



Centre for Applied Social Sciences

COMMUNITIES AS INSTITUTIONS
FOR RESOURCE MANAGEMENT

By

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Paper Presented to the National Conference on
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by

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1. Introduction

This paper deals with a complex set of issues, but seeks to do so in a relatively clear and non-technical manner. It proceeds therefore by a series of highly condensed propositions and arguments, using a Zimbabwean case study for illustration. Some of the more technical and theoretic underpinnings of the analysis are relegated to footnotes or to the citation of relevant sources.

2. Why Do People Seek to Manage the Environment?

It is useful to ask this question before we address the topic of this paper directly. The question is central to the topic of this national conference on "Environment and Development," and we cannot glibly assume that everyone, everywhere, has the same reasons for an interest in the environment. Different motives have different effects and policy (and I understand that this Conference is part of a policy-making process) has to understand who is interested in what concerning the environment.

Much has been written of this question from philosophic, environmentalist and developmentalist perspectives. But perhaps we can simplify the answer here by suggesting that people seek to manage the environment for two reasons: a) Because its management improves the conditions of their livelihood. b) Because its degradation is perceived to be threatening, either to life-sustaining processes (eg. pollution, soil erosion) or to peoples' aesthetic values. These two sets of reasons inter-relate, but the distinction between them is important since the first tends to predominate in the developmentalist perspective while the second tends to be prominent in the conservationist stance.¹

But this is all highly generalized, and to move the analysis closer to our topic I make the following proposition in answer to our question: People seek to manage the environment when the benefits of management are perceived to exceed its costs. This is an important proposition since it introduces the issue of cost, which is a fundamental dimension of environmental management. People may want to manage the environment for better production, or to prevent the effects of its deterioration. The benefits they perceive may be short or long term. But they will only manage the environment if they consider the benefit to be worth the cost and if they have the means to meet these costs. The costs of environmental management are taken up again later in this paper.²

3. The Environment and Natural Resources

So far we have been discussing "the environment," which in the context of this conference I take to mean the habitat or ecosystem in which human beings live. But the topic of this paper focusses on natural resources, which we can define as those components of the ecosystem which sustain life or provide goods and services useful to man.³ Some of these resources are truly global, the atmosphere being perhaps the best example. Others are specific to given microenvironments. Some are renewable, others are not. Some are mobile, some are static. I make these distinctions because the nature of the resource involved is critical in determining the management regime most appropriate for it. The global salience of the atmosphere is a strong argument for the internationalization of its management but it would be folly to suggest that this necessarily applies to all natural resources, particularly those natural resources on which this paper concentrates, i.e. woodlands, grazing resources and wildlife.⁴

The nature of the resource also has a bearing on whether it is considered a 'common pool' resource,⁵ i.e. one which falls within "a class of resources for which exclusion is difficult and joint use involves subtractability." (Berkes and Farvar, 1988: 7) Some resources, such as trees, are fixed to a given land base and can be privatized or remain in the commons with no intrinsic difficulties. Wild mammals, generally, are more mobile (or 'fugitive') and less amenable to privatization, although this can be done through adequate fencing.

Fish are even more difficult to confine to defined spatial bases in large water bodies and difficult to privatize except through aquaculture. However it is not only the nature of the resource which determines whether it is common property, but also the resource regime in which it exists, the subject of the next section.

4. Who Manages Natural Resources?

Generally, natural resources can be held under any one of four property-rights regimes: a) Open-Access; b) Communal Property; c) Private Property; d) State Property. These, formally, should determine who the managers are but of course what is formal and what is actual may well be different. Furthermore, this is an analytic typology; in practice natural resources are rarely managed solely within any one of these types.

The "open access" condition is one where resources are the property of no one and are available to everyone. It is therefore not strictly a property-rights regime at all nor is it a management regime since people use, opportunistically, the resources but do not manage them. A communal property regime is quite different, even though many scholars confuse the two. Here "use-rights for the resource are controlled by an identifiable group and are not privately owned or managed by governments; there exist rules concerning who may use the resource, who is excluded from the resource and how the resource should be used." (Berkes and Farvar, 1988: 10) Thus it is a management regime, with rules on access to or exclusion from proprietorship of natural resources.

