

## **CAMPFIRE AND THE PAYMENT FOR ENVIRONMENTAL SERVICES**

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## **Abstract**

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## 1. Introduction

The dilemma of conservation and development is how to achieve one without sacrificing the other. Initial attempts to do this revolved around spatial separation of conservation areas (national parks, wilderness areas), where people other than tourists were largely excluded, from those areas occupied by local people, in which the widespread modification or transformation of land cover in pursuit of development could occur. This ‘fortress’ approach to conservation has been widely criticized as being unsustainable, because of the pressures on the reserves from people living along the boundaries, demands for the restitution of land from people who were displaced when the reserves were established, and the cost of managing these pressures. In turn, development is retarded by the alienation of local people from important resource areas in the reserves, which could be used to underwrite economic and social change, and their exclusion from political decision-making processes about how the conservation areas should be used (Adams and Hulme, 2001). As an alternative, integrated conservation and development projects (ICDP) or, more broadly, community conservation initiatives<sup>1</sup> have been proposed. These involve local people participating both physically and politically in the process of conservation while pursuing a development agenda, principally through some form of sustained use of natural resources. The underlying assumption is that this will provide the necessary incentives to conserve the resources and their environment. The corresponding hypothesis is that there are circumstances where conservation concerns and community interests in development converge and it becomes possible to achieve both. The track record of such presumed “win-win” situations has been patchy at best. Some

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<sup>1</sup> Adams and Hulme (2001: 13) define community conservation as “those principles and practices that argue that conservation goals should be pursued by strategies that emphasize the role of local residents in decision-making about natural resources”. Such initiatives span a wide range of conservation interventions that include co-management, parks outreach, and resource sharing (Jones and Murphree, 2004).

believe that these initiatives have provided neither sustained development nor lasting conservation benefits (*e.g.* Barrett and Arcese, 1995; Gartlan, 1998).

In recent years, the reality of a trade-off between conservation goals and development imperatives has become more widely recognized. This has given rise to a concept that, to maintain the supply of environmental goods and services for society more generally, incentives are needed to induce local people to forego more disruptive land- and resource-use practices. Such goods and services (usually contracted to the term ‘services’) include the production of ‘clean’ water in desired quantities, the storage of carbon in vegetation and soils, and the maintenance of both biodiversity and the aesthetic qualities of landscapes, primarily ‘landscape beauty’ but also including other facets of landscapes from which people can derive pleasure (see Pagiola *et al.*, 2005, for a recent review). Such environmental services commonly exist as positive externalities or uncompensated benefits to users because conventional markets generally fail to value them in ways that recompense land managers for providing them. As a result, the production of these services over time has become progressively degraded (Pagiola *et al.*, 2005). To counter this trend, attempts have been made to establish values for these services and reward land managers accordingly, to encourage them to undertake forms of land use that are compatible with the continued supply or restoration of these services.

The underlying assumption here is that the conversion of land from its natural state is largely a function of the net economic benefits that accrue to the land user by so doing. To the individual land user, maintaining the land in its natural state is seldom a more attractive option than its conversion for agricultural, forestry or industrial purposes. Therefore, to be an effective resource management instrument, the inducements offered to the land user to retain natural habitat must be sufficient to change the net benefits so that they outweigh the alternative of conversion. These inducements are widely termed ‘payments for environmental

services' (PES), though they need not necessarily have to involve direct payments of money . No generally accepted definition of PES exists, though Wunder (2005) has proposed that a payment for environmental services is a voluntary transaction in which a well-defined environmental service (ES) or land use likely to secure that service is being “bought” by a minimum of one service buyer who, in return, compensates a minimum of one service provider, if and only if the ES provider secures that ES (i.e. payment is conditional on production of the ES) – italics in the original, though it has been slightly reworded.

If PES really is a novel approach, as is implied by various recent reviews (Ferraro and Kiss, 2002; Landell-Mills and Porras, 2002), then one might predict a period of experimentation and adaptation before the approach enters the mainstream of development options. Are there any long-standing precursors to PES from which one might be able to learn lessons about implementation, performance, outcomes and possible adaptations? One possible initiative is the **Communal Areas Management Programme for Indigenous Resources** (CAMPFIRE), started in the late 1980s in Zimbabwe and widely emulated elsewhere in southern Africa in the following decade. The underlying philosophy of these initiatives places them firmly within the ‘community conservation’ paradigm, but in their functioning they share many features with PES.

In this paper, we explore some lessons learned from CAMPFIRE, which may help in the development of PES. We argue that there is more in common between the two approaches than is commonly acknowledged. The actors and language may be different, but many of the ideas and principles are the same. More generally, community conservation and PES both play out in analogous institutional landscapes, and are subject to similar external pressures. We therefore briefly describe the background and evolution of CAMPFIRE in the next section, identifying some of the key features of the programme. Following this, we look more closely at some of the variation in form and functioning that emerged over time, why this

happened, and how these might relate to PES. In the penultimate section we draw some lessons from CAMPFIRE that we believe are applicable to PES, and which will need to be taken into account if that program is to move from articulate rhetoric to successful practice. We conclude by looking forward to some emerging issues for both approaches. Given the political, economic and social changes in recent years in Zimbabwe, which have affected all facets of life, we limit our quantitative assessments of CAMPFIRE largely to the period 1989-2001, though we reflect on the resilience of the program in responding to the more recent upheavals.

## **2. What is CAMPFIRE?**

The Communal Areas Management Programme for Indigenous Resources – CAMPFIRE – is a programme developed largely around the concept of managing wildlife and wildlife habitat in the communal lands of Zimbabwe for the benefit of the people living in these areas. Its details were first elaborated in 1986 (Martin, 1986) though its foundations were established about 25 years earlier when the commercial possibilities of wildlife production in Zimbabwe (then Rhodesia) were being explored (Dassman and Mossman, 1961; Dassman, 1964). At that time, wildlife was considered to be state property, managed by the State and able to be used commercially only under licence (rarely given). The resulting alienation of wildlife from both commercial and communal land farmers led both groups to consider wildlife as a pest. Explicit actions were often taken to remove animals that were considered a threat to crops or direct competitors for grazing with domestic livestock. More broadly, wildlife was threatened by the widespread transformation of natural habitats to agricultural land, even in agriculturally marginal areas. The State itself undertook massive wildlife eradication programmes in corridors on the borders of the country in an attempt to halt the spread of tsetse fly (*Glossina* spp), the vector for the livestock and occasionally human

disease trypanosomiasis. In short, the future of substantial numbers of wildlife outside demarcated conservation areas was bleak.

