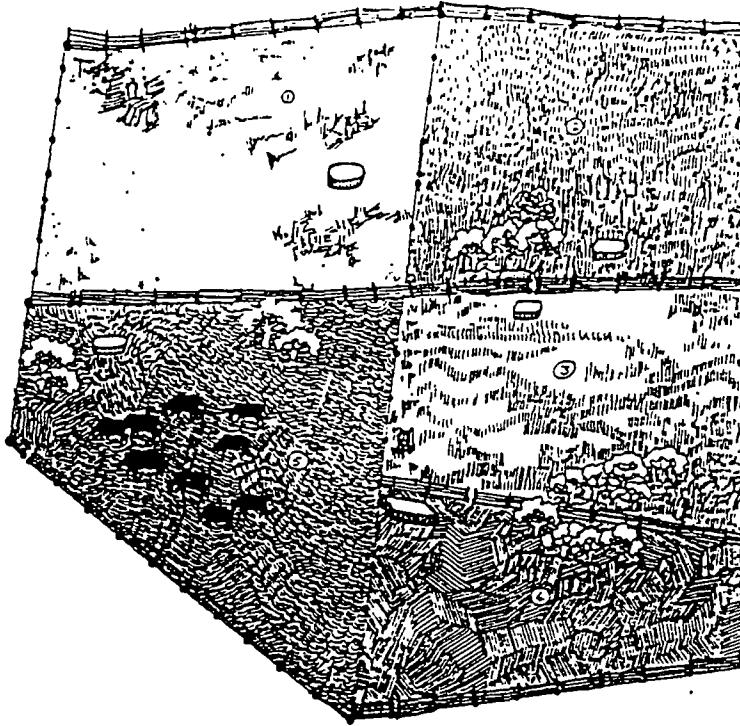


✓ A POLITICAL ECONOMY MODEL OF COMMON PROPERTY REGIMES  
AND THE CASE OF GRAZING MANAGEMENT IN ZIMBABWE

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Abstract

Conceptual frameworks for the analysis of common property regimes are important because they allow for the comparison of individual cases and generalisation across diversity. The framework proposed by Oakerson (1986) is critically examined and although many of its features are useful and worth retaining, it is found to be inadequate in its treatment of the key issues of power and authority, on the one hand, and of social and economic structure, on the other. Struggles over access to and control over common property resources often arise from structural inequalities which have to be made central to analysis. It also tends to neglect the importance of ecological dynamics and does not make sufficient provision for disjunctions between technical and ecological aspects. Modifications to the Oakerson model are suggested which allow for the analysis of these dimensions. This "political economy" model of the commons is put to the test by applying it to the analysis of grazing management schemes in the Communal Lands of Zimbabwe. Detailed ethnographic data on the complexities of intra-community power struggles in one such scheme are briefly summarised, and the model is used to diagnose the underlying reasons for the problems which have emerged within this scheme.

## 1. GRAZING SCHEMES IN ZIMBABWE'S COMMUNAL LANDS

Policies and programmes aimed at improving livestock production and range management have been a feature of agricultural development programmes in the Communal Lands of Zimbabwe from the 1920s through to the present. The assumptions underlying these initiatives as well as the detailed prescriptions proposed to perceived problems have demonstrated a great many continuities.

The main assumptions have been that: (a) communal area livestock production systems are inherently inefficient; (b) productivity is low because of poor management both of stock and of rangeland; (c) high stocking rates in excess of carrying capacity are leading to severe environmental degradation; and (d) cattle should be used for beef or dairy production and other uses are inefficient or less important. Also influential has been the view that the communal tenure system is inherently problematic and in need of reform. Access to grazing is seen as unrestricted; exploitation of communal grazing land by privately held livestock means that a "Tragedy of the Commons" is inevitable (Barnes 1978: 52).

Proposed solutions to these perceived problems have generally been premised on reduction and control over stock numbers, restricting access to communal rangeland by means of fences, and management by means of rotational resting systems. In Zimbabwe this combination of measures has been known as a "grazing management scheme". These schemes are widely seen as essential for the prevention of environmental degradation and as a springboard for improvements generally in livestock production (Republic of Zimbabwe 1987: 27-28); their promotion and planning has constituted the single most important component of government livestock extension programmes since independence (Chinembiri 1989: 146).

A property rights approach requires that we clarify the status of rangeland in Zimbabwe's Communal Lands. Are unfenced grazing areas in these areas open access or common property? What kind of property regime is a fenced grazing scheme?

## 2. OPEN ACCESS OR COMMON PROPERTY?

Hardin's "Tragedy of the Commons" paradigm (Hardin 1968) has been extremely influential both in analyses of communal rangeland in Africa, and in the design of programmes and projects attempting to improve levels of livestock production off the range (eg. the Tribal Grazing Lands Policy in Botswana - see White 1992). Over the past 15 years Hardin's model has been increasingly challenged by a number of writers. Ciriacy-Wantrup and Bishop first drew attention to the fact that Hardin had failed to distinguish between open access and common property.

Common property is not "everybody's property". The concept implies that potential resource users who are not members of a group of co-equal owners are excluded (Ciriacy-Wantrup and Bishop 1975: 715).

Swallow (1990: 3-4) has summarised the differences between common property and open access in the following manner: in a common property regime: (1) no single individual has exclusive rights to the use of the resource, (2) group members have secure expectations that they can gain access to future use of the resource, (3) there are functioning membership criteria, (4) there are communally-defined guidelines for resource use, and (5) there is an enforcement mechanism for punishing deviant behaviour.

In open access regimes, by contrast: (1) there are no social authorities that define and enforce the rights of individuals or groups to use of the resource (2) each resource user ignores the consequences of his behaviour on others.

Swallow states that few African rangeland situations satisfy all the conditions for common property, and that (4) and (5) appear to be the most problematic (ibid: 22). In a similar vein, Lawry (1990: 5), distinguishes between a "minimum" definition of common property and those arrangements needed to regulate resource use in a more intensive manner. A "minimum" definition applies to those situations where group membership rules are well defined and non-members are excluded from common resources. situations.

Thus we can distinguish between open access, minimum common property, and a more fully developed common property regime. Other types of property regime along this continuum can also be defined - private property, and state property - each with a characteristic configuration of rights, duties, and structure of legal authority (Bromley 1989).

In respect of communal rangelands in Zimbabwe, two answers have generally been given in the literature to the questions posed above. One commonly held view is that grazing rights are "open ended" (i.e. open access):

...there are no limitations on numbers that may be grazed or on the quality or type of livestock. There is no limit to the grazing area, i.e. no individual or group of individuals may claim rights which exclude other graziers - any exceptions are ad hoc and of limited duration (MLARR 1986: 36).

Holleman (1969: 88-89) argued that the ward (dunhu) was the basic unit of land management in Shona society and that membership criteria were well defined and understood. Scoones and Wilson (1989: 94-109) make an extended critique of Holleman's views on the ward as a resource management unit, and stress the somewhat fluid nature of group membership:

Livestock grazing areas are frequently described as belonging to certain loosely defined communities. In general these areas are approximately the grazing blocks tied to each section of the "line" of homes attached to the sabhuku [kraalhead]. With time such association is being transferred to VIDCOs [Village Development Committees] (Scoones and Wilson 1989: 98-99).

My own fieldwork shows that the association of certain groups with defined grazing areas means that outsiders cannot simply "ignore the consequences" of their actions; the possibility of inter-group conflict often limits and sometimes prevents poaching of grazing. "Social authorities" do exist: their problem is how to maintain exclusive use of grazing areas for group members in situations of high population density and land shortage (Cousins 1992a: 132).

This identification of user groups with definite grazing areas is the basis for the demarcation of community-owned paddocks, although many boundary disputes occur during both planning and implementation (Cousins 1987; 1988). Grazing schemes involve an attempt to begin to manage rangeland resources, and this implies clear and accepted rules governing utilisation of fenced grazing. Schemes usually elaborate sets of by-laws and well-defined sanctions (i.e. "rights" and "duties"). Grazing schemes are thus clearly an attempt to evolve a fully fledged common property management regime. What they replace is not open access, but a "minimum" common property regime.

Identifying the general character of grazing schemes in this manner is a necessary starting point for analysis, but it is clearly not sufficient. We also need criteria for evaluating how effective they are as property regimes, and conceptual tools which enable us to assess outcomes and diagnose the source of problems which are experienced.