The relative merits of state or private property regimes have occupied centre stage in debates about natural resource management and have been embedded in, and mystified by, broader ideological and geopolitical controversies. Proponents of privatized natural resource management have suggested that market dynamics coupled with long-term security of tenure provide the best ingredients for sustainable utilization and efficient management. Proponents of state management usually rest their case on equity considerations or collective societal interest in common pool resources. Interestingly these two perspectives, so different in their ideological pedigree, now find themselves in a new alliance orchestrated by state bureaucracies and international agencies and realized in "regulatory policies, new legal frameworks, project financing, and direct administration." (Korten, 1986)

Both private and state natural resource management regimes have their strengths and may be appropriate for given resources in given contexts. But both have their weaknesses, particularly if they are under-funded, large-scale and managerially distanced from the resources in question. In such circumstances the state, or the private owner, purports to be the manager but de facto use and management are in the hands of others - the people living with the resources concerned. Not only is this local management resource marginalized, it is also antagonized. Bromley and Cernea comment, "Unfortunately most state property regimes are

examples of the state's 'reach exceeding its grasp.' Many states have taken on far more resource management authority than they can be expected to carry out effectively. More critically, it sets the government against the peasant when, in fact, successful resource management requires the opposite." (Bromley and Cernea, 1989: 25) This brings to mind the Turkish saying, "One would have to be a despicable fool not to help oneself to state property." (Berkes and Farvar, 1988: 10) But this can apply to the private property regimes as well. One variant of this approach is to be found in schemes currently being brokered in the United States to buy large tracts of South American rain forest to preserve them for global environmental reasons. An advertisement to raise funds for such purchase recently appeared in a California paper replete with a photograph of a burning forest and the caption "If you own it they can't burn it."⁶ Anyone with developing country experience will be skeptical. Even if this is a ploy to pre-empt other local entrepreneurs from buying and destroying forest resources it is unlikely that a distanced, foreign owner will be able to exercise the management that the state has failed to provide because it has marginalized the management potential of local populations.

One of the central tragedies in the history of Southern African land and natural resource management is that the debate on tenure⁷ has largely been restricted to a discussion of the relative merits of state or private property regimes. Policy has assumed two options, privatize or nationalize, ignoring the further option of a communal property regime.

In Zimbabwe, for instance, by 1961 approximately 50% of the total land surface had been alienated into private hands. The rest was state land - parks, wildlife and forestry lands or communal lands (37%). In these communal lands, where over 60% of the population lived, a putative system of 'indirect rule' was in place and traditional leadership structures were supposed to play a role in land and resource management. But the ability of these traditional structures had been seriously eroded by its tenure status. They and their constituencies were on state land with usufructural rights only, they had no powers of exclusion and access to certain natural resources (eg. wildlife) were denied to them. Thus the conditions for a genuine communal property-rights regime were removed. Under these conditions, and with the state effectively unable to manage resources, resource use tended to acquire the characteristics of an 'open access' system. It is not surprising therefore that the communal lands have been the scene of the greatest environmental degradation in the country.⁸

This policy myopia, which sees only privatize or nationalize tenure options, has continued in the post - 1980 independence

era. Land reform programmes have taken a further 8% of total land surface out of private hands for the resettlement of communal land inhabitants, but these resettlement lands are state lands, and are occupied under tenure conditions which if anything are more restrictive to a genuine communal property-rights regime than in communal lands.⁹

The tragedy of this situation lies in two dimensions. Firstly, neither option will viably address those areas where most of our rural populations live and which are under the greatest environmental pressure. Management by the state has demonstrably been ineffective in both the colonial and post colonial eras. Whole-scale privatization is politically unlikely¹⁰ and would involve a fragmentation of management to levels where any possible benefits would be negated. Secondly, focus on the two options ignores the potential for cost-effective collective local management enforced by informal peer pressure and drawing on evolved and detailed knowledge of local ecological dynamics. Unless policy on tenure and natural resource management seriously considers the third option of communally-based resource management regimes for much of our land there is little reason, either from the historical record or from an analysis of the factors and dynamics involved, to be optimistic about our environmental future.

Serious consideration of this option requires however far more than decentralized administration or current and trendy plans to 'involve' local people in planning, to encourage their 'participation' in project implementation and to increase the economic benefits to them arising from resources. However well intentioned, such plans generally fail to achieve the perception of cause-and-effect relationships which is the essential component in the motivational dynamics of sustainable natural resource management and utilization. 'Participation' and 'involvement' turn out to mean the co-optation of local elites and leadership for exogenously-derived programmes; 'decentralization' turns out to mean simply the addition of another obstructive administrative layer to the bureaucratic hierarchy which governs natural resource management. What is required is the establishment of communal property regimes by defined groups in defined areas and with rights of inclusion and exclusion. Such groups should have proprietorship of the natural resources concerned, 'proprietorship' being used here to mean a sanctioned use-right, including the right to decide whether to use the resources at all, the right to determine the mode and extent of their use, and the right to benefit fully from their exploitation in the way they choose.¹¹