Initial efforts to utilize wildlife commercially focused on meat production, on the assumption that wildlife would be better adapted and therefore more productive than domestic livestock, at least in semi-arid environments. As the wildlife industry developed, however, it became apparent that the economic advantages of wildlife lay less in the biological productivity of the species than in the many different ways that value could be added to the basic product in the form of services offered to the end user. Because these services can be added at little environmental cost, and because consumers are generally willing to pay well for them, wildlife utilization has become an industry with the potential to be both ecologically sustainable and economically viable (Child, 1988).

The subsequent diversification and expansion of the industry was helped greatly by the introduction of the 1975 Parks and Wild Life Act. Among other things, this granted private landholders the right to use the wildlife on their land for their own benefit, including through safari hunting and the capture and sale of animals. Contrary to many expectations at the time, the wildlife industry flourished: in 1960 there were only three game ranches, totalling 350 km<sup>2</sup>, all producing venison. By the early 1990s, this had risen to over 216 ranches extending over 37,000 km<sup>2</sup> and engaged variously in sport hunting, trophy hunting, photographic safaris, game-viewing tourism, game cropping for venison, and selling live animals. Many farmers shifted partly or completely to game farming when, after independence in 1980, the Government of Zimbabwe reduced the levels of subsidies to commercial farmers in favour of greater support to the hitherto largely neglected communal farming sector. This withdrawal of subsidies, together with the over-valued exchange rate, which effectively taxed commercial livestock producers, stimulating a search for alternative land uses. Wildlife production, which was not controlled by the State, became financially more attractive. By 1990, wildlife

production had become a major land use in commercial farming areas in the arid and semi-arid zones, where it was proving to be generally a more financially and economically viable form of land use when compared with single species livestock production (Jansen, et al, 1992). This process reached its climax with the development of the Save Valley Conservancy (SVC) in south-eastern Zimbabwe in the mid 1990s, where the owners of 29 ranches, totalling over 3,500 km<sup>2</sup> agreed on a common approach to wildlife management and the complete removal of livestock and much of the livestock-associated infrastructure, primarily fences.

Whereas the opportunities created by the 1975 Parks and Wild Life Act were initially limited to private land, at that time mostly owned by settlers of European origin, they were extended to the communal farming areas after independence. In 1982, the government amended the Act to enable rural communities to obtain Appropriate Authority to utilize wildlife for commercial gain. Apart from removing obviously discriminatory provisions in the Act, proposed changes were, in part, an effort by the Department of National Parks and Wild Life Management (DNPWLM), to replicate the success on privately-owned commercial farmland of wildlife as a form of land use. At that time there was no particular model as to how this could happen without threatening the resource base, though a group of ecologists within the Department of National Parks and Wild Life Management (DNPWLM) were exploring options within the framework of an integrated land-use plan for the communal lands bordering a number of national parks and safari areas in northern Zimbabwe. This area supported substantial numbers of wild animals, including some that were commercially valuable (*e.g.* elephant, *Loxodonta africana*, buffalo, *Syncerus caffer*, lion, *Panthera leo*, and leopard, *Panthera pardalis*), but which were threatened by ongoing expansion of agricultural land-use, much of it low yielding and used mainly for subsistence purposes.

One initiative was Project WINDFALL – **Wildlife Industries for All** – in which revenue in the form of trophy fees and lease fees paid by mostly-foreign hunters operating in the

communal lands, together with money from the sale of ivory and skins of animals shot while crop raiding, was paid to government on behalf of communities. This money was meant to be paid out for approved development projects within the district concerned, though in reality many of these projects were implemented away from the areas from which the revenues came and where the people had to bear the cost of wildlife damage. Although these communities benefited to some extent from the distribution of meat from animals culled in the adjacent national parks or killed while crop raiding in their area, this was insufficient incentive to encourage a measure of tolerance towards wildlife. Moreover, the people took no part in making decisions about the use and management of these wildlife resources. As a result, WINDFALL was not a sustained success. The main lesson to emerge was that any future initiative for wildlife management in the communal lands would have to transfer significant rights to the landholders (Martin 1986, Child 1995).

The CAMPFIRE concept was developed largely in response to the realization that unless people living adjacent to or within wildlife habitat can realize value from wildlife, other forms of land use will eventually replace it, as has happened in most parts of the world and was happening in Zimbabwe. For people to tolerate the presence of elephant, buffalo, lions, leopards and other species, and be prepared to put up with the threats to life and property that this entails, they would have to benefit much more directly and substantially. They would also need to have a much greater say in how those benefits would be derived, as well as a stake in the future of wildlife through management inputs. Giving back to people substantial proprietorship over wildlife was also seen to be an important step in re-empowering them to take greater control over the mode and tempo of their development, and to build the necessary institutional arrangements and structures to serve this.

From these perspectives, CAMPFIRE is normally classed as community based natural resource management (CBNRM) programme and therefore can be considered a variant of community conservation. The original objectives of the programme were:

1. To initiate a programme for the long-term development, management, and sustainable utilization of natural resources in the Communal Areas.
2. To achieve management of resources by placing custody and responsibility with the resident communities.
3. To allow communities to benefit directly from the exploitation of natural resources within the Communal Areas.
4. To establish the administrative and institutional structures necessary to make the programme work.
5. To establish an Agency under the appropriate Ministry with the following responsibilities:
  - (i) to negotiate the entry of communities to the programme;
  - (ii) to assist each community in devising appropriate management strategies to the natural resources in their area;
  - (iii) to provide, through a foundation grant, the initial capital funding required for communities to embark on an agreed programme;
  - (iv) to provide, through participation funds, the means to implement sound utilisation schemes;
  - (v) to provide ongoing technical assistance in management and financial accounting.
6. To promote good land use and lifestyles in harmony with the natural constraints of marginal areas, and to operate within a regional context where the programme is coordinated between participating communities (Martin, 1986).