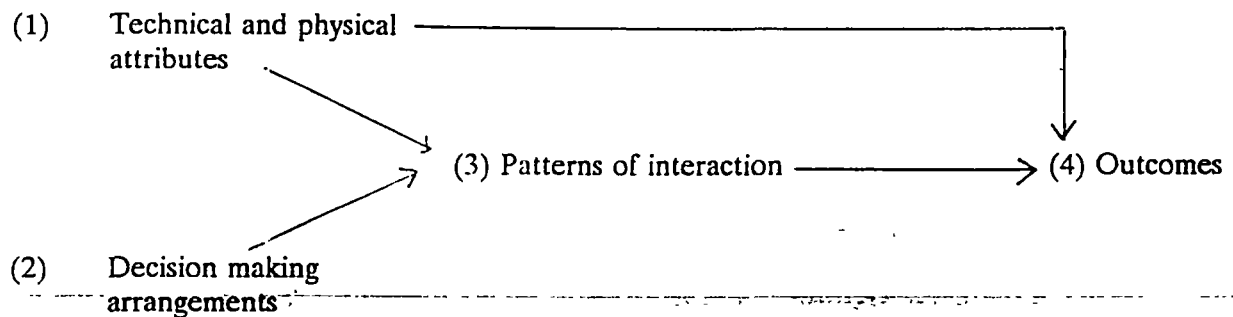
Framing the question in this way, however, runs the risk of subordinating understanding to the demands of a policy-driven analysis, and "development discourse" often artificially constrains analysis of crucial aspects such as the wider political and economic context (Ferguson 1990). Scholarly analysis of common property regimes need not be so constrained, and conceptual tools are required which facilitate in-depth explanations of processes and outcomes.

### 3. THE OAKERSON FRAMEWORK OF ANALYSIS

Oakerson (1986) has proposed a dynamic model of common property relationships which can be used to compare problems and solutions across a range of common property situations, and thus allows for generalisation across diversity. When applied to grazing schemes in Zimbabwe it throws light on some key aspects of these, and is thus extremely useful as a starting point for analysis. However, the model is ultimately limiting in its scope.

It does not provide for an adequate treatment of power and authority, or of social and economic structure. The views of other analysts of common property (eg. McCay and Acheson (eds), 1989 and their contributors), who show that these are central issues for analysis, need to be taken into account. Incorporating them into the Oakerson model makes it more useful as a framework for analysis.

Figure 1. Oakerson's model for the analysis of common property management



(Source: Oakerson 1986: 23)

Figure 1 summarises relationships between the variables in Oakerson's model. There are four inter-related components: (1) the technical and physical attributes of the resource; (2) the decision making arrangements and rules governing relationships among resource users; (3) patterns of interaction among users; and (4) outcomes or consequences. Each component will be discussed using examples from grazing schemes in Zimbabwe.

### 3.1 Technical and physical attributes

Oakerson suggests that all common property problems derive from constraints given in nature or in available technology.

(i) **Jointness** means that individual resource users are potentially capable of subtracting from the ability of others to derive benefits, but, within limits set by nature or technology, all users can derive benefits jointly. In the case of grazing land in the Communal Lands of Zimbabwe, for example, benefits can be shared only if high stocking rates do not result in degradation of the resource i.e. if the "ecological carrying capacity"<sup>1</sup> is not exceeded.

(ii) The **ability to exclude** non-members of a defined group of resource users is obviously required to differentiate common property from open access. Exclusion of members' livestock from portions of grazing land at certain times may be required in grazing schemes. Before the introduction of fencing this was difficult (but not impossible), but is now much more feasible.

(iii) The physical or technical **boundaries** of the common resource are important to define, even when these are somewhat indeterminate, and they may or may not coincide with the legal boundaries set by a user group. In the Communal Lands the practice of night kraaling of livestock limits the distance that grazing animals can travel to and from grazing areas. The "patchiness" of grazing resources (Scoones 1989), which means that certain key areas such as stream banks or vleis are more heavily utilised than others, may also help to define units for management purposes.

Boundary conditions of common resources are also defined by answering the question: could the commons be divided into individually owned pieces? Divisibility of Communal Land grazing is limited by a number of factors: the uneven distribution of water supplies for livestock; the highly variable quality of grazing land over even short distances; the variability of rainfall and the lack of irrigation facilities for forage production; and high population densities. Some have suggested that individualising grazing may be feasible in the high potential regions (Republic of Zimbabwe 1987: 24), but this is debateable (Cousins 1990: 44).

### 3.2 Decision making arrangements

The second component of Oakerson's model consists of rules and authority relationships "that determine who decides what in relation to whom" (Oakerson 1986: 17).

(i) Some rules and institutional arrangements establish the **ability of a group to act collectively and to make decisions together**.

In the Communal Lands the chequered history of "communal tenure" in the colonial era has left a legacy of ambiguity, not least with regard to the meaning of the terms "communal" and "community" (Cheater 1990; Cousins 1990a), but the principle that groups of households ("villages"; "kraals"; etc) are associated with definite areas of common resources has remained a

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<sup>1</sup> Scoones (1987) has usefully employed Caughley's (1983) distinction between economic and ecological carrying capacity in a discussion of how communal grazing is utilised in southern Zimbabwe. The concept of "carrying capacity" remains controversial, however, with some scientists questioning its validity or usefulness (Bartels et al 1990).

constant throughout. Collective identity and political authority continue to be strongly defined in terms of access to and control over land-based resources. Another legacy of the colonial period (and of the political activity which ended it; see Sanders 1984) is the widely accepted institutional form of the representative committee with decision making powers and administrative responsibilities.

These general features have formed the basis of further institutional development within grazing schemes. New arrangements include the election of management committees, which in a majority of cases include "traditional" leaders such as kraalheads (*masabhuku*), and the adoption of by-laws governing the scheme. In theory these create a capacity to impose collective choice on individual resource users.

(ii) A further set of rules are distinguished by Oakerson: **operational rules** that regulate the way common resources are actually used.

\* Partitioning rules serve to limit the way the resource is used by individuals in the interest of jointness. Examples from grazing schemes include rules governing rotations through paddocks or the deferment of grazing until the dry season, the stipulation that night kraaling be compulsory during the wet season, and the setting of stocking rate limits for the community herd as a whole or for individual herd owners.

\* Entry and exit rules regulate access to a commons by defining qualifications for membership of a group of users (entry) and whether or not membership is compulsory (exit). In grazing schemes in Zimbabwe **all** community members, including non-livestock owners, participate by virtue of community membership, and this is not seen as voluntary.

\* The jurisdictional boundaries of the commons must be defined, and these may be more or less congruent with underlying boundary conditions as given by physical or technical attributes. In grazing schemes the delimitation of boundaries has been a major cause of disputes between communities. In some cases access to water supplies or to diptanks has been threatened by fencing. Technical designs based on the idea of large blocks of grazing land fenced into paddocks for use in a Short Duration Grazing system have influenced the definition of jurisdictional boundaries, but the appropriateness of these designs has recently been questioned (Scoones 1987; 1990).

(iii) **External arrangements** which affect decision making are usually relevant. Some may be constitutional and legally enabling in character (e.g. in Zimbabwe, the Communal Land Act and District Council By-laws). Others may involve bureaucratic decision making in respect of operational rules - as in the idea that Agritex staff will set stocking rates for grazing schemes.

### 3.3. Patterns of interaction

In Oakerson's model patterns of interaction among users of common resources are derived from the strategic choices of individuals, and these depend upon individual expectations of others' behaviour. The primary strategies are **cooperation** (resulting in a pattern of reciprocity) and **non-cooperation** (a pattern of non-reciprocity or "free riding"). Reciprocity is based on a mutual expectation of positive performance. Free riding may result from an expectation that others will continue to abide by rules even if one does not, or from an expectation that others will choose free riding strategies. Complete abandonment of reciprocity may result in mutually destructive competition and conflict. Thus decision making arrangements in common property regimes

attempt to avoid inducements or obstacles to choice that lead people to abandon a strategy of reciprocity.

In **grazing schemes cooperation** is manifested in household contributions of labour and cash to the establishment and maintenance of the scheme, household relocations out of paddocks, following agreed grazing rotations, and compliance with by-laws. Some by-laws, such those stipulating stocking rates in line with those officially recommended by Agritex, are generally unpopular, and may have been agreed to only in order to secure donor funding (Cousins 1988: 62). Members may cooperate in ignoring by-laws such as these.