The delegation of proprietorship over natural resources to communities involves the relinquishment of considerable

authority and responsibility on the part of the state, although such relinquishment is never total anymore than the privatization of land holdings implies a total withdrawal of state authority over land. Relinquishment of authority runs however contrary to the bureaucratic impulse and the establishment of communal natural resource management regimes will require strong policy directives to overcome this tendency.¹²

5. Managing a Natural Resource: From Analysis to Principles

To translate this general discussion of issues into a policy which is viable for communal property regimes of natural resource management we need to recognize the principles involved. These may vary according to the nature of the resource concerned, and for clarity I will use wildlife as the illustration, suggesting some principles in the form of propositions.

- 5.1 Effective management of wildlife is best achieved by giving it focussed value for those who live with it. This principle encapsulates the proposition stated in Section One that "people seek to manage the environment when the benefits of management are perceived to exceed its costs" and the discussion on formal and de facto management in Section Four.
- 5.2 Differential inputs must result in differential benefits. This principle relates to the question, "value for whom?" The answer is "those who have the resource and pay for its existence." Wildlife assets are distributed unevenly in any national context; equally the cost of sustaining and managing these assets is unevenly distributed. These costs include crop and livestock damage, the costs of preventing them, possible deaths or injury to humans and the opportunity costs of assigning land and vegetation to wildlife rather than other options. Policy must ensure therefore that benefit is directly related to input.¹³
- 5.3 There must be a positive correlation between quality of management and the magnitude of benefit. The differential input requiring differential benefit involves not only the assets and costs mentioned above, it also incorporates management costs, both quantitative and qualitative. A fundamental policy objective is to provide the motivation for good management, thus policy should ensure that good management 'pays'.
- 5.4 The unit of proprietorship should be the unit of production, management and benefit. Institutionally this is the only structure which can efficiently combine the principles mentioned earlier. Proprietorship (which

answers the question "who decides?")¹⁴ cannot be separated from production, management and benefit and is a fundamental component in a communal resource regime. The management prerogatives and responsibilities implied in proprietorship need not conflict with any larger structures of management activity. Such structures are necessary because of the nature of wildlife resources, but should be primarily coordinative and regulatory.

- 5.5 The unit of proprietorship should be as small as practicable, within ecological and socio-political constraints. From a social dynamics perspective scale is an important consideration; large-scale structures tend to be ineffective, increasing the potential for inefficiency, corruption and the evasion of responsibility. Conversely, a communal resource management regime is enhanced if it is small enough (in membership size) for all members to be in occasional face-to-face contact, enforce conformity to rules through peer pressure and has a long-standing collective identity.¹⁵

6. Managing a Natural Resource: Wildlife Policy and Practice in Zimbabwe's Communal Lands

This section describes an attempt to put the principles outlined in Section 5 into policy and practice, using the Zimbabwean experience in wildlife utilization as an example.

The growth of the wildlife industry in Zimbabwe had its impetus in the 1975 Parks and Wild Life Act which conferred proprietorship¹⁶ of wildlife resources on the "owners or occupiers of alienated land." These owners or occupiers are designated "appropriate authorities" for wildlife on their land, with rights to decide on whether to use wildlife, the mode of this use and to benefit fully from the revenues of this use. The positive impact of the 1975 Act on both the state of wildlife populations on commercial farm land and the national economy is readily apparent. In the last 15 years Zimbabwe has developed a game ranching industry second to none in Africa and which contributes significantly to the national economy. The conferment of wildlife proprietorship on land owners has also demonstrated that wildlife can be a highly competitive and environmentally sound form of land use, evidenced by the large number of ranchers who have turned from exclusive livestock regimes to mixed wildlife/livestock or exclusive wildlife modes of utilizing their land.¹⁷ It should be noted that principles 5.1 - 5.4 discussed in the previous section are all incorporated in the position provided for land owners under the Act, and that the growth of the wildlife industry in Zimbabwe can largely be attributed to the fact that policy and legislation incorporates these principles.

5.