As originally conceived, CAMPFIRE focused on four major natural resources: wildlife, woodlands, water and grazing. In practice, however, the use of wildlife has been paramount since its realisable value is so much greater at present. The original programme envisaged communities voluntarily forming Natural Resource Co-operatives responsible for managing the resources in a defined Communal Resource Area, the boundaries of which would be determined by the appropriate authorities. Income from the use of the natural resources of the area, as well as any shared revenue derived from adjacent State lands, would accrue directly to the Co-operative, which in turn would establish an agreed system for handling income and expenditure. Benefits would be paid out to those holding shares in the Co-operative, primarily the residents of the area who would be issued shares at the time the Cooperative was set up. An administrative structure, compatible with the existing local government administrative structure based on District Councils and their respective Ward and Village development committees would in turn be set up to oversee the programme (Martin, 1986).

The manner in which the various CAMPFIRE initiatives have developed has departed somewhat from these proposals for both practical and philosophical reasons. The first two District Councils were designated as the relevant authority for the management of wildlife in their districts by the then-Minister of Natural Resources in 1989. These and 10 other District Councils were then granted Appropriate Authority status in 1991 (SI 12/ 1991 and 61/1991). The extended period between the legislative change (1982), the first formal articulation of CAMPFIRE (1986) and its actual implementation has been attributed to jockeying for position and the tension between the major government stakeholders over the revenue flows. In particular, there was concern about devolving the responsibility for receiving and distributing revenues to the producer communities through the proposed Natural Resource Co-operatives. Government was only prepared to devolve financial and administrative authority ('Appropriate Authority') to the District Councils, the lowest accountable tier of

government. This decision, instead of that to invest authority in the Natural Resource Co-operatives, has been described as a strategic compromise (Murphree, 1997). The District Councils opposed the formation of the co-operatives, seeing them as a threat to their own authority and financial viability by effectively administering large areas of communal land and receiving revenues directly, rather than through government-controlled structures. In return, the District Councils undertook to pass on to the producer communities a fixed percentage of the revenues earned. The agreed but non-binding guidelines were that not less than 50 % was to be paid to the communities (in the form of Wards<sup>2</sup>), not more than 35 % allocated to wildlife management (habitat management, fire control, monitoring, hiring of game scouts etc.), while 15 % could be retained by the District Councils as an administrative levy. In the longer term, however, DNPWLM intend a greater proportion (80%) to be returned to the producer communities, with corresponding reductions in the amounts allocated to programme management (15%) and general administration (5% ) (B.A. Child, 1995).

The actual arrangements for using the wildlife resource commercially has also varied. Some Districts have opted to auction concession areas to safari companies, which in turn pay an annual concession fee and a trophy fee for each animal shot. This has engendered considerable competition among safari operators, with the longer-term concessions attracting disproportionately higher bids. Some communities<sup>3</sup> have entered into joint-venture partnerships with a safari operator, with the net profit being shared according prior agreement. Other communities, mainly those with limited wildlife attractions, have established locally-

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<sup>2</sup> A ward is a sub-district administrative unit comprising, on average, six villages, with each village in turn comprising approximately 100 households.

<sup>3</sup> The term 'community' is used here to refer to a group of people living together in a common social setting in which they interact frequently and regularly. Use of the term in this context does not necessarily imply any unity of background, organization or purpose. Most CAMPFIRE communities are heterogeneous entities, socially, economically and in many other ways.

controlled enterprises (hiring their own professional hunter to support clients, or establishing campsites and facilities for eco-tourism).

At its peak, CAMPFIRE encompassed 14 separate main initiatives over 46,000 km<sup>2</sup> of communal land in 13 administrative districts. (Eleven other districts have received Appropriate Authority and occasional income from safari hunting, tourism and problem animal control but most have not managed to attract the sustained interest of safari operators, either for hunting or eco-tourism.) Between 1989 and 2001, CAMPFIRE revenue in these districts amounted to more than US\$ 19.8 million, 49 % of which has been disbursed to communities (140 wards and over 130,000 households), 20 % used for wildlife management, just over 12 % retained by the District Councils as a levy, 3 % used for other expenses (including the 1.5 % levy to the CAMPFIRE Association – see below), while about 15 % is still being held by the RDCs pending allocation (Khumalo, 2003). Almost 90 % of this income has come from safari hunting, just under 6 % from the sale of ivory and hides of culled animals (mostly elephant), and just over 2 % each from tourism and the sale of other natural products. The low return from other natural resources is partly because policies in other sectors such as forestry and mining make no provision for the payment of stumpage fees or royalties to rural communities, but mainly because of the relatively low value of most other natural products, or the difficulties of adding appropriate value for distant and discerning overseas markets.

As a result of this diversity and innovation, CAMPFIRE has long been considered the flagship CBNRM programme in southern Africa, attracting much public and academic interests globally, most of it strongly supportive but some of it critical (*e.g.* Barrett and Arcese, 1995; G.T.F. Child, 1995; Hill, 199; Duffey, 2000; Adams and Hulme, 2001; Jones and Murphree, 2001, 2004). As a result, there is now a wealth of knowledge and experience on the management and sustained use of wildlife by communities (Child, 2004).

### 3. CAMPFIRE and Payments for Environmental Services

CAMPFIRE was never conceived of as a payment-for-environmental-services programme. Environmental services were generally considered as a positive and uncompensated externality from maintaining natural landscapes in ecologically fragile areas prone to high levels of soil erosion (Bond, 1999). Nevertheless, it exhibits many PES-like features. The programme was set up to address issues of sub-optimal land use, at least from a broader societal perspective<sup>4</sup>, through creating economic incentives for land users to protect natural habitat and associated wildlife in areas considered to be marginal for agricultural development. The widespread conversion of land in these areas was seen as the core reason for the loss of wildlife and wildlife habitat (Child, 2004). As such, the original concept of CAMPFIRE was underpinned by an explicitly conservationist agenda, with issues of human well-being and rural development being seen as the means to achieving its objectives. Once CAMPFIRE was established, however, rural development concerns became more prominent, even to the point for some where conservation-oriented concerns became the means to achieving human-development ends (Jones and Murphree, 2001). The fulcrum on which these competing interests are balanced is the rural institutional and organisational framework. It too has developed over time to become an objective in its own right, driven by the need to accommodate internal diversity, individual ambition, and shifts in influence and authority, both locally and in larger-scale institutions. This co-evolution of organizational structure and institutional functioning has been critical in the ongoing process of community empowerment, allowing people to discover and explore options, and choose among them (Murphree, 2004).

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<sup>4</sup> From the perspective of the individual land user, however, the current land use may often be the most rational and rewarding under prevailing personal circumstances.