Non-cooperation is manifested in failures to contribute agreed amounts of labour or cash, resistance to relocation out of paddocks, refusals to follow grazing rotations, covert use of reserved grazing, overt sabotage of the scheme by cutting fences, or challenges to the authority of the scheme committee. Some schemes have had to be abandoned as a result of internal conflict.

Schemes may also manifest a complex pattern of cooperation in protecting the boundaries of the scheme against the claims or intrusions of neighbours, and internal conflict over the way the scheme is managed. These can often be characterised as instances of "minimum common property".

Oakerson also discusses secondary strategies such as the monitoring of user group members' behaviour by each other, and the enforcement of rules and application of sanctions. These may be provided for in decision making arrangements, but how they are implemented will affect the pattern of interaction which occurs. Many grazing schemes appoint "policemen" (muphurisa) to monitor the condition of fencing and the following of rotations, and the effort and diligence displayed by these will condition the choice of individual strategies by scheme members. Many scheme committees find it difficult to impose and collect fines for non-compliance with by-laws (Cousins 1988: 63).

### 3.4 Outcomes

Oakerson states that the study of consequences is necessarily value laden and so evaluative criteria must be made explicit. The most commonly used criteria are **efficiency** and **equity**.

(i) **Efficiency** is related to rates of use of the resource: excessive use leads to depletion or degradation, and the physical and technical characteristics of the resource dictates some optimal rate of utilisation. Underutilisation is also inefficient.

Evaluating efficiency in the use of communal grazing land is controversial. Some analysts have pointed that high stocking rates make economic sense for multi-purpose herds, and have questioned the conventional criteria for assessing rangeland degradation (Sandford 1982; Scoones 1987; Abel and Blaikie 1989). The applicability of the notion of carrying capacity in highly variable environmental conditions such as are common in Africa is now being questioned (Bartels et al 1990). It may be that farmers' ecological knowledge and opportunistic strategies are more appropriate than much conventional wisdom (Scoones 1989).

(ii) **Equity** considerations are closely related to efficiency questions. Inequities in resource utilisation may lead to the collapse of collective management, and these are more likely to occur if there are marked "asymmetries" (i.e. inequalities) among users, which create the possibility of

some benefitting from the commons at the expense of others. Abuse of authority can contribute to these inequities.

Livestock ownership in the Communal Lands is highly skewed (Jackson 1989), and many households own no animals. Owners are disproportionately represented on grazing scheme committees. Membership of schemes is community-wide, and equal contributions to schemes are generally expected (Cousins 1987: 50). Clearly there is a possibility of great inequities in costs and benefits from the use of grazing land. These can in turn contribute to increasing socio-economic differentiation.

Non-livestock owning members of grazing schemes generally express the view that they receive benefits as a result of borrowing or hiring draught animals from owners, from improved production of thatching grass, and through protection of crops from animals, and furthermore are guaranteeing their right to place livestock on the scheme should they acquire animals (Cousins 1989: 363). Grazing scheme committees generally contain at least some non-owners. In few schemes is open conflict between owners and non-owners an issue; nevertheless, these inequities may contribute to low levels of participation and uneven commitment to rangeland management.

Another form of inequity is locational. Households located nearer to fenced paddocks or "key resources" find it easier to follow the agreed programme of use than those at a greater distance. Lack of compliance by the more distant households can contribute to the breakdown of the rotational grazing system, and a pattern of households using the fenced paddock nearest to their homestead for reducing herding labour (Cousins 1992a).

### 3.5 Relationships in the Oakerson model

Each component of the Oakerson model can contribute to a common property problem. If an outcome is evaluated negatively, Oakerson recommends that one work backwards through the model to determine the causal relationships. Consequences (4) show the effect of a difficulty, which is visible in patterns of interaction (3). The problem may lie in a lack of "fit" or congruence between technical or physical attributes (1) and decision making arrangements (2). This will set up a "perverse structure of obstacles and inducements leading individuals into counterproductive patterns of interaction" (Oakerson 1986: 25).

Oakerson suggests that there are lessons for design in this kind of analysis. For example, the first place to look for a mismatch between (1) and (2) is in the relationship between operational rules and physical/technical attributes of a commons. Thus partitioning rules should closely match conditions of jointness. Entry and exit rules must be related to excludability, and jurisdictional boundaries should reflect underlying boundary conditions.

If lack of congruence between these components is not a problem, then the analyst should examine conditions of collective choice, or external arrangements. Diagnosis of the cause of a problem leads to design issues: what adjustments can be made to the structure of obstacles and inducements to produce the desired outcome?

In the case of grazing schemes in Zimbabwe Scoones has suggested that there is a mismatch between the physical (ecological) and the technical attributes of fenced schemes (Scoones 1987). If "key resources" are critical to livestock survival then fencing off large blocks of grazing land into paddocks is inappropriate and costly, and this in turn may undermine the credibility of both extension advice and the legitimacy of grazing scheme committees. By-laws aimed at enforcing rotational grazing may be similarly inappropriate and an obstacle to cooperative strategies which are more congruent with local ecological knowledge and herding strategies.



## 4. A CRITIQUE OF THE OAKERSON MODEL

### 4.1 Alternative views of the commons

A concluding statement by Peters to the 1986 NRC Conference on Common Property Resource Management indicates a complexity of patterns of resource use and of factors affecting them which analytical frameworks must be capable of addressing (Peters 1986: 617-23).

One example is competitive uses of a common resource, as when animals grazing crop residues endanger double cropping on fields which can be irrigated in the dry season, or, in Zimbabwe, when vleis are potentially important for both cropping and grazing. It then becomes important to "untangle the relations among uses, among users, and among the varying influences on use..." (ibid: 618).

It is similarly important to carefully select measures of performance in relation to appropriate units of analysis: whose equity and whose efficiency are being assessed? Amongst other factors which may be crucial to performance are:

- \* homogeneity and/or heterogeneity in several dimensions - one use by different groups, multiple uses by one group, and the extent of social/political/economic differentiation among users
- \* the place of the common property regime in wider social and political structures.

Another dimension of complexity has to do with decision making arrangements and "rules": one can expect variability in their legitimacy, their clarity, and in the interaction between rules and actual practice.

These considerations indicate that analysis must (a) "understand the way in which a common property regime operates within systems of production, rather than seeing it as an isolate" (ibid: 619); and (b) consider the implications of patterns of resource use for "different categories of resource users".

"The Question of the Commons" collection (McCay and Acheson 1987) has as its primary focus "the culture and ecology of communal resources". The editors highlight the need to pay particular attention to "the concrete facts and conditions of use" (Malinowski 1926, cited in McCay and Acheson 1987: 21) when defining resource ownership. What is required is an examination of "the ways people understand and relate to their environments and of the ways ownership - common or exclusive - works in specific cultural and ecological settings" (McCay and Acheson 1987: 15).

The term "community" is often used in a manner which implies solidarity and homogeneity, but conflicts over the definition of property rights are just as common. Analysis of common property problems must take account of "...dynamics of conflict and competition between different social groups located in history and social systems..." (ibid: 22).

The interactions between local systems of resource management and property rights and those promoted or sanctioned by central government authority are also emphasised in this volume. The loss of local rights can occur through state intervention and be the cause of a "Tragedy of the Commons". On the other hand there are also examples of more harmonious "comanagement" relationships, as in Icelandic fisheries. Thus another important contextualising factor is the larger political system, and this reinforces the view that power and authority are central issues in the analysis of common property.

Lawry's (1990) analysis of the problems facing common property regimes in Africa echoes some of the concerns outlined in this section. Lawry argues that the economic development process itself "... has reduced incentives for individuals to participate in localised collective arrangements, has undercut the economic viability of common property institutions, and has reduced the political legitimacy of local management authorities" (Lawry 1990: 407). A viable common property management system is more likely to evolve where the resource is scarce and of central importance to the economic strategies of a majority of people. The problem of authority is now best addressed by co-management arrangements which recognise that both the state and local bodies have legitimate interests in natural resource management.

#### 4.2 Deficiencies in the Oakerson model

Taking these alternative views into account, what are the shortcomings of the Oakerson model for the analysis of institutional dynamics in common property regimes?