Enacted during the Smith era the 1975 Parks and Wildlife Act was targeted at the "owners and occupiers of alienated land." It was clearly racially discriminatory since it benefitted large-scale land owners and occupiers almost all of them white,, and did not provide the same opportunity to the black occupiers of communal land. Much of this land, particularly that in Natural Regions IV and V, held valuable populations of wildlife and high potential for the incorporation of wildlife into productive forms of land use. Government (through the Department of National Parks and Wild Life Management) remained the appropriate authority for wildlife in communal lands, policy being that revenues accrued by Government from safari hunting in communal lands were to be returned to district councils for community projects in producer areas through an extended chain of procedures involving notification of revenue generated, proposals for projects by district councils, approval by regional and DNPWLM authorities and release of monies by Central Treasury. The result was an almost total failure to achieve community support for wildlife-related activities. Procedural complexity and bureaucratic inertia resulted in a situation where only a portion of revenues generated were returned to producer districts and far less of this was returned to producer communities. That revenue which did survive the attrition of this process was seen by local inhabitants not as a product of their management but rather as a hand-out from Government, the magnitude of which was attributable not to their husbandry of the resource but rather the strength of their complaints about the inconveniences of wildlife. The links between production and benefit, input and outcomes, was neither direct nor clear.

Recognizing that its policy on wildlife was having positive effects on private lands but not in communal lands, Government since Independence has approached the problem by further legal change and the introduction of the CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) Programme.¹⁸ Amendments to the Act made provision for the Minister to designate district councils as the appropriate authority for wildlife on lands under their responsibility, granting them the rights and responsibilities accorded to the owners or occupiers of alienated land, under such conditions as might be appropriate. The CAMPFIRE Programme sought to use this legislative change to put in place the principles outlined in Section Five, the programme starting with pilot schemes in the conferment of appropriate authority status on two district councils, Guruve and Nyaminyami. Initial success was followed by the inclusion of other district councils; by January 1991 twelve district councils had achieved appropriate authority status and more are expected to be added to the list shortly. Wildlife revenues accruing to district councils now exceeds Z\$400 000 per annum in some instances, providing an increase in direct revenues for these councils by a factor of four.

From a district council perspective the programme in a great success, and the councils concerned have formed themselves into a national association of Campfire district councils to lobby for their interests at the political centre.

In spite of the demonstrated success of CAMPFIRE in devolving proprietorship of wildlife resources from central government to district councils a fundamental discrepancy remains between the law (the statutory delegation of proprietorship) and the principle (combining production, management, authority and benefit). The Act delegates proprietorship and the responsibility which goes with it to district councils. But they are not the producers or on-the-ground managers of wildlife; these are producer communities within council areas, which differ from one another in resource endowment, quality of management and production. Thus we do not yet have the formal combination of production, management, authority and benefit necessary for an effective communally-based regime of resource management. Under such conditions, councils have a tendency to retain authority, management and benefit, relegating to producer communities the function of production. There are several reasons for this, including the bureaucratic impulse to retain authority (cf. footnote 12), the necessity for councils to raise revenues and the fact that councils do not trust local communities to make the right decisions.¹⁹

In this situation the CAMPFIRE programme has proceeded on the basis that district councils, having been granted appropriate authority status, will delegate that authority to producer communities, retaining such safeguards as are necessary to ensure that their statutory responsibilities are fulfilled. This is stipulated in the Guidelines (DNPWLM, 1991) issued by the Department of National Parks and Wild Life Management to district councils.²⁰ To a large extent it can be said that successful CAMPFIRE implementation at local levels to date has been determined by the extent to which district councils have followed this directive; the success stories of CAMPFIRE are largely found in those districts where councils have done so.²¹

Two of these success stories are now briefly related to demonstrate the dynamics of successful implementation of CAMPFIRE. They are the stories of how two communities in Zimbabwe have developed as "institutions for resource management."

The first is the story of the Kanyurira community, a ward in the Zambezi Valley falling under the jurisdiction of the Guruve District Council. The ward is geographically large (400 square kilometres) but small in human population, with only 60 households (482 people) being present in 1988.²² The

area is rich in wildlife and for many years has been exploited by professional safari hunters, but before the introduction of the CAMPFIRE programme revenues from this exploitation were channeled to Central Treasury, local people only benefitting from wildlife through non-sanctioned hunting and snaring. Attitudes towards wildlife were almost completely negative; it was a hazard to life and crops and should be eliminated. The community's aspirations were centred on gaining more goods and services from government - a school, a clinic and better roads to market their one cash crop, cotton. Its strategy was to encourage new settlers, who would be placed on the perimeter of settlement (thus taking the brunt of wildlife damage to crops) and giving the community greater leverage in its requests to government.