### 3.1. Actors and services

The principal actors in CAMPFIRE are the producer communities, the Rural District Councils of which the communities are part (and which is authorised by government to receive revenue from the use of wildlife under the CAMPFIRE scheme), and the safari or eco-tourism operators, who enter into various contractual arrangements with the communities through the RDC and then market the opportunities for hunting or eco-tourism to mostly foreign clients. These interactions in turn have been facilitated by a loose consortium of third parties who helped initiate the programme, provide technical advice, and reconcile the different interests of the principals. The original CAMPFIRE proposal envisaged the formation of a CAMPFIRE Agency to help implement projects and develop the programme, but this body was never set up or funded. Instead, individuals from government (mainly DNPWLM, the main regulatory agency), academia (Center for Applied Social Studies, CASS, at the University of Zimbabwe) and the NGO sector (World Wide Fund for Nature, WWF, and Zimbabwe Trust, a rural development NGO) formed the CAMPFIRE Collaborative Group (CCG), to assist with programme development. The CCG in turn helped to set up the CAMPFIRE Association (CA) to represent those RDCs with Appropriate Authority. By 1992, the CA had assumed the leadership of the CCG, and by 1998 it was acting for over 30 RDCs and smaller community groups (Maveneke, 1998).

The CAMPFIRE Collaborative Group, both jointly and in their separate capacities, also served as channels for funding from bilateral donors such as the United States Agency for International Development (USAID), the Norwegian Agency for Development Cooperation (NORAD), and the British Overseas Development Administration (ODA, now the Department for International Development, DFID). This funding enabled the costs to be met of administering projects, providing technical assistance, purchasing and maintaining capital

equipment (vehicles, electric fencing), and partly underwriting recurrent expenditure, at least during the early years of the programme. It is doubtful if CAMPFIRE would have got off the ground without this initial support, more so given the fact that rural communities have almost no access to credit and therefore would not have been able to sustain the initial start-up costs.

Most importantly, the CCG lobbied extensively for the changes in policies and statutes that made it possible for the initiative to evolve from its uncertain beginning. CAMPFIRE was launched in the face of opposition from some sectors of government and strong doubts on the part of others. By promoting CAMPFIRE consistently and coherently, both nationally and internationally, the CCG convinced many that the initiative was a necessary experiment that deserved support.

Finally, the technical assistance given to RDCs by organisations such as WWF, CASS and ZimTrust greatly improved how CAMPFIRE functioned. Broadly accountable and transparent institutions evolved. Communities became empowered to demand their rights, though not all issues (*e.g.* land tenure) have yet been resolved. The efficiency of CAMPFIRE operations improved considerably. By encouraging an open competitive bidding process through asking for tenders for concession areas, the RDCs were able to attract more bids and ensure that the full market value of the resource was realised, thereby reducing the potential for rent capture. The tender process drove prices upwards (Table 4), as did the procedure of interviewing operators interested in securing a contract (WWF, 1997). In short, these intermediary organisations were crucial in the initial phases of CAMPFIRE.

### 3.2. Scale issues

As national programme, CAMPFIRE has grown substantially since the first two districts were granted Appropriate Authority in 1989. By 2002, the CAMPFIRE Association

represented 35 Rural District Councils, covering over 244,000 km<sup>2</sup> and supporting some 777,000 households, though only 12 of these districts had a consistently marketable quota of wildlife for hunting or some other sellable natural attraction. These latter districts encompass 238 wards and over 254,000 households (1992 national census figures) over areas totalling 68,000 km<sup>2</sup>. Within this, however, the actual wildlife production areas are restricted to about 94 wards covering ~34,000 km<sup>2</sup> and supporting about 85,400 households. CAMPFIRE has not been a trivial undertaking in terms of scale of operation.

The underlying assumption of CAMPFIRE is that benefits derived from the use of wildlife, either through hunting or eco-tourism, can create sufficient incentive both for communities and for individual households within them to modify or limit their use of land in appropriate ways. But the measure of incentive depends greatly on whether it is viewed at the household level, where the payments are usually small and intermittent, or at community and district levels where the aggregate amounts are obviously larger (Table 2). For most CAMPFIRE communities, the small size of the payments at a household level probably does not provide much incentive to forego other, more immediately and individually rewarding land-use practices. Conversely, the aggregate amounts received from CAMPFIRE by the RDC and, in some cases, collectively by the community, are more compelling. As a result, there are top-down pressures on households, and usually also on communities, to adopt prescribed patterns of land use, rather than these decisions being made within the communities themselves. There are exceptions, however (Kanyurira Ward, Guruve District: Murphree, 1997).

### 3.3. Payments for landscape beauty

Payments for landscape beauty may be the oldest form of “payments for environmental services” (Landell-Mills and Porras, 2002). The marketed commodities generally include:

access rights, tourism services, photographic and eco-tourism concessions, and related management agreements. Although the service being purchased by the buyer is the right to access 'scenic beauty', the markets in which this occurs are both physically and conceptually complex. The physical complexity arises from the wide range of available products, each differentiated by price, seasonal availability, scope of activities, modes of access etc., and mediated by a range of third parties – tourist operators, agents, brokers, transporters. Conceptual complexity arises from the differing concepts of what constitutes 'scenic beauty' and the extent to which people are able to express their preferences in this regard, and from the many, not mutually exclusive, reasons why governments and others establish protected areas. These include: to conserve biodiversity; to maintain natural ecological processes; as wilderness areas, to be enjoyed by a select few; as areas on which to found a viable tourism industry; or as areas for various kinds of outdoor recreation. In most cases such areas are conceived to be public goods. While the agencies responsible for them have collected visitor and other fees from those using the amenities, these fees have seldom fully covered the maintenance costs. Moreover, the income has been paid into consolidated revenue funds rather than being immediately available to the management agencies for their use. Only recently, particularly in southern Africa, has this begun to be turned around. In such cases, the user fees can be considered a form of environmental service payment.

For CAMPFIRE, the concept of landscape beauty is even more complex. Only about 2 % of CAMPFIRE revenues have come from tourism, in contrast to hunting which has accounted for 90 %. While hunters no doubt appreciate the landscapes in which they hunt, their aesthetic pleasure comes more from the process of hunting itself, in which the landscapes are largely backdrop. Thus the concept of payments for landscape beauty, at least in the case of CAMPFIRE, need to be extended to cover hunting and other recreational activities generally associated with wild landscapes, rather than with specific scenic qualities of the landscapes.