(i) It is more useful to conceptualise the material nature of the resource base in terms of **ecological** and technological (technical) characteristics rather than "physical" attributes. This is more a question of relative emphasis than a fundamentally different conception, but it helps to focus our attention on the place of the resource in question (e.g. grazing land) in a larger ecological and resource use system. Complex ecological processes underlie common property regimes, and need to be taken fully into account if the causes and effects of institutional change are to be understood (Ellis and Swift 1988).

(ii) Incorporating an explicitly ecological perspective helps to bring into focus another dimension which the Oakerson model takes inadequate account of: the place of the common property regime in the overall **production system**. To take some Southern African examples, communal grazing land may play very different roles in the livelihood strategies of livestock owners in Zimbabwe (where cropping is a major source of rural income; see Jackson et al 1987), Botswana (where some producers are engaged in large scale commercial beef production; see White 1992), and Lesotho (where livestock play an important role as a retirement benefit for returning migrant workers; see Ferguson 1990).

(iii) "Decision making" is too narrow a conceptual focus for an understanding of institutional dynamics, and a focus on **structures of power** would be more useful.

Berry (1984) has pointed out, in a critique of decision making studies at the level of the household, that rural people's livelihood strategies include attempts to obtain control over resources and opportunities through investing in social and political relationships, not just efforts to effect increases in productivity and output. **Conditions of access and control are also objects of action.**

Debnam (1984) has also criticised the decision making approach to the study of community power as too restrictive in its focus. Powerful interest groups may prevent certain issues ever reaching the public arena, or these may represent "blind spots" which serve entrenched interests well without conscious manipulation having taken place (so-called "non-decisions").

Power structures are integral to property regimes, and power plays over the distribution of benefits often account for institutional change. Focusing on the operation of power rather than on "decisions" still allows for analysis of rules establishing conditions of collective choice and of operational rules, but integrates more fully the critical questions: **"whose efficiency? whose equity?"**.

Similarly, "external arrangements" in Oakerson's model is altogether too abstract a term for relationships which mostly involve levels of power and authority - as in the question of state-community relations.

(iv) Oakerson recognises that inequalities among resource users can threaten the viability of a common property regime, but the model does not sufficiently allow this central feature of social life to be integrated into the analysis. Thus power structures may well be based on a **structure of socio-economic differentiation** derived from the social relations of production and exchange. Given the increasing integration of local economies into larger socio-economic systems (Lawry 1990), this structure is unlikely to be purely local in origin. Analysing common property resources in a wider economic context should thus include a focus on differentiation.

(v) McCay and Acheson's emphasis on **locating common property regimes in their cultural context** is important in that it may help to explain some of the variability between specific cases of the commons which are otherwise similar in overall structure. Consideration of the "cultural" dimension is also vital to avoid reductionist accounts of the politics and economics of these regimes. Analyses of socio-economic and power structures must be informed by an understanding of the processes through which identities, institutions and ideologies are constructed and constituted (Ferguson 1990).

In this perspective "culture" is clearly not being used as a term denoting some primordial and relatively fixed social configuration. Rather, it directs our attention to the dynamic role of symbols and beliefs in changing circumstances, and to a notion of "culture as a resource" in struggles within the political and economic realm (Sharp 1988). As Thornton (1988) points out, what is often central to these struggles is the definition of boundaries and the discursive construction of collective identities. Thus in common property regimes the definition of the social boundary between different user groups is not something that can simply be assumed to exist; it has a symbolic character (Cohen 1985), which has to be established and maintained, and is therefore subject to redefinition and renegotiation.

(vi) An explicit focus on differentiation and political processes and their roots in socio-economic structure would allow "patterns of interaction" to be reconceptualised too. Cooperation and non-cooperation are not the only primary strategies, since the relevant actors need not be conceived of only as choosing individuals. Within any specific "community" there are other kinds of collective identifications (e.g. households, household clusters, villages, kinship networks, farmer groups, women's groups, religious groups) which are intermediate social structures and may influence patterns of interaction. Primary strategies may include securing sufficient cooperation from other potential users for an intermediate group to make use of a commons resource for a given period. An "oppositional" strategy may be to prevent a group taking an "unfair" cut from the commons, but without posing a fundamental challenge to the institutional structure or choosing free riding.

This means that patterns of interaction may involve coalitions and alliances between groupings within a community, groups which may have different stakes in the commons. Limited cooperation may result from compromises between village factions, for example, and a breakdown in reciprocity may reflect subtle shifts in the local power structure. Local interest groups may also build alliances with external agents such as state officials or development agencies. Short of a complete collapse of cooperation, less powerful groups and individuals within a community may resist changes in definitions of property rights in covert and indirect ways - the "weapons of the weak" (Scott 1986).

"Patterns of interaction", then, must include notions of **political struggle**, recognising that struggle can take many forms including indirect and non-confrontational modes. The "cultural" dimension of these struggles must also be recognised; often they are "struggles over meaning" (Peters 1987).<sup>2</sup>

(vi) Finally, the concept of "outcomes" must be broadened to include recognition of the diversity of interests found within common property regimes. The relevant questions, as pointed out by Peters, are: "whose efficiency?" and "whose equity?". This perspective does not preclude a focus on the common interests of all members of a user group where this is relevant; power does not always involve conflict between competing groups but can also be exerted jointly in order to overcome obstacles and secure common goals (De Nam 1984).

In general the deficiencies in the Oakerson model point to an underestimation of what may be termed issues of **political economy**, i.e. questions of structured inequality and relations of power.

## 5. AN ALTERNATIVE CONCEPTUAL MODEL

In summary, the shortcomings of the Oakerson model are that it allows insufficiently for the analysis of:

- (i) the ecological characteristics of the common pool resource in question
- (ii) the socio-economic context, including production and exchange relations, structures of differentiation, and the location of local relationships within larger systems
- (iii) the diversity of actors likely to be strategising in relation to common property rights
- (iv) power structures and struggles within local communities and in relations with external agents including the state.

One possible response to these deficiencies is to abandon the attempt to construct "models" altogether, and to resort instead to careful studies of individual instances. However, a model such as Oakerson's challenges us to confront both theory and empirical data simultaneously in the search for "regularities across many different cases" (Oakerson 1986: 27). These will offer "... comparative insights and provide a foundation for valid generalisations about common property regimes" (Peters 1986: 620). It is from this perspective that I suggest some modifications to the Oakerson framework and use it to present case study material from one grazing scheme in the Communal Lands of Zimbabwe. This will also allow us to consider how useful the modifications really are.

The modified framework is shown in Figure 2, and labelled "a political economy model of common property regimes". Many of the features of Oakerson's model have been retained, but some new

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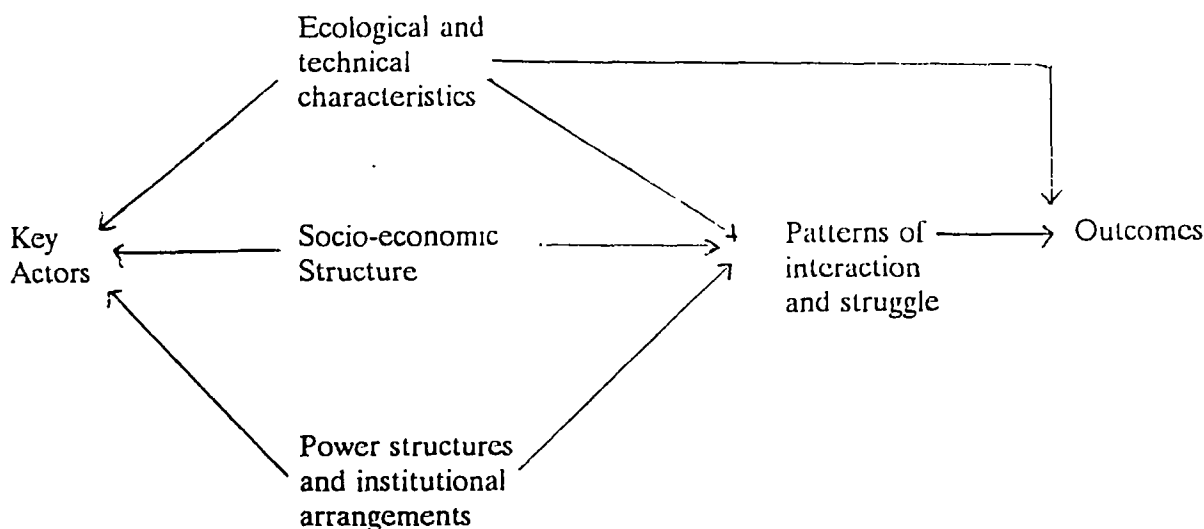
<sup>2</sup> For example, in Zimbabwe there are often competing claims to authority over key resources such as vleis (wetlands) by lineage leaders, commoners and the state. Lineage leaders have often rested their claims on "political-religious" arguments as to the sacredness and "spirit ownership" of these sites. Commoners and state officials dispute such claims and rest their own on competing ideologies (Scoones and Cousins 1991).

elements have been added and some components modified in the light of their perceived shortcomings.