In December 1988 the district council, using revenues from safari hunting in the previous year, built a school for the community. Although this was not a full delegation of proprietorship, being more in the nature of a hand-out, its impact on community attitudes was significant. Wildlife was now seen as having significant economic value, to be nurtured rather than eliminated. "We see now," said one elder, "that these buffalo are our cattle." Furthermore the event revived a proprietorial attitude towards the ward's natural resources which had long laid dormant. A wildlife committee was formed, which soon moved into land use planning. Twenty square kilometres were set aside for fields and settlement, to be surrounded by an electric fence. The rest of the ward was to be set aside for wildlife, harvested sustainably through safari hunting and patrolled by game scouts from the community.

In February 1990 the district council distributed 1989 revenues from the safari operation which covered the area including Kanyurira, using the site of animals taken on quota as the basis of distribution. On this basis Kanyurira received by far the largest share - Z\$47 000. This revenue was allocated to a fund for the clinic, the purchase of school furniture and a dividend to each household of Z\$200, equivalent to an additional 56% of annual gross income from cotton, the community's main cash crop. The impact of the household dividend was profound. Internally the community had to make searching decisions as to who constituted households; externally the community examined much more critically any applications for membership by aspiring immigrants. The importance of rules of inclusion and exclusion had become clear. Issues relating to modes of marketing in the modern context were also more sharply delineated in community thinking. The district council had, as one aspect of its utilization strategy, instituted a cropping scheme to provide meat to villages in the safari area, believing that the way to people's minds was through their stomachs. Kanyurira rejected

this scheme for its area; they recognized that the value of an impala sold to a safari client was far higher than that sold for meat to local inhabitants. The importance of good management for maintaining the resource was also heightened in local perceptions. Poaching by community members was virtually eliminated during 1990. The snaring of an animal was no longer tolerated as individual and entrepreneurial defiance of state regulation, it was now theft from the community and from one's neighbours since it would reduce the amount of household dividends. The importance of preserving habitat became clearer; in 1990 for the first time in many years destructive late dry-season bush fires did not occur.

At the same time the community has become increasingly aggressive in its claims for full proprietorship. When it had developed its land use plan the community had charged its councillor and wildlife committee chairman with the task of taking the plan to the council for approval with these words: "Tell them that these are our animals and these are our plans. We will not accept any changes imposed by others." The community also is demanding a full and detailed accounting from the council and safari operator of species take-offs and revenues generated. This has been accompanied by a realization that the community itself will have to improve its own wildlife monitoring and financial record keeping. Thus the importance of accountability - of council to community and community leadership to community membership - has been stressed.

Kanyurira is an example of a community developing its resource management along CAMPFIRE lines in an exploratory and evolutionary way and in a context where the district council, while committed to the CAMPFIRE programme, has been cautious and sometimes inconsistent in delegating its authority. Our second example is of the Chikwarakwara community in the Beitbridge Council area, where the council, on receiving appropriate authority status in January 1991, determined to immediately and fully implement CAMPFIRE principles. Using accumulated safari hunting revenues for the 1990 and previous seasons (Z\$96 000), council decided on an allocation according to production by producer communities which resulted in a payment to Chikwarakwara of Z\$60 000, where most of the safari hunting had occurred.

The introduction of the CAMPFIRE programme in Beitbridge was recent and without the evolutionary development which had occurred in Guruve. One could say that its introduction was 'sudden' and the value of this case study primarily lies in its demonstration of how in a compressed time-frame of three months (January - March 1991), a district council and a community can work through and put in place the institutional framework necessary to implement the CAMPFIRE principles.²³

At this stage the case study is particularly instructive in demonstrating the competence of a district council and local community to create an "everyone benefits" situation in the use of common property assets while retaining the principle of differential input/differential benefit. Council benefitted, since it retained a 11.7% levy (Z\$11 235) agreed to by all parties. The safari industry benefitted since a programme was being put in place which would ensure that the wildlife resource on which it depended would be maintained. Government benefitted since its acquisition of taxes and hard currency from the safari industry would similarly be maintained. The Chikwarakwara community benefitted because it was now receiving real value for its wildlife resources in proportion to the inputs involved and other communities benefitted through the stimulus to similarly develop their wildlife resources.