### 3.4. Who pays?

Despite the political, social and spatial diversity of those communities and districts involved in CAMPFIRE, a common set of financial arrangements rapidly emerged between the buyers and sellers of this recreational service. The central contractual arrangement is between the RDC, acting as the seller on behalf of its constituent communities, and one or more 'safari operators' buying the service on behalf of their future hunting clients. In most cases the hunting or eco-tourism rights were being leased to safari operators, with additional fees for each animal taken in, or tourist brought to, the area. The details of the contracts vary considerably, however, as each party has sought to extract maximum benefit from the arrangement (WWF, 1997). Early initiatives, in which RDCs acted as the safari operator, showed that most did not yet have the marketing and logistical skills to engage effectively in marketing at that time (Jansen, 1990). The market for hunting leases on the one hand, and clients on the other, is highly competitive, with individual skill, recognition and reputation being important qualities. By exploiting this competitiveness through the use of tenders and auctions to market leases, and by innovatively structured contracts, CAMPFIRE communities achieved substantial real increases in wildlife-based revenue (Bond, 1999).

Did the landholders get a 'fair price' for these services? For environmental services generally, the potential for a genuinely competitive market to emerge – one in which there are multiple buyers and sellers competing openly and strongly with each other – is in many cases severely limited due to the biophysical setting of such services, and because of the aggregate nature of the demand. For example, payments for watershed services have been characterised as "(usually) bilaterally, mutually-negotiated agreements between representatives of the buyers and the sellers" (Wunder and Vargas, 2005).

For CAMPFIRE, the questions relates to whether the RDCs, on behalf of the producer communities, are getting a genuine market-related price for the natural resource that are being exploited. While notions of what constitutes a ‘fair price’ are all relative, the CAMPFIRE experience is quite clear: when hunting leases were marketed through an open, accountable and competitive process, the RDCs received market-related prices; conversely, when leases were granted using uncompetitive and unaccountable procedures, the RDCs received much less than the market price (Bond, 1999). It is a matter of speculation as to who captured the rent in such cases.

The early contractual arrangements between the safari operators and RDCs were simple and based on standard government rates for leased hunting rights and the size of the quota for the concession area. The contract defined the relationship between the safari operator, the RDC and the wildlife producer communities in terms of hunting ethics, monitoring, infrastructural investment and in some cases employment. From the mid-1990’s more sophisticated contracts began to be developed with the rights and obligations of all parties being more clearly specified, including an implied conditionality in the link between service provision and payment. They were, in effect but not in name, payments for environmental services.

Compliance with these arrangements has been and remains highly variable. Typically, RDCs lacked the capacity to fully comprehend and monitor the payments made by the safari operators, and frequently had to rely on the honesty of the operator. Conversely, safari operators seldom if ever held RDCs and the wildlife producer communities to account for failing to meet their contractual obligations over and above the hunting quota. Early contracts between safari operators and RDCs frequently featured fungible benefits such as “a good, used Landrover for use by the RDC”. The second-generation contracts eliminated virtually all these non-financial payments. Moreover, the contracts were mostly denominated in foreign

currency, albeit paid in Zimbabwean dollars to comply with Zimbabwe government regulations. This ensured that the RDCs were not compromised by the devaluation of the Zimbabwean dollar following various efforts at economic structural adjustment. Most recently, in view of the failure of many RDCs to pass on to communities their full share of CAMPFIRE revenues (see below), resulting in community dissatisfaction which threatens the whole initiative (including the RDCs' revenue streams), some safari operators have taken to paying communities their dividend directly, and then remitting to the RDCs their share in turn (Russell Taylor, WWF SARPO, pers. comm.). This on-going adaptiveness of all parties is a key feature of CAMPFIRE.

### 3.5. Financial and economic data

Between 1989 and 2001, RDCs earned a total of US\$ 20.29 million from wildlife-based activities (Table 3). Of this total, 89 per cent has been from leases with private sector safari operators, about 6 per cent from the sale of hides and ivory, with the balance from tourism (photographic safaris: just over 2 per cent) and other miscellaneous activities. Of the revenue earned from safari hunting, at least 60 per cent can be attributed to hunting elephant, both through trophy fees and the daily rate paid by hunters when in the field (Bond, 1999). The development of photographic tourism within the communal lands has been constrained by the fragmented nature of most of the wildlife habitat and, relative to the protected areas of Zimbabwe, low wildlife population densities.

Wildlife revenue is allocated annually, in arrears, to wildlife producer wards, to wildlife management activities and to a council levy. At a national level, the guidelines on the disbursement of CAMPFIRE revenue (see section 2) have been largely met (Table 4). At the level of individual districts, however, the extent of disbursement has been highly variable.

The cumulative unallocated funds over the period 1989-2001 in one district, Gokwe North, amount to 65.5% of all funds received, while Gazaland District, the smallest CAMPFIRE operation, serving only two wards, unallocated funds come to only 1.1% of total receipts! Over the 12 main CAMPFIRE districts, an average 17.1% of funds received over this period have not been paid out.

Quantifying the financial benefits from CAMPFIRE is complicated by factors such as the size of the programme; the increasing number of participating districts (and therefore people) over time; and the variability among both districts and wards. Nevertheless, the financial benefits can be considered at four levels: the safari operators; rural district councils; wards; and households. Of these, the economics of the safari operations are least well understood, despite the volume of research on CAMPFIRE. Initially, it was assumed that as Zimbabwe's share of the international trophy hunting market was growing, and as operators were competing for leases and benefiting from the expanding hunting opportunities in the communal lands, no immediate information was required. The move to competitive marketing of wildlife leases may have reduced the profitability of their activities compared with previous arrangements, but has probably forced increases in efficiency to compensate.

As the legal authority for wildlife, RDCs acts as the gate-keeper for all wildlife revenue. For most RDCs, the CAMPFIRE revenues were a new and significant source of funds coming at a time when the central government, being urged to devolve authority, also took the opportunity to shed some of its fiscal responsibilities. Wildlife revenues typically constitute 0 - 24% of all locally earned income, though in several districts it has exceeded all other forms of local income and government grants (Bond, 1999). Between 1989 and 1999, the RDCs overall retained US\$5.63 million (29%) of the income from wildlife, not including that set aside for wildlife management (US\$ 4.08 million: Table 3). Of this, the RDCs' retained almost exactly what they were due under the CAMPFIRE guidelines (US\$ 2.51 million,

14.6%), but they have also benefited from the investment income from the remaining unallocated funds that they hold. The communities have had to bear the opportunity costs of this unpaid money and, given the present hyperinflationary conditions in the country, when it is eventually paid, it will be worth a lot less. (The RDCs have also benefited substantially and indirectly from technical support, training and the provision of equipment but by how much is unrecorded.)

