der CAMPFIRE-Distrikte an der Zahl der jeweils in Zimbabwe insgesamt erlegten Tiere (in %)

		Hunting quotas (C)				Animals hunted, 1998				Trophy fee revenues (US$), 1998	
Species	Sex[1]	2001	2000	1999	1998	number (C)	percentage (%)[2]	number (Z)	percentage (C) of Z (%)	per animal	total (C)
Elephant	f	47	31	33	90	17	18.9	50	34.0	1780.33	30.266
Elephant	m	145	134	145	150	43	28.7	219	19.6	9365.78	402.729
Buffalo	f	76	63	76	79	20	25.3	86	23.3	654.74	13.095
Buffalo	m	290	263	295	376	139	37.0	692	20.1	1625.49	225.943
Lion	f	11	9	8	5	–	–	25	–	1678.44	–
Lion	m	53	51	50	51	1	2.0	50	2.0	3341.68	3.342
Leopard	m	118	115	126	130	18	13.9	267	6.7	2328.63	41.915
Sable antelope	m	45	41	43	55	13	23.6	468	2.8	1970.38	25.615
Eland	m	64	58	50	43	5	11.6	448	1.1	892.83	4.464
Kudu	f	28	21	31	26	1	3.9	64	1.6	298.86	299
Kudu	m	164	137	150	142	35	24.7	1113	3.1	697.05	24.397
Bushbuck	m	115	106	109	125	26	20.8	429	6.1	394.89	10.267
Waterbuck	m	65	69	76	70	27	38.6	304	8.9	1166.52	31.496
Zebra	m	145	153	136	103	25	24.3	763	3.3	675.05	16.876
Warthog	m	174	136	149	135	28	20.7	966	2.9	163.10	4.567
Impala	f	874	790	894	331	35	10.6	515	6.8	70.03	2.451
Impala	m	1543	1426	1775	733	133	18.1	2861	4.7	115.19	15.321
Duiker	m	179	170	198	180	12	6.7	386	3.1	99.97	1.200
Wildebeest	m	30	28	27	16	–	–	446	–	584.46	–

[1] Sex: f = female, m = male; [2] percentage of quota

Source: Department of National Parks and Wildlife Management, Harare; WWF, Harare

but otherwise few resources, income from wildlife management can make a contribution to development. These expectations have only been met to a limited extent, however. In all districts, wards and villages the CAMPFIRE revenues are almost negligible, even in comparison with the extremely minimal economic power of the marginal areas. Even in the districts with the highest CAMPFIRE revenue the contribution of, e.g., hunting tourism to the GDP is well under 1%. In relation to the considerable financial aid to the programme from a number of donor countries (especially the US and the EU) and NGOs, the revenues from CAMPFIRE are still very minor even after ten years of existence. Pumping start-up funds into the programme is, however, defensible, even if that means a negative balance for several years. Moreover, the positive effects for the economy and for the balance of payment should not be neglected. The RDCs receive (for the time being) only around 40% of all foreign exchange earned by the hunting operator from safaris on communal land. The remaining 60% comprise payments made by the clients for organising and running the safari (accommodations, food, transport, attendants, payments for skinners, trackers, etc.) and the operator's gross returns, from which we have to deduct taxes, an important item for the state, but also the costs of marketing the safaris abroad. Foreign financial aid exceeds the entire CAMPFIRE revenue many times over. USAID alone has contributed around US$28 million since 1989, while the total income of all CAMPFIRE districts in 1989–99 amounted to only about US$16 million.

Mismanagement, corruption and incompetence at all administrative levels involved in the implementation of CAMPFIRE and the distribution of funds (districts, wards, villages) have largely nullified the acceptance of the programme among the people. My random interviews of 47 farmers in CAMPFIRE wards are of course not representative in a strict statistical sense, but they do convey an approximately realistic view of the general sentiment. 38 interviewees did not feel that CAMPFIRE gave them or their communities any economic advantages, especially in relation to the prognoses of the politicians and in view of the increasing damage caused by game. Most conversations can be summarised with the following sentence: "CAMPFIRE protects animals, but not the people." At least in some CAMPFIRE regions the inhabitants traditionally did not and do not consider game to be a resource – in contrast to the programme's explicit assumption – but as an elemental threat to livestock and crops and thus to their very subsistence. The validity of the assumption that the negative attitude of the communities towards wildlife, which was supposedly due to the colonial laws, would change if they were granted the right to utilise wildlife must be doubted, at least for some regions. In, e.g., the districts of Binga, Gokwe, Nyaki and Lupane, almost the entire wildlife population of vast areas was destroyed by the colonial administration – as in the entire so-called tsetse belt south of the Zambezi – to deprive the tsetse fly, the carrier of sleeping sickness, of its basis of life. Up until 1961 around 750,000 animals were killed; the range of the tsetse fly was greatly diminished (FORD 1971). The regions that were now free of the tsetse fly were attractive for migrants from farming areas. They were able to cultivate crops and raise considerable herds of cattle (ALEXANDER a. MCGREGOR 2000). The loss of (pre-colonial) rights to use game was made up for by the fact that it was now possible to raise livestock and grow crops, which are more highly valued than an alternative use of game (PETERSON 1991; MADZUDZO a. DZINGIRAI 1995). With a growing population and an increasing shortage of land, the utilisation of game cannot be considered an optimum form of land use at least not in regions where relatively favourable agricultural conditions exist (e.g. in the moister river valleys even in otherwise arid regions). Therefore it is not to be expected that large scale wildlife conservation can be an attractive alternative for the inhabitants or that it can even supplement crop farming, or especially livestock raising. CAMPFIRE's wildlife conservation has led to high growth rates of wildlife populations. Human populations are also growing rapidly, with the result that there are many more conflicts between humans and wild animals for the increasingly scarce resources land, food and water and that the amount of damage caused by game is rising. The costs involved far exceed the benefits obtained from the CAMPFIRE revenues.