The Chikwarakwara example is however most interesting in its illustration of decisions made within the community regarding the use of wildlife revenues. As in Kanyurira, these revenues forced answers to a prior question - who were the members of the community. Criteria for membership (by household) having been decided, 149 households were listed and the determination made that each household would be credited with \$400. The community debated (over several sessions and fully documented in Child and Peterson, 1991) then turned to the relative merits of using this money for collective community projects or for individual household revenue. The result was a compromise, as wise decisions often are. Households were to receive individual dividends; if wildlife was to be a major form of economic activity in the community this was necessary for the livelihood of its people. But certain collective community concerns also demanded attention. These were identified as a grinding mill, a school project, and the fact that community members were in arrears in payment for the school building funds. The grinding mill, being a new community project, demanded a new institution. Who would manage it? A committee was formed, it being agreed that the mill would be operated as a community business with all community members owning shares in it.

These decisions were given immediate, clear and ostensible effect at a community meeting held on Thursday 28th March, 1991. District council officials arrived at the meeting with Chikwarakwara's \$60 000 in cash, which was placed at the end of a long table. Further down this table were two dish pans, the first presided over by a community leader and the second by the school headmaster. Each household head received and signed for \$400 at the head of the table, then deposited \$200 in the first dish for the grinding mill and school project, this deposit being recorded and constituting a share in these projects. At the second dish a further \$60 was paid to the

headmaster for arrears in building fees, and the household head then left with \$140 still in pocket.

The impact of these events is best summarized in verbatim quotes²⁴ from speeches made at the ceremony. From the district administrator we have these words: "We have not realized our richness. We have not seen where our advantages lie. We are learning and you here in this community are leading the way. It is our wild animals who are our resources. I used to come here and he told wildlife was a problem. Poaching was kept under the blanket. Now we are here to celebrate wildlife and bring everything into the open for everyone's benefit." Councillor Nhare said the following: "This money comes to you from your wildlife. It is your money. The decision is yours. You cannot wait for government. You can develop your own community according to how you decide."

These brief descriptions of the Kanyurira and Chikwarakwara case studies do not do justice to the full range of issues involved. They do not discuss the details of implementation or adequately stress the importance of close collaboration between government, communities, private sector enterprise and N.G.O. actors. Neither have they stressed the variety of problems which are generated by change and success. But they do illustrate that the principles behind CAMPFIRE are sound and that communities, given the opportunity to do so, can develop as effective institutions for natural resource management.

7. Some Concluding Observations

This paper has argued that resource management is a complex affair and that the nature of the resource involved, the nature of the tenure system concerned and the motivational dynamics which operate create different equations which must be considered when considering institutions of management. There is no single formula for all these equations. However we have primarily been concerned with the management of common property resources in communal conditions, and in conclusion I wish to summarize the discussion on these under three headings.

7.1 Communal Contexts and Communal Resource Management Regimes. For most of the rural populations of Southern Africa the communal context is the context of life and will be so in the foreseeable future. They live on state land, not private land, and in conditions where the state is incapable of sustainable resource management and local inhabitants have neither the motivation nor the authority to sustainably manage resources themselves. The mischief arises from a fundamental misconception which equates the communal context with a communal property regime. The

communal contexts created by colonialism are not communal property regimes since they have been stripped of the necessary entitlements required. The evidence is that communities can become effective institutions for sustainable resource management, but only if they are granted genuine proprietorship, i.e. the right to use resources, determine the mode of usage, benefit fully from their use, determine the distribution of such benefits and determine rules of access. Any policy which excludes these components will frustrate the goal of making communities effective institutions for resource management.

- 7.2 Resource Management and Resource Use. Resource use without resource management is non-sustainable. But equally, any attempt to establish resource management without resource use is likely to be futile. A first principle stated in this paper was that "people seek to manage the environment when the benefits of management are perceived to exceed its costs." We can carry this further and suggest that in modern rural Africa, even in its remotest extensions, benefit is most often seen in peoples' thought as revenue, cash income convertible into the various goods and services that communities and individuals want or need. Benefit is of course not only this, but much development thinking seems to assume that what rural peoples need and want is restricted to subsistence maintenance. Contrast this with the succinct definition given by a villager in Kanyurira. "Development," he said, "means money." This is a more accurate description of rural African perceptions of development. Not only does it properly reflect the pervasive reach of the "cash economy," it also puts benefit in the form of revenue which can be flexibly used according to peoples' own priorities, and which forces them to build their own institutions of fiscal management which articulate with the larger economies of which they are a part. Cash, as they say, is the most effective development extension agent.