Wards were created by government as sub-district level planning and development entities, though they have no means of raising revenue. Effectively, they have never progressed beyond being units for political representation at the district level. With the devolution of revenue through CAMPFIRE the wards had for the first time financial resources with which to become potentially effective units of development. Between 1989 and 2001, almost US\$ 9.9 million was devolved to a total of 143 wards. As with RDCS, wards also benefited substantially from infrastructural investment and training by donor and supporting agencies.

Estimates of the benefit per household are largely speculative, being calculated from the revenue received at ward level and available population data. (Only in some cases are there clear accounts of how much was paid to households: Child and Peterson, 1991; Bond 1991). Calculated this way the gross financial benefits among wards are highly skewed and generally very low. Between 1995 and 1999 the median benefit varied from US\$ 2.2 in 1998 (range US\$ 0.2 - 252.3, n = 86 ) to US\$ 5.8 in 1999 (range US\$ 0.2 - 197.5, n = 100: Figure 1). Compared with the benefits obtained from agricultural production, the income from wildlife in most wards is purely supplementary (Bond, 1999; Logan and Mosely, 2001). Nevertheless, such national-level analyses conceal the occasional substantial financial benefit, sometimes exceeding the estimated gross income from all agricultural sources (Bond, 1999).

### 3.6. Additionality and establishing baseline measurements

Additionality refers to the changes in the state of the natural resource as a result of the payments made. CAMPFIRE was developed with the specific purpose of conserving wildlife and wildlife habitat in the communal lands of Zimbabwe (Martin, 1986), and so wildlife or ecological indicators could be one measure of performance from which additionality can be calculated. From a development perspective the redistribution of power and the formation of effective units of common property management (Hulme and Murphree, 2001) are also performance indicators.

Formal ecological monitoring has been undertaken by censusing large mammals and using remote sensing to detect land-use changes. Aerial censuses of large mammals have been conducted in the major protected areas and the communal lands of the Sebungwe Region<sup>5</sup> since the early 1980s. These data show that while the total number of elephant in this region has remained more or less constant, there have been significant changes in their distribution (Dunham and Mackie, 2003). This is particularly significant in the Gokwe District, where substantial areas of prime wildlife habitat have been converted to settlement and agricultural lands over the last 20 years (Cumming, 1997), though in the context of the region as a whole, the changes are relatively small. Quantifying these changes using remote sensing has been hampered by the lack of extensive (and expensive) ground-based verification (Dunham and Mackie, 2003). The unverified remote sensing studies at a regional scale (area ~18,000 km<sup>2</sup>) do not consistently pick up the variability of the landscape and the patterns of settlement and land use, all of which affect wildlife production (Dunham, Davies and Muhwandagara, 2003).

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<sup>5</sup> Three major RDCs are located in the Sebungwe Region: Nyaminyami, Binga and Gokwe North.

The alternative is to use gross wildlife revenue as a proxy for wildlife production<sup>6</sup>. This shows a negative exponential relationship between wildlife productivity and human population density, suggesting that there is the competition between wildlife and farmers for key habitats (principally riverine areas with alluvial soils) and water within the larger landscape (Bond, 1999).

While there are indications of continuing habitat loss, this does not mean that the payments have had no impact. For example, in Gokwe District, the wildlife corridor that was established in 1990 has remained largely intact with only minor encroachment at the margins. In other areas, communities have implemented decisions that have consolidated settlement and created wildlife habitat. Almost as important as establishing a baseline against future changes can be measured is a need to understand of the processes leading to change. An analysis of land-use planning decisions in eight districts between 1989 and 1993 showed that these were mostly imposed on local communities by the RDCs, for whom wildlife revenue had become significant (Bond, 1999).

### 3.7. Permanence, accounting and leakage

The legislative changes that have allowed the development of wildlife as a form of land use on private and communal land in Zimbabwe have no time limitation and can potentially continue indefinitely. Nevertheless, although CAMPFIRE was conceived as a long-term programme rather than a series of short-term payments, permanence is by no means guaranteed. The policy and legislative changes that allowed payments to be made to RDCs and wildlife producer communities is increasingly under threat from gradual or wholesale re-

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<sup>6</sup> The sample used wards in which revenue was allocated on the 'producer ward' principle, rather than spread among all wards in a district irrespective of their contribution to CAMPFIRE revenues.

centralisation. Moreover, changes in the relative market prices of wildlife and agricultural commodities could easily still change, and in some cases has, land-use practices (for example, the widespread transformation of land in the Zambezi Valley to cotton cultivation). Factors that might lead to relative price changes include: genetic modifications of livestock and key crops (cotton); reduced demand for wildlife-based tourism resulting from local and global instability, high oil prices or changing consumer tastes; and climate change<sup>7</sup>.

Within the southern Africa, most CBNRM initiatives are based on policy and legislative changes that have devolved some proprietorship over wildlife and wildlife habitat to communal land farmers. A core issue has been how to interpret these legislative changes. In their enthusiasm and desire to initiate CAMPFIRE, advocates of community conservation approaches may have assumed that they shared a vision of local empowerment with central and district governments, but the reality is that the relative financial success of CAMPFIRE has opened up opportunities for rent-seeking on the part of individuals and covert taxation on the part of government (Bond 1999, Murphree 1993). In short, different stakeholders have competing interests in relation to the CAMPFIRE revenues (and, in some cases, the ancillary donor funds that have been attracted to support CAMPFIRE). Within CAMPFIRE, the Government has sided with the RDCs against the wildlife producer communities in terms of the share of revenue that the RDCs can appropriate<sup>8</sup>. Linked to this has been a gradual recentralisation by government of some provisions of these initiatives, inadvertently supported by some publications claiming that community conservation programmes have failed and that a return to protectionism is required (*e.g.* Barrett and Arcese, 1995).

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<sup>7</sup> For the large scale commercial farmers on private land in South Africa and Namibia, the greatest short-term challenge will be the re-distribution of land by authorities that do not support or recognise wildlife as a legitimate and appropriate form of land use (Bond, 2004).