The validity of CAMPFIRE's goal of empowerment, according to which the programme should help the inhabitants of marginal areas to acquire the capability for personal initiative and self-determined development, must also be challenged. CAMPFIRE can even be seen as an instrument used by the state to expand its control over remote, marginal regions that were previously inadequately integrated into the state (HILL 1996, MORUMBEDZI 1992). This is a consequence of an institutional contradiction in the administrative structure. The aim of the DNPWLM is to transfer the right of codetermination and utilisation down to the villages. The RDCs, WADCOs and VIDCOs, however, are answerable to the Ministry of Local Government. National fiscal considerations often play an important role in the distribution of funds. The Ministry of Local Government has a tendency to try to help finance the government administration by raising CAMPFIRE's payments to the administration. The CAMPFIRE para-

digm of "development from below" or "grass roots development" is therefore (at least to date) more rhetorical than realistic, because the distribution of CAMPFIRE revenue proceeds from the top down.

Human rights are also increasingly an issue because CAMPFIRE frequently involves the resettlement of people on a not entirely "voluntary" basis from areas that are earmarked for hunting and photo safaris, e.g. the buffer zone in Tsolotsho District. CAMPFIRE is based on the expectation that the local people in the villages, the wards and up to the district level will participate in the decisions about the implementation of CAMPFIRE and the use of the revenue gained. Even today for the majority of the people living in hamlets the ward administration is far away. There is usually such a great distance between the communities that have to bear the direct costs of wildlife conservation and the higher levels of the administration, where decisions, e.g. about the distribution of revenue are made, that the local people can hardly view themselves as the persons entitled to utilise wildlife.

In my eyes, it will not be possible to protect the biodiversity and especially the wildlife populations in the long run through hunting tourism alone. The tourism industry reacts very sensitively to political crises. Continuously rising revenues are needed, and these can hardly be expected to come from hunting tourism in Zimbabwe, where crises constantly loom. Moreover, other African countries are increasingly positioning themselves as attractive destinations for hunting tourism (*inter alia* Tanzania, Zambia, Namibia) and acting as competition for Zimbabwe. It is consequently practically impossible to expand the hunting business and raise the trophy fees noticeably so as to increase the CAMPFIRE revenues sufficiently to lessen social and spatial disparities.

There are considerable conflicts of interest between the CAMPFIRE actors. The condition of the programme's target group, the people living in extreme poverty in peripheral regions with an abundance of game, has not improved perceptibly. The CAMPFIRE goals of lessening social and spatial disparities on the one hand, and protecting biodiversity, i.e. large populations of many species of animals on the other hand, contradict each other. This contradiction is almost impossible to resolve, especially because the priority goal is to protect wildlife. This causes the costs of damage done by wildlife to rise precipitately, and these have to be borne by the local population. The modest monetary benefits from CAMPFIRE revenue in no way compensate for these costs. Moreover, the infrastructure investments financed with CAMPFIRE revenue are too small in total volume, and the infrastructure deficits in the peripheral regions are so serious that there is no fundamental improvement in the socio-economic conditions of the people. In addition, hunting tourism does not have any great effect on employment. The hunting operators live exclusively outside of the peripheral regions. They do not need very many labourers, and they do not recruit most of them from the local population. During a safari the hunting clients live primarily in very simple camps, which also do not require many employees. In addition, hunting tourism, in particular, is restricted to a few months of the year, which are concentrated during the dry season. The few local labourers employed in the hunting industry are often only hired for a few weeks. In most hunting areas a maximum of five safaris are held (mostly for seven days) and by far the most are for only one client at a time. Consequently the indirect effects on income and employment in other associated branches are insignificant.

It is mainly the tourism industry and some national political actors who profit from CAMPFIRE. The touristic utilisation of game by foreign sport hunters associated with CAMPFIRE brings foreign exchange to impoverished Zimbabwe. This, however, benefits the political elite to a high degree. The concept of "protection through utilisation" propagated by CAMPFIRE has earned Zimbabwe's government, and thus primarily the elite living chiefly in the capital, Harare, a high reputation with international conservation organisations, the UN and the various national and transnational actors, and this reputation can be converted into economic benefit.

For fear of losing this reputation Zimbabwe has so far refrained from the necessary drastic reduction of wildlife populations, especially elephant populations, in the increasingly densely settled peripheral regions, although it is becoming more and more clear that such measures are urgently necessary to minimise the conflicts between humans and wildlife and improve the living conditions of the local inhabitants.

Ultimately, long-term conservation of biodiversity and a lessening of poverty will only be possible if more funds are transferred from the "rich countries" to the peripheral regions. Even then, however, it will be difficult to compensate the growing population for the opportunity costs arising from the ban on alternative uses in regions that are earmarked for the consumptive and non-consumptive utilisation of game.

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