There is a strategic implementational lesson to this. If we are concerned to promote communally based environmental management, chances of success are enhanced when a common property resource of high financial value is available and project focus is initially on the sustainable exploitation of that resource. In Zimbabwe this resource has been wildlife, a resource of high and escalating value, exploitable in environmentally benign ways and requiring relatively low capital inputs. As Child puts it, "Real and immediate benefits, graphically illustrated by cash, cement the relationship between wildlife and economic development. These incentives are

crucial to encourage communities to cultivate their wildlife resources." (Child and Peterson, 1991, p. 41) Initial and dramatic results in revenue generation of this kind then have an incremental effect on the quality of the community's management of other, less lucrative, natural resources. If people receive revenue from wildlife they will also start to manage their woodland and their soils, as the Kanyurira case study demonstrates. Ecological holism is not a new concept for rural African peoples, it is simply a concept that their circumstances have not allowed them to apply.

- 7.3 Resource Management and Institution Building. This paper has argued that communities under the right circumstances can be effective institutions for resource management. The obverse is also true. The management of common property resources can act as a powerful catalyst for communal institutional development in modern rural African conditions. This is particularly the case if the resources concerned have high revenue-generating potential and are thus central to community development aspirations. For too long "community development" has been conceptualized in Africa as an extension to local levels of central government institutions. The examples of Kanyurira and Chikwarakwara given in this paper are examples of something different, a demand-driven institution building, the demand being local economic interest and the necessity of creating institutional structures to manage common property and balance individual and collective interest. As Peterson states, "CAMPFIRE is not just a wildlife programme, it is not even just an economic development programme based on wildlife. Ultimately it is a people and institution development programme based on the sustainable production of wildlife." (Child and Peterson, 1991; 86 - 87)

Thus resource management and local institutional development are mutually reinforcing. The topic of this paper is centrally relevant to environmental concerns. It is equally relevant to governance in rural Africa. If this is realized, the crucial links between ecology and politics, between environment and development, stand a better chance of being incorporated into policies that work.

FOOTNOTES

1. Holmes Rolston draws this distinction in a different way. He notes that it is a universally accepted insight that "humans must live in response to nature, in encounter with their natural environment," but that the notion that "humans have a responsibility for nature" has gained more recent philosophical attention. (Rolston, 1988: xi) There is a correspondence between his distinctions and those made in the text, and it is no coincidence that the recent emphasis on responsibility for nature (basically a conservationist perspective) is primarily located in the industrialized West, where the technological response to nature has most pervasively been applied.
2. Implicit in this paragraph are certain definitional assumptions which could lead this paper into long detours of debate. But briefly, 'management' is distinguished from 'use'. 'Use' in this paper refers to the exploitation of the environment and its resources, which can be either constructive or destructive, active or passive. 'Management' refers to the structuring of this exploitation; it is in effect the 'management of use.' 'Management' as used in this paper also assumes the presence of two characteristics: a) the use of a specific resource in consideration of its impact on other resources, i.e. it is holistic, and b) the use of resources in consideration of extended time-frames, i.e. it is concerned with sustainable exploitation. Thus 'use' in this paper is qualitatively neutral; 'management' is value-weighted.
3. Usefulness can be actual, potential or hypothetical, and can be passive or active, consumptive or non-consumptive.
4. Clearly these are not the only natural resources with which the Conference is concerned. Water and soils are central, but this paper restricts its focus for clarity.
5. Current scholarship variously uses the terms "common pool resources" and "common property resources" interchangeably. I prefer to follow Ostrom (1986) who uses the first for the resource itself and reserves the second for the resource as defined by the management system.
6. I am grateful to my colleague in CASS, Louise Fortmann, for bringing this illustration to my attention.
7. 'Tenure' as used in this section primarily refers to land although more properly it is "a bundle of rights to use the land and its products, by a clearly defined individual or group of individuals." (Murombedzi, 1990 : 2)