<sup>8</sup> Bond and Cumming (in press) document the extensive policy and advocacy efforts by the CAMPFIRE Collaborative Group (CCG), which still failed to change the levels of proprietorship of communal land farmers over wildlife and wildlife habitat.

Regarding 'leakage' – the transfer and intensification of human impacts to other places caused by a lessening of impact in CAMPFIRE areas – this is likely in the long term, though accounting for such impacts will be difficult, given the large areas covered by CAMPFIRE and the inevitability of other, unrelated, changes (*e.g.* changes in transport networks, agricultural opportunities, and demographic change).

### 3.8. Participation of marginal groups

Relatively little detailed work has been done on the intra-community and intra-household impacts of CAMPFIRE. As indicated earlier, the wildlife revenues received by households have generally been supplementary to other income sources (though none of these is large). Thus a direct, financial, impact on poverty, especially of the poorest people in society, has probably been marginal at best.

Nevertheless, CAMPFIRE has had a major impact on proprietorship of communities, engendering a sense that they have valuable resources at their disposal. The discussions and negotiations around CAMPFIRE have helped to build confidence and skills in negotiating and managing conflicts. It remains to be seen if these attributes can be used to advantage in other fora

On the negative side, there is largely anecdotal evidence of the benefits in many producers communities be captured or manipulated by elites to their individual advantage. These include nepotistic employment practices and appropriation of project equipment for personal use. Some ethnic groups such as the Tonga, vaDema and Shangwe have been marginalised in much of the decision-making, even though they are often the original inhabitants of these remote areas. Women are also generally marginalised, and their needs and concerns overlooked (Sithole and Frost, 2002). Countering these tendencies will be a significant challenge for CAMPFIRE in the future.

#### 4. Lessons for PES

What lessons that can be drawn from the CAMPFIRE experience that might be important for the emerging PES schemes? We suggest the following principles:

- Form should follow function. There is too often the tendency to design projects for rural communities, including establish organisational structures and institutional arrangements, before there is any real functioning for such features to serve. CAMPFIRE was no different at the outset but the original plans soon got left behind as people focused of getting activities going on the ground.
- Be flexible. There is too much uncertainty to make it practical to adopt rigid rules and procedures. The evident flexibility of CAMPFIRE is one of its major strengths, since it has allowed considerable variation in functioning to emerge. From this adaptive solutions to differing social, environmental and other circumstances can materialize. By not insisting on rigid adherence to some preconceived plan, those who promoted the CAMPFIRE concept ensured that local communities and outside interests could forge relationships that they thought best fitted their circumstances at the time. In so doing, a much greater sense of local ownership and commitment was developed. No doubt, PES schemes will be similar, if allowed to follow the same route. Nevertheless, there are some instances where more structure would be advantageous. For example, the lack of a clear legal framework governing tenure, property rights and responsibilities for receiving and distributing funds has exposed CAMPFIRE communities to the vagaries of administrative whim and selective interpretation.
- Promote diversity. Although each CAMPFIRE initiative is based on the same fundamental plan laid down within a common regulatory environment, they all differ

importantly in the details of their development and outcomes to date. Variation in environmental and social settings, timing (in relation to the experience of others and to changing national economic and political circumstances), and the nature of external advice and advisors, all provided subtly different selective environments in which these initiatives evolved. Along with flexibility, that diversity was CAMPFIRE's strength, allowing natural selection to take place, both within and among the various initiatives over time. No doubt, selection will continue to operate.

- Recognise the complexity of the institutional landscape. That within which CAMPFIRE is evolving is considerably more complex than the simple configuration of a seller and a buyer of an environmental service, perhaps with an intermediary organization facilitating the transaction. First, there are existing institutional arrangements and structures, including traditional leadership and mechanisms for making decisions and managing disputes. Building on these rather than side-lining them would seem to be sensible. Second, there are other interests which need to be co-opted, negotiated with and, if necessary, countered. Agent-based models provide a good paradigm for such settings. Third, at least for CAMPFIRE there were real markets for the services, so these did not have to be developed. Moreover, in most cases there was more than one buyer vying for the right to operate a concession, creating competition among them, but also the option to participate in bidding for more than one concession area, thereby fostering competition in turn among the service suppliers
- Success and failure are relative. It is somewhat invidious to talk of success and failure as if these are absolutes. Success can be ephemeral; failure no more than a temporary setback, if the lessons to be learned are applied in turning things around. Each CAMPFIRE initiative has been, in essence, an experiment. Learning and applying the lessons from each is crucial to the ongoing evolution of CAMPFIRE as a whole. Even

under the present extremely adverse economic, political and social conditions in Zimbabwe, CAMPFIRE continues to evolve, with innovative solutions to current problems emerging. The lesson for PES is to strive for constant improvement, not taking success for granted, for external conditions will surely change, and not accepting the notion of absolute failure, if lessons can be learned and applied in time.

- Complexity can be distracting. The complexity of ecological systems makes it difficult to establish and measure any causal relationships between “payments”, land-use change or ecological indicators of environmental integrity. Consequently, too much concern over issues of ‘additionality’, ‘leakage’ and the demonstration of causality could become diverting. While not wishing to understate the significance of these problems, we nevertheless feel that they should be kept in perspective and not allowed to stand in the way of implementation.
- Remember Heisenberg’s Uncertainty Principle. Establishing trends in complex social-ecological systems is difficult because baseline measurements are seldom available and pre-project circumstances were never static anyway. Time-series data are seldom collected with sufficiently replicable and constant methodologies to allow for meaningful comparison. Even then, wide confidence limits of the estimates constrain precise interpretation over short timeframes. For PES to work there needs to be an assurance that the changes that are being bought are being achieved. The lesson from CAMPFIRE is that even over an extended period of time, it is difficult to establish tangible, causal linkages between the payments that have been made and changes in land-use management. Monitoring these relationships with the necessary precision is likely to lead to substantial transaction costs, thereby potentially diminishing any gains in efficiency that might have been achieved by the market-led solution. A trade-off will be necessary.