One new element is "key actors", in recognition of the complexity of political dynamics at work in common property situations and the consequent need to clearly identify the agents engaging in interaction and struggle. A relationship between ecological and technical characteristics and the identification of key actors is also found in the modified model eg. where locationally based criteria are relevant.

As pointed out above, the "cultural" dimension is crucial for understanding the complexities of common property regimes, and in particular the discursive constitution of social identities. In the model this aspect is not isolated as a separate element, however, but informs analysis of all the other elements.

Figure 2. A political economy model of common property regimes



## 6. A CASE STUDY OF CHAMATAMBA GRAZING SCHEME

In this section of the paper the "political economy model" of common property regimes is applied to the analysis of a grazing management scheme in Zimbabwe. Due to space limitations only a brief summary of some of the relevant aspects of the scheme can be presented, with a particular focus on the complexities of intra-community power struggles<sup>3</sup>. The following discussion does not therefore provide an exhaustive application of the model.

Chamatamba grazing scheme, in Mhondoro Communal Land, is widely known in Zimbabwe as a rural development "success story". The scheme has won several provincial conservation competitions, won the national conservation prize in 1987, and has received a great deal of publicity in the national press. Although donor funds were used to construct a bridge-dam in 1984, until 1989 no donor funding had been received for fencing purposes, and Chamatamba was perceived as a rare example of a self-financed grazing scheme. On closer inspection, however, the

<sup>3</sup> A more detailed account can be found in Cousins 1992.

reality of common property management in Chamatamba in the 1980s proved to be much more complex.

### 6.1.1 Ecological and technical characteristics

Chamatamba is located in Mhondoro Communal Land, some 60 kms south of Harare, and straddles the boundary between two agro-ecological zones, known as Natural Regions II and III. Average rainfall is around 650 mm (relatively high in Zimbabwe), and soils are generally sandy and infertile. The characteristic vegetation for the region is woodland dominated by Brachystegia spiciformis (msasa) and Julbernardia globiflora (mnono), underlain by a grass cover composed of tall "sour" species and dominated by Hyparrhenia spp. The pattern of land use and the incidence of habitat patches in Chamatamba at the time of research are shown in Figure 3 and Table 1. The "community" which had adopted the grazing scheme consisted of five villages, or kraals, which were located in two lines of settlement and cultivation running north west to south east. The villages were named after their ruling lineages: Mhiriphiri, Munemo, Msonza, Makuvire and Chinyanga. There were three recognised grazing areas in Chamatamba: the central grazing area between the two lines of settlement, and the two "open grasslands" running down to the rivers. Three fenced paddocks, enclosing an area of perhaps 150 to 180 ha, were constructed in the central area in 1989/90.

Table 1. Habitat patches available for grazing within Chamatamba grazing scheme in different seasons

	Wet season (ha)	%	Dry season (ha)	%
Fallow fields	150	7.7	-	-
Fields <sup>1</sup>	0	0	467	20.3
Open grazing	1049	53.8	1049	45.6
Central grazing	656	33.7	656	28.5
Homesites, kraals and pens	35	1.8	70	3.0
Riverine (Woodlots) <sup>2</sup>	58	3.0	58 (6)	2.5
<b>Total</b>	<b>1948</b>		<b>2306</b>	

<sup>1</sup> "Fields" in the dry season included both cultivated and fallowed land.

<sup>2</sup> Small fenced woodlots were scattered throughout the scheme and were not available for grazing.

The most important contrasts in habitat type were: (a) between the central grazing area, which contained scattered tall trees, and the open grasslands, which did not, and in which scattered termite mounds were found; (b) between both of these grassland habitats and a narrow zone in the riverine areas adjoining the Nyundo and Nyakandowe Rivers; this zone contained a greater density of trees and shrubs than the grasslands and sustained a green sward of grass until late in the dry season.



The ratio of arable to grazing land in Chamatamba (1: 3.6) was extremely favourable in comparison to other grazing schemes in Zimbabwe, and the stocking rate (1 Livestock Unit to 3.8 ha) was much lower than on most Communal Land grazing.

### The grazing scheme

In the 1950s extension staff introduced a system of deferred grazing in Mhondoro Reserve. In theory this involved the rotational rest of a "paddock" (reserved area) for a full grazing season, but in Mhondoro the practice was often to merely assign an area as winter grazing. In Chamatamba the area reserved for winter grazing was the central grazing between the two lines. This "winter reserve" system survived through to the 1980s.

Grazing management in Chamatamba in recent years has consisted largely of occasional attempts to enforce the rule which defers grazing in the central area until the dry season. The apparent success of this system, as evidenced by the tall stands of grass in the central area, resulted in Chamatamba winning three Natural Resources Board (NRB) Conservation Competitions. Bundles of barbed wire were included in the prizes for these competitions, and these were used to begin the construction of lines of fencing between the summer grazing areas and the zone of cultivation.

The committee's long term plan, developed with the aid of the Agritex Extension Worker, was to construct a series of paddocks in both summer grazing areas. If the problem of water supplies in the central area could be overcome then parts of the winter grazing in the central area could also be fenced into paddocks. Some paddocks were to be planted with improved pasture grasses, pen fattening of animals was to be undertaken, and Short Duration Grazing would be practised.

From at least the mid-1980s, however, the "grazing scheme" in Chamatamba was portrayed by the energetic committee as being much more than lines of fencing and a potential paddocking system. The "scheme" denoted, rather, an ambitious resource development programme which included woodlots, fruit orchards, water development, wildlife management, and livestock production projects.

Between late 1987 and late 1990 some components of this ambitious plan were implemented. Gumtrees and a fruit orchard were planted, pen fattening projects were carried out, and a borehole was sunk in the central grazing area using donor funds. A windmill was also purchased with part of this donation. A pure Mashona bull donated by one of the judges in the NRB competition began to be used for stock improvement. Fencing materials were donated by the District Administrator and three paddocks were constructed in the central zone.

Despite Chamatamba's reputation as a community displaying a high level of commitment to resource management, however, participation in these activities was limited to a minority of households, and intra-community tensions arose. Grazing management was limited, and upkeep of the first lines of fencing was problematic. Between August 1988 and November 1990 the two lines of fencing were in an extremely poor state, and in places had completely collapsed. By late 1990 the three fenced paddocks were being used only sporadically, and the windmill was not yet functioning.

### Patch use by livestock

Habitat patch use by foraging cattle herds during the period January to December 1989 was investigated by means of a cattle following exercise. Two herds of cattle were followed for a full day each month, and habitat patch and foraging activity were noted at half hour intervals. The results are shown in Table 2.



Table 2. Seasonal habitat patch use in Chamatamba, 1989, expressed as a percentage of total feeding time

	Cropping	Early dry	Late dry
Fallow fields	6.7	-	-
Fields	-	11.0	15.0
Open grasslands	42.1	32.3	21.0
Central grazing	9.3	13.7	26.0
Home sites, kraals, pens	25.3	20.0	16.0
Riverine	16.6	23.0	22.0

This analysis shows clearly that cattle herds did not follow the deferred grazing system. The central grazing area was used for nearly ten percent of the time in the wet season, and never for more than 26 percent of total feeding time even in the late dry season. The open grasslands were used for nearly a third of feeding time in the early dry season, and for a significant proportion of time even in the late dry season.

Given their small area, surprisingly large proportions of feeding time were spent in home sites, kraals and pens, on the one hand, and in the riverine zone, on the other. In the case of the former this is partly explained by the supplementary feeding practised by the herd owners. In the case of the riverine zone a major reason was undoubtedly the need for stock to water at least once a day, but the presence of green grass and some browse throughout most of the dry season was probably also important.

The deferred grazing system practised in the central grazing area, although not strictly adhered to by Chamatamba's cattle owners, was partly responsible for a marked contrast between the appearance of this area and that of the two open grasslands. Although the (apparently) impressive stands of grass had resulted in Chamatamba becoming a prize-winning grazing scheme, the condition of rangeland in this area suggested a degree of underutilisation (Maclaurin pers. comm.; Frost pers. comm.). The open grassland areas were clearly more heavily utilised, perhaps partly because of the greater abundance of termite mounds, which carried a dense sward of couch grass (*Cynodon dactylon*).

Frost (pers. comm.) is of the opinion that the termitaries may have constituted "patches" of higher quality grazing (possibly containing higher levels of protein) and thus functioned as "key resources" within an environment which was otherwise fairly homogeneous in terms of grazing resources.

Clearly the pattern of forage resource utilisation in Chamatamba was very different from that in the vlei-based systems of Zimuto (Cousins 1992a) or in the sandveld/clayveld dual-zone system in Mazviwa Scoones (1989). In these settings a high degree of spatial and temporal variability of rangeland resources resulted in a highly "opportunistic" pattern of resource use by herds, a pattern which helps to explain how high stocking rates have been sustained in these areas over many years (Behnke and Scoones 1991).

In Chamatamba stocking rates were much lower, and this may have relieved the pressure to exploit resources in a highly opportunistic manner. A degree of opportunism was apparent, however, in the use made of the "key resource" of the riverine zone, which was more heavily used in the dry season than in the summer months. Opportunism may also be a relevant term to

describe the intensive grazing of couch grass on termite mounds - demonstrating that heterogeneity on the micro-scale is also important in understanding patterns of rangeland use.

#### Analysing ecological and technical characteristics

\* At the time of research "jointness of use" in Chamatamba was not under threat from high stocking rates. More livestock could be accommodated on the grazing land if non-owning households were to acquire them, and shortage of grazing land is not a constraint on large herd owners who wish to expand their herds.

\* Exclusion of outsiders' herds was problematic in Chamatamba, particularly in respect of the summer grazing areas, and allegations of "poaching" of grazing led to tensions with neighbours. The location of the central grazing area (sandwiched between the lines of settlement and cultivation) made exclusion from this grazing land a little easier, but despite this herds of cattle belonging to outsiders were occasionally found here.

\* At first glance the underlying boundary conditions of the scheme were not highly problematic. The grazing scheme was not too small for the number of livestock using it. The Nyundo and Nyakandowe Rivers helped to define relatively clear natural boundaries as well as providing the essential resource of water for livestock. However, the area between the two rivers, and between the first Mhiripiri homesteads in the north and the last Chinyanga homesteads in the south constituted a unit which was perhaps too large to be managed effectively as one unit. The distance between Mhiripiri village and Chinyanga was approximately 7 kms, and daily travel to and from a paddock at the opposite end of the area from the home kraal would prove a heavy burden. Using other grazing schemes as a yardstick, it was probable that Chamatamba could feasibly be divided into at least two management sub-units.

Could the commons have been divided among individual livestock holders? Conditions favoured individualisation more strongly in Chamatamba than in most grazing schemes in Zimbabwe. There was a relatively low population density, the high water table could conceivably have been tapped for stock watering purposes by individual stock-holders using low cost technologies, and there was less spatial heterogeneity of resources than is generally the case in the Comunal Lands.

A few powerful individuals in Chamatamba did appear to be quietly enclosing small areas of communal grazing for their own livestock, usually for pen-feeding purposes. They continued, however, to make extensive use of the commons as well, and it is not clear that they would have welcomed the division of the commons into small, privately held units. The degree of opportunistic exploitation of spatially heterogeneous forage resources that did take place may have been important for optimal use of this environment, characterised by infertile soils and natural grazing of poor quality. It is difficult, therefore, to answer this question unequivocally.

An alternative management plan which was partly communal and partly private in character began to emerge as a possible goal for some livestock owners in the course of 1989 and 1990. This would involve the use of the three new paddocks in the central grazing area for intensive pen fattening projects by the small group of large herd owners who dominate decision making in Chamatamba. Grazing management could include the planting of pasture species as well as rotational grazing according to Short Duration Grazing principles. Higher costs would be justified by returns to a fully "commercial" beef enterprise.

Such a scheme would threaten jointness of use of the central grazing area from the point of view of the community as a whole. Exclusion of non-participants would be technically feasible given

the existence of fenced paddocks, but general acceptance of this exclusion would be more difficult to attain.

### 6.1.2 Socio-economic structure

Both grain production and grain sales in Chamatamba were highly skewed. The top 24 percent of households accounted for 81.5 percent of all the maize sold in 1987/88. Half of the households in Chamatamba sold no maize at all.

Table 3. Maize hectareage, maize sales and cattle ownership in Chamatamba 1987/1988

	Cattle ownership			ETA
	0 cattle (n=49)	1-9 cattle (n=39)	10 or > cattle (n=32)	
Hectares under maize (mean)	1.1	1.3	2.1	0.41
Maize sales in bags (mean)	2.2	8.4	23.2	0.54

Cattle ownership was also highly skewed in Chamatamba (41 percent of households owned no cattle), and in 1987 large herd owners (with ten or more cattle) held 74 percent of all cattle while comprising only 26 percent of all households. The level of cattle ownership of households was fairly strongly associated with crop production characteristics. The mean grain production of large herd owners was over 4 tonnes, as compared to under 2 tonnes for medium herd owners and less than 1 tonne for non-owners. Table 3 shows that cattle holdings and maize sales were fairly strongly correlated, and that large herd owners in 1987/88 sold on average nearly three times more maize than medium herd owners and over ten times the maize sold by non-owners.

In general socio-economic structure in Chamatamba was broadly similar in its contours to that found elsewhere in the Communal Lands (Jackson et al 1987; Cousins et al 1992). A wealthy rural elite made up of older households, and generally headed by males but not exclusively so, owned most of the cattle in the community and dominated surplus crop production. All three cattle-owning strata had significant numbers of households with wage-working members.

### 6.1.3 Power structures and institutional arrangements

As in other grazing schemes, conditions of collective choice in Chamatamba were established through a scheme committee which was charged with administering a set of grazing by-laws.

#### The grazing scheme committee

Between 1987 and 1990 visitors to Chamatamba were welcomed and given guided tours around the scheme by members of the grazing scheme committee. One version of the committee's composition stated that each of the five kraals within Chamatamba was represented by two committee members; another had it that each kraal was represented by its sabhuku (kraalhead) and his "assistant". In reality, however, the committee included four members of Muncmo kraal

and only one from Msonza. Members included masabhuku from three kraals and acting masabhuku (younger brothers of aged and inactive incumbents) from the other two kraals.

The committee combined two sources of legitimate authority: the "traditional" leadership role of the masabhuku, and some notion of representative democracy involving election by members and accountability to them. It was the only local institution with recognised authority over common property resources in Chamatamba.

The grazing scheme committee in Chamatamba had also assumed responsibility for the development planning functions which government has intended Village Development Committees (VIDCOs) to have. In Chamatamba the VIDCO was largely inactive. The grazing scheme committee was seen by community members as having responsibility for agricultural project general, water and sanitation programmes, the development of infrastructure such as roads and bridges (through representations to the District Council), and approaches to donors for financial assistance.

#### Grazing scheme by-laws

There was no formal, written set of grazing by-laws in Chamatamba in the 1980s. In February 1987 the Chairman of the committee said that a "constitution" for the scheme existed which defined membership in terms of residence within one of the five kraals, stated that all members had to attend work parties and pay agreed cash contributions, and barred non-members from bringing their cattle into the scheme. Other informants interviewed in 1989 and 1990, including committee members, said that they believed a constitution might exist but that they had never actually seen it.

There was widespread agreement within Chamatamba that a rule existed prohibiting the use of the winter reserve in the central area during the summer months, thus allowing a deferred grazing system to be practised. In a sense this rule "constituted" the grazing management scheme in that it was the only management practice being followed to any degree.

Informants expressed very different views on the issue of what sanctions could be used to enforce this deferred grazing rule. Some stated that fines of between \$5 and \$10 per head of stock per day had been agreed, others asserted that these amounts applied to herds and not individual animals, and yet others said that no fining system existed at all. No fines were observed or reported to be imposed between August 1988 and November 1990, despite numerous instances of cattle grazing in the central area.

#### Operational rules

Entry and exit: in Chamatamba the "scheme" and the "community" were said to be co-terminous, but in reality a small number of residents of the neighbouring kraal of Chirata had been accepted as members. These were large herd owners, included in the scheme partly because the lack of boundary fencing made exclusion of their herds difficult, and partly because they had been invited to join a "co-operative" initiated by wealthy farmers in Chamatamba.

Jurisdictional boundaries: these were clearly defined in the north east and south west of Chamatamba by the Nyakandowe and Nyundo Rivers, and relatively clearly in the south east by a small seasonal stream between Chinyanga kraal and their neighbours in Gora (see Figure 3). The most ambiguous boundary line was to the north west, between Chamatamba and Chirata kraal. The lack of clear demarcations here may have contributed to the blurring of the social boundary between Chamatamba and Chirata kraal.

Partitioning rules: the most important "management rule" said to be operative in Chamatamba was that regulating use of the central grazing area ie. that which reserved this grazing for the winter months. However, the cattle following exercise revealed that this rule was not closely observed in 1989 and 1990.

### Other projects

All of the development projects undertaken in the years following independence were carried out in the name of Chamatamba grazing scheme. Some of these were unambiguously social in character, benefitting all residents - the best example being the bridge-dam at Chomuchena which resulted in greatly improved road access to the area. Others, such as the initiation of fencing lines between summer and winter grazing areas or the planting of community "woodlots" (lines of gumtrees) along this fencing, were accepted by most local residents as being community-oriented, and yielding collective benefits. Another project of this type initiated in 1989 was the planning of village fruit orchards, to be partially supported by extension staff of the Forestry Commission.

A third type of project, however, involved the use of community resources for private income-generating enterprises, and the use of the name and reputation of the grazing scheme to solicit government support. The pen-fattening scheme which was operated in Chamatamba between September 1987 and May 1989 was of this nature. Some of the fencing wire won in conservation competitions was used to construct small paddocks for pen-fattening purposes, and Agritex, the government extension service, supplied free feed concentrates to encourage cattle owners to engage in the project. The Cold Storage Commission provided assistance with transport.

To visitors pen fattening was often presented as a "community project", aimed at raising funds for the fencing of communal grazing paddocks. Local residents, however, understood that pen-fattening was being undertaken by a small group of cattle-owners who could afford to either purchase cattle locally for feeding purposes or could feed up some of their own cattle. The project was open to anyone willing and able to participate, but benefits were identified as unambiguously private in character.

A project with a somewhat different character was the agricultural supply co-operative. This was registered in the name of the grazing scheme, and its members requested support from the District Council on the basis that it was a "community project". The co-operative was set up in 1988 with 15 members, 5 of whom were also members of the grazing scheme committee. The chairman of both bodies was a local schoolteacher, Mr. Frederick Mhiriphiri, who helped to develop a close relationship between the grazing scheme, the co-operative and St. Peter's Msonza School. The school became the unofficial "headquarters" of the scheme and its storerooms were used by the co-operative. The co-op included 5 members from Chirata kraal (supposedly outside Chamatamba), but none from Chinyanga kraal (within the scheme).

The co-op used its starting capital to open a credit facility with a fertilizer company and bought 9 tonnes of fertilizer at a bulk discount. These were then sold locally at a mark-up of Z\$ 2.00 per bag. By the end of the 1988/89 season over 25 tonnes of fertilizer and over 50 bags of hybrid maize seed had been sold, and the co-op had shown a profit of over Z\$ 2000.00. The following season the co-op again traded in fertilizer and seed, and moved into the cement business.

In mid-1988 a typed constitution for the cooperative was drafted, with the help of the headmaster of the school, so that the co-op could be registered with the Ministry of Community Development, Women's Affairs and Co-operative Development. The name of the co-operative was given as "Chamatamba Grazing Scheme". Clauses on membership dealt only with the composition of the committee, and one clause stated that "all members elected to sit on the committee shall be

members of the co-operative (Scheme) at the time of the election". This was profoundly ambiguous. The chairman stated that all those residing in the 5 kraals were members of the co-op, but other members of the co-op confirmed in interviews that membership was in fact restricted to the 15 founding individuals.

Thus the lines of demarcation between projects to improve general social infrastructure and develop the grazing scheme and woodlots, (for the benefit of all co-owners of the commons), the pen fattening project, (in principle open to any scheme member but in practice largely restricted to the larger herd owners), and the cooperative, (a private business initiative), had been blurred, and deliberately so.

### Power and decision making

The cattle wealthy members of the community dominated decision making in Chamatamba. The leadership of the scheme (ie. the committee), those farmers engaged in pen fattening, and the membership of the co-op were almost all drawn from this group or their immediate families.

The average cattle holding of committee members in 1988 was 14.3 head, more than twice the community mean (6.2 head), and more than the mean for cattle owners only (10.5 head). Only 3 of the 11 Committee members owned less than 10 head, and one of these owned 9. The average cattle holding of co-op members in 1988 was 13.0. Four of the 15 members were sons of leading members, including the Chairman and Vice-Chairman, and the sons' cattle holdings were much smaller, amounting to a total of only 10 animals between the four younger men. The mean cattle holding of the other, more senior, co-op members was 18.3.

Another relevant characteristic of this leadership group was the presence of most of the masabhuku or acting masabhuku within it. As stated above, the masabhuku of all five kraals in Chamatamba were represented on the grazing scheme committee, and four of these were large herd owners. The co-op group contained four masabhuku: three from within Chamatamba (from Mhiripiri, Munemo and Msonza) and one from Chirata kraal.

Between 1988 and 1990 the active core of the grazing scheme committee, a group of about 5 or 6 men, met regularly and informally at the primary school to discuss their various projects, but very few general meetings of the whole community were called. Those that were held were poorly attended. Decisions were communicated to residents by word of mouth through the masabhuku or his "assistant". Some tasks (e.g. collecting maize contributions from households for sale as a way of generating community funds) were delegated to the masabhuku. There was no hard and fast distinction made between committee meetings and co-op business meetings. Although no minutes of meetings were kept, the co-op kept financial records of its fertilizer, seed and cement trading activities.

In summary, then, both political and economic power in Chamatamba was concentrated in the hands of a small but active group of wealthier men. This group drew its power partly from the strong allegiance of most households to "traditional" forms of authority, partly from the status of its educated and eloquent chairman and the close association between the leadership and the local school, and partly from the proven success of this leadership in bringing development funding into the community. The "grazing scheme" in Chamatamba denoted much more than a project to manage grass and livestock; it was at the centre of a carefully nurtured image, or representation, of a self-reliant and dynamic "resource-managing community". This image was being used as a vehicle for the establishment of purely private economic ventures undertaken by the Chamatamba elite.

#### 6.1.4 Key actors

The following groups (collective identities) and agencies were the key actors in Chamatamba grazing scheme. Firstly, within the local social structure, membership of the five kraals in Chamatamba was important. A few members of Chirata kraal, nominally outsiders, were part of the power elite. It was relevant whether or not a household belonged to the group of large herd owners, small herd owners, or non-owners. Membership of the agricultural co-op was another critical dimension.

In terms of the local power structure, key actors were the masabhuku of Mhiripiri, Munemo, Msonza, Makuvire and Chinyanga kraals, and other members of the grazing scheme committee. Important external agents and agencies were field staff from Agritex, the Forestry Commission, the Natural Resources Board, and the Cold Storage Commission, and local government officials, including the Councillor for the area, executive staff of the District Council, and the District Administrator.

#### 6.1.5 Patterns of interaction and struggle

There are three distinct phases in Chamatamba's recent history. In the first, from roughly 1983 to mid-1987, the emphasis was on projects which were uncontroversially "community-oriented" in character and the scheme leadership acquired both local legitimacy and a wider reputation for effective organisation. Work sessions were organised for the building of the bridge-dam on the Nyakandowe River, the erection of the first "grazing scheme" fences, and the planting of gumtrees along the fence lines. According to informants these were well attended.

In the second, from September 1987 to mid-1989, the scheme leadership focused its energies on pen fattening of cattle and the establishment of the agricultural supply co-operative. The grazing scheme committee devoted some of its energies to attempts to obtain donor funding for a windmill, a borehole and fenced paddocks. The fruit orchards project was also initiated in this period, but only the orchard at the homestead of the Chairman, Mr Mhiripiri, was actually established. Few general meetings were held, and only one community work session for the repair of fences was called, in June 1989. This was poorly attended (by 27 people, representing 21 percent of all households in Chamatamba), and the fences were in a complete state of disrepair within a month.

In the third phase, from mid-1989 to December 1990, the major focus of the scheme became the windmill/borehole and paddocks project in the central grazing area. Donor funds were received; the District Administrator provided fencing materials, and the committee had to work hard to purchase additional fencing materials, organise work sessions, hire a drilling rig, obtain a measurement of borehole yield, and purchase a windmill. Another project to which the committee devoted its attention was an application by Chamatamba to join the Cold Storage Commission's Cattle Finance Scheme (CFS), which is aimed at encouraging beef production in the Communal Lands. This third phase saw the emergence of open antagonisms within the community, mostly centred around the windmill/borehole and paddocks project.

In mid-1989 informants from Chinyanga village expressed their disillusionment with the way that "community wire" had been used. The boundary wire won in the conservation competitions did not extend as far as their village and they felt that the neglect might well continue. "The borehole is in Mr Mhiripiri's village and the paddock is in his village as well; pen fattening is in Munemo's village".

Work sessions to erect fencing in the first two paddocks continued through the months of August and September, and the third paddock was completed in November 1989. The pattern of attendance established at the beginning remained more or less constant throughout: numbers were small, there were always committee members present to organise and supervise the work, and large herd owners who were keen to participate in the Cattle Finance Scheme (and this included the small number of cattle wealthy households from Chirata kraal) made up the majority of participants.

Other antagonisms emerged in the course of the next 9 months. The leadership group suffered internal strains as it took the burden of seeing the borehole/windmill/paddocks project through to completion almost entirely onto its own shoulders. Members of the committee could not agree on ways of raising the level of attendance at work sessions, and members of Munemo and Mhiriphiri kraals began to express resentment at the poor commitment of members from other kraals. No attempt was made to invoke by-laws of any kind. Chinyanga kraal members continued to boycott work sessions and to question the "community" character of the projects.

Although no open challenges to its authority were made during 1990, the committee was unable to arouse much enthusiasm for its activities amongst ordinary members. The windmill, borehole and paddocks project was accepted as being essentially for the benefit of the better-off minority with sufficient resources to engage in pen fattening, but some benefits to other cattle owners were also anticipated, eg. the paddocks might prove a useful way to relieve the labour of herding during the summer months.

The members of Chinyanga kraal remained alienated, but their attitudes were revealing. At a group discussion in February 1990 some of them expressed a great deal of resentment at their neglect by the Chamatamba leadership. The new paddocks were to be used for the pen fattening scheme, "not for the community". Anxiety was expressed over the possibility that the central area would in time be used only for intensive grazing, whereas people also needed it to supply thatching grass.

It was significant that members of the disaffected kraal of Chinyanga continued to assume that their kraal was an integral part of the larger collectivity of "Chamatamba", and that the leadership's main faults lay in not extending to all members the benefits of development projects. The notion that the central grazing area was a communal resource was strongly affirmed, as was the "rule" that this should be used as a winter grazing reserve. Use of the new paddocks for pen fattening was accepted because participation was in principle open to anyone from Chamatamba who could afford the costs involved. Central to this discourse were notions of "communal resource use", "community" and "development" which did not differ significantly from those put forward by the Chamatamba leadership.

The leadership group's response to growing disenchantment was to reiterate the importance of both "community" and "development", and to interpret the criticism from within the dominant discourse. Ideas which had been present throughout (e.g. characterising the views of critics as coming from a "negative minority") received greater emphasis. Greater stress was placed on the role of "leadership" and "education through example", as a way of explaining how development of the community could be initiated through projects in which only a wealthy minority participated. Most households in Chamatamba were said to be part of the "passive majority" who needed to be shown the way forward.

As the borehole/windmill/paddocks project took shape the leadership continued to emphasise its character as a "community" project:



The fences, water troughs, and windmill don't belong to one person, but to Chamatamba. The road and the bridge are used by everyone, and it will be the same with the new paddocks" (F. Mhiripiri 19/2/90).

By the end of 1990 it appeared to be the case that this discourse of "community development through leadership enterprise" was able to subsume and neutralise, to a large extent, the antagonisms which had begun to be expressed. Nevertheless, the antagonisms remained and it was clear that they would have to be taken into account by the leadership in any future developments.

#### 6.1.6 Outcomes

##### Evaluating equity

Despite Chamatamba's image of being a "resource managing community" *par excellence*, by the end of the research period it was clear that in respect of rangeland only a "minimum" form of common property had come into being. Membership of the scheme was relatively clearly defined (although there remained a degree of ambiguity as to the boundary with Chirata kraal), and more effort was devoted to excluding neighbours' cattle than to enforcing the deferred grazing rule. Within this tenure regime a small group of cattle wealthy households with political power pursued a strategy of private accumulation.

The scheme leadership managed to secure substantial external support for development projects which benefitted mainly themselves, but were also constrained in the extent to which they could pursue this strategy. The dominant discourses of "community" and "development", which the leadership manipulated so ingeniously, were sufficiently ambiguous to allow this manipulation, but nevertheless provoked expectations amongst the membership as a whole of a flow of at least some material benefits for themselves.

The project of fattening cattle through the Cattle Finance Scheme, and using the new paddocks and the borehole/windmill water supply in the central grazing area for this purpose, reflected this tension most clearly. Cattle were to be taken from the CSC on credit, and, although obtained only through group negotiations, would be individually owned. Any profits earned would accrue to individual owners. However, the project was based on communal grazing land developed with funds granted for a community project. The principle that it was open to anyone from within Chamatamba who could afford the associated costs served, therefore, to balance the fact that private profit was being pursued through the use of collective resources.

~~In Chamatamba, the antagonism between private and collective use of grazing land could be contained partly because of the relatively plentiful supply of grazing resources. The paddocks did not enclose the whole of this area, and fears that the supply of thatching grass would be threatened by intensively grazed paddocks were not yet justified. In other words, communal use was not yet under threat. The sinking of a borehole and erection of a windmill were in any case significant improvements to Chamatamba's resource base, whatever their immediate use. The pen fattening project was thus being tolerated by the majority of Chamatamba's members partly because it was perceived to bring potential benefits to a much wider group than the leadership elite alone.~~

Thus the outcome of the power plays within this grazing scheme was neither a high degree of equity, nor unrestrained domination by the elite. Rather, a situation of minority decision making and unequal benefits, in relation to projects which for the most part had to remain open, in

principle, to the majority, reflected an uneasy compromise between different groupings within the contested terrain of "development" within Chamatamba.

### Evaluating efficiency

Analysis of the ecological and technical characteristics of Chamatamba suggests a number of issues to be evaluated here. These include the underutilisation of the central grazing area; the management function of the new paddocks with their borehole and windmill; the role of termitaria and the riverine areas as "key resources" and whether or not their present use can be improved upon; the size of the scheme and the possibility of subdivision into two management units; and the question of whether or not a more developed common property regime, with tighter controls over individual usage, would increase efficiency.

The question of how to improve management of rangeland resources was discussed with an ecologist who has visited the scheme, Peter Frost, and at a well attended community meeting in November 1990. The first issue requiring clarification in these discussions was that of the objectives of livestock holders; in Chamatamba two distinct sets of objectives appeared to be held. One set was held by all cattle owners, and corresponded to that described for Communal Land draught-oriented herds in general (Danckwerts nd, GFA 1987; Scoones and Wilson 1989); the other was held only by those large herd owners who were interested in beef production through pen fattening. Improvements in rangeland management were judged to be feasible in terms of both sets of objectives, but rather different technical and institutional innovations would be required.

Frost's main recommendation for a draught-oriented herd was to aim at improving cattle condition at the end of the dry season. This was because this is the time of year when the greatest physical demands are being made on the animals, and a time when they are in poorest physical condition. One way to achieve this in Chamatamba would be to improve the quality of the dry season grazing in the central area, which was dominated at the time of the study by unpalatable grasses such as Schizachyrium jeffreysii, Hyparrhenia spp, and Elyonurus argenteus. A late dry season burn on at least a portion of this grazing land could improve forage quality: regrowth would provide more plant protein in animals' diet just before the start of the ploughing season, and would thus improve the usefulness of these rather poor grass species.

Institutional action would