8. Tenure status is of course not the only factor in the environmental degradation present in communal lands. The inhabitants had not only been deprived of the right to manage under a communal property-rights regime, they had also been forced out of other land. They had in effect been subject to a double expropriation, compounded by the unequal entitlements forced on them by the discriminatory structures of Zimbabwe's political economy of the time. For further discussion see Murphree, 1990.
9. A fuller exploitation is found in Murphree and Cumming, 1991.
10. Current political policy in Kenya favours this option but this is unlikely to be the case in other countries of eastern and southern Africa, at least for much of the land surface involved.
11. 'Proprietorship' is used rather than ownership, since it may be legislatively convenient for the state to retain ownership, particularly over mobile resources (eg. wild life).
12. At a 1989 conference in Nairobi I put forward this generalization in the following words: "There is an in-built tendency at any level in bureaucratic hierarchies to seek increased authority from levels above and resist its devolution to levels below." (Murphree, 1989: 4) Since no one could think of any exception other participants have subsequently quoted this as "Murphree's Law."
13. Frequently arguments of equity are used to suggest the contrary. These arguments, however attractive they may be for the political ethos, are disastrous when applied to wildlife utilization. An example is Botswana's "open access" policy on citizen hunting which has resulted in the decimation of large herds of game sustainably utilized by local hunter-gatherers for centuries by affluent urban-based elites who have the vehicles and firearms to do so. Generally speaking rural communities which still possess good wildlife assets are those which subsist on lands marginal for cropping and which have largely been by-passed in the development process. This also is an historical cost to these communities and to argue on the grounds of equity that they should now share the benefits of the growing value of wildlife with their more affluent neighbours is highly tenuous.
14. The 'right to decide' implied in proprietorship importantly includes the determination of the distribution of revenues and benefits. There is a widespread tendency for policy to attempt to control the mode and distribution of benefits, placing an emphasis on community projects of collective

benefit. This often stems from a paternalistic distrust of the ability of small-scale communities to make wise decisions on the matter. Our limited experience in Zimbabwe with small-scale units of proprietorship indicates the contrary: they are more responsible, more insightful and more efficient in this regard than authorities from outside the community. Whether wildlife revenues are used collectively or distributed as income to households or individuals is largely dictated by demand/resource ratios, i.e. the ratio between the magnitude of wildlife revenues and the number of members or shareholders in the unit of proprietorship. Again our limited experience in Zimbabwe indicates that where such ratios permit the distribution to households of significant annual revenues this becomes a powerful motivation for wildlife conservation and use and is particularly important in local decisions about the relative merits of wildlife and livestock. In communal contexts both livestock and wildlife depend on a common property resource, land and its grazing/browsing/water capacity. Livestock is however owned by households or individuals and is directly available to them for consumption, sale, loan or collateral. The same is not true of wildlife and unless revenues from wildlife are translated into disposable individual or household benefits decisions on wildlife/livestock options will be skewed towards livestock options even in situations where it is apparent that the wildlife option is collectively more productive.

15. Bromlely and Cernea state this argument in a different form: "The conversion from open access to common property will be facilitated in those instances in which the size of the user group is small, the users are reasonably homogeneous in important socio-economic characteristics, and the users reside in close proximity to the resource. (Bromley and Cernea, 1989: 24)
16. The Act uses the term "custodianship" in its preamble but the rights and responsibilities conferred are those defined under proprietorship in this paper. Contrary to what is sometime alleged, it does not confer ownership, thus allowing the state to impose such restrictions on use as are made necessary by the nature of the resource.
17. For the growth of the wildlife industry on private land in Zimbabwe see Cumming, 1990.
18. A formal statement of the CAMPFIRE programme is provided in Martin, 1986. Other descriptions are found in Murphree, 1990, Jansen, 1990 and Zimbabwe Trust, 1990.
19. Each of these reasons demand more discussion than this paper can supply. Briefly I comment here that: a) The first translates into a district-level variant of Bromley and

Cernea's observation quoted in Section Four of a 'state's reach exceeding its grasp.' b) The second has a number of dimensions. The state may seek to reduce subsidies to district councils with wildlife revenues, and if this is passed on in the manner described this becomes an indirect tax on producer communities. Both the state and district councils provide infrastructure for wildlife exploitation and have a right to recover charges incurred. Wildlife utilization should produce a win-win situation for government, councils and producer communities. In my view the best approach is direct taxation of revenue at producer community levels. c) On the third, lack of confidence or trust, bureaucracies tend to place local communities in a "Catch - 22" situation; they cannot be trusted because they have no experience but cannot gain experience because they are not given responsibility.

20. "Guidelines for Campfire" DNPWLM, 1991.
21. Where they have not done so problems have arisen. CAMPFIRE is a young programme which has created a number of experimental approaches and is now yielding lessons, both positive and negative. The negative lessons are important, and many of them relate to conceptions of CAMPFIRE as a district council rather than a communally - based natural resource management programme. Thomas (1991) provides insightful discussion on this.
22. Detailed socio-economic data on this community are provided in Cutshall, 1989.
23. The events of these three months are fully documented and analysed in Child and Peterson, 1991. This publication is seminal for an understanding of the implementation of CAMPFIRE and should be read by those with an interest in this topic.
24. Quotes taken from Child and Peterson, 1991, pp. 74, 80.

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