## 5. Conclusions

Three interrelated problems currently burden CAMPFIRE arrangements (Murphree, 1995, 1997; Jones and Murphree, 2001). First, the actual wildlife areas in the communal lands are not clearly demarcated and, as management units, they lack any particular economic or ecological rationale. Ideally, such units should be contained within the jurisdiction of a recognised community group, and be small and sufficiently discrete to allow for direct interaction, discussion and decision-making among the community members. But they should also be large enough to sustain a resource base that can be exploited in ways that are both economically viable and ecologically sustainable. Such a combination is not easily achieved. Second, the communal lands are organisationally complex with overlapping jurisdictions among various kinds of authorities (traditional, spiritual and modern), functioning at a range of scales. Internally, the communities are differentiated by social standing based on lineage, influence and relative wealth, among others, so consensus is more difficult to achieve than is commonly assumed. Finally, the greatest problem is the lack of clearly defined property rights and strong tenure at both individual and community level. People's rights over the land and its resources vary with location, ranging from usufruct rights over arable land to collective rights elsewhere. This creates uncertainty and leads to conditional use of resources, and little or no investment in resource management other than that which will produce a near-immediate return. Moreover, as non-legal entities, the producer communities cannot enter into legally-binding contracts, or sue or be sued. Any contracts into which they enter are subject to common law. Despite many calls to strengthen both communal and individual rights, backed up by a government-appointed commission on land tenure (Runkuni, 1994), little has changed. Communities and their constituents remain in legal limbo though, arguably, initiatives such as CAMPFIRE that will eventually require resolution of the contradictions, or fail in the process.

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Table 1. Pre- and post-tender prices for hunting concession areas in three districts participating in CAMPFIRE (WWF, 1997)

	Pre-tender price	Post-tender price	% increase
Tsholotsho	108,000	280,000	159
Hurungwe	172,000	654,000	280
Chipinge	70,000	300,000	329

Table 1. The magnitude of CAMPFIRE revenues in 1999 at different levels of organisation. The three districts have been the most profitable ones under CAMPFIRE and 1999 was the most rewarding year in terms both of total CAMPFIRE income and disbursements to communities. These therefore represent a 'best-case' scenario. Monetary values in US\$, rounded to the nearest dollar.

Organisational level	District		
	Binga <sup>1</sup>	Guruve <sup>2</sup>	Nyaminyami <sup>3</sup>
<b>Rural District Council</b>			
1999 income	301,580	489,872	772,731
Retained	103,368	349,114	470,429
Disbursed	198,212	140,758	302,302
% disbursed	65.7	28.7	39.1
<b>Ward</b>			
Average	9,439	23,460	25,192
Range	3082 – 30,826	0 – 56,160	0 – 55,918
Number of CAMPFIRE wards	21	11	12
<b>Household</b>			
Average	10	58	59
Range	3 – 35	0 – 160	0 – 197
No. households (all wards)	19,669	5,303	5,720

<sup>1</sup> The Binga RDC distributes some revenue to each ward, irrespective of whether they have exploitable wildlife populations or other natural attractions

<sup>2</sup> In Guruve, only 11 out of 21 wards have produced CAMPFIRE revenues during the period 1989-2001, and then not in every year. Payments to wards reflects their contributions to annual revenue generation

<sup>3</sup> In Nyaminyami, all 12 wards participate in CAMPFIRE, though revenue generation varies. In some years a ward may produce no revenue, in which case no payments are made to it.

Table 2. Income earned by Rural District Councils with Appropriate Authority between 1989 and 2001 (data from Khumalo, 2003).

	Safari hunting	Tourism	Sale of hides and ivory	Other	Total
Income by activity (US\$ million)	18.15	0.46	1.17	0.51	20.29
% of income by activity	89.5	2.3	5.7	2.5	100

Table 3. The allocation of wildlife revenue earned by Rural District Councils between 1989 and 2001 (data from Khumalo, 2003)

	Producer wards	Wildlife management	Council Levy	Other	Unallocated	Total
Revenue allocated (US\$ millions)	9.89	4.08	2.51	0.68	3.13	20.29
% of total revenue	45.9	20.5	14.6	4.7	14.3	100

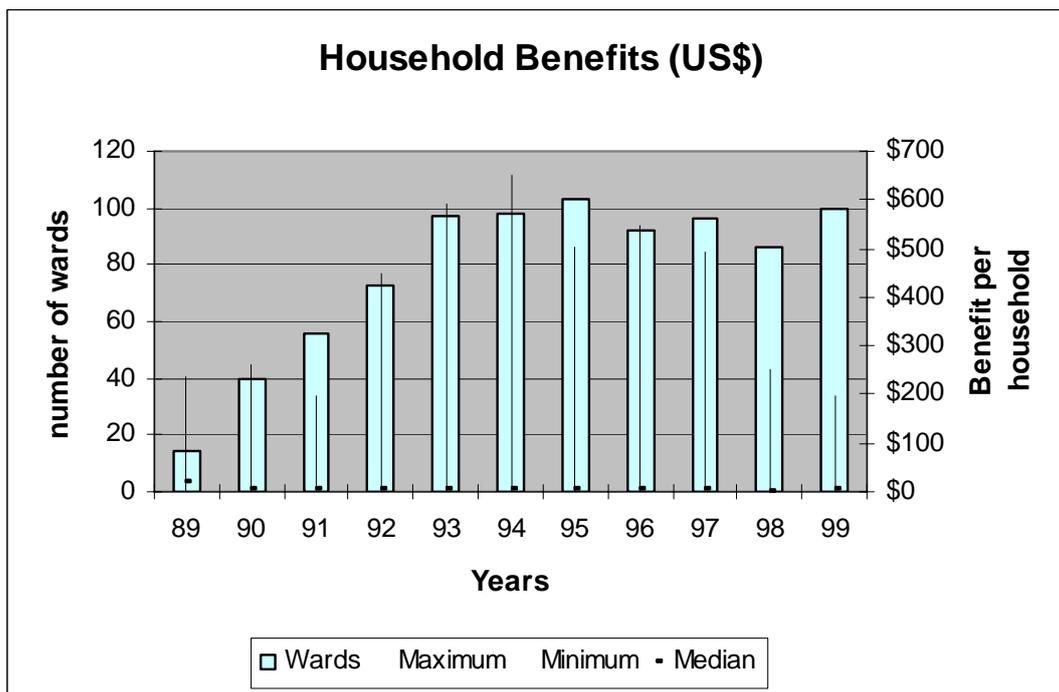


Figure 1. Changes in the number of wards receiving CAMPFIRE revenues, and the strongly asymmetric nature of those revenues, for the period 1989-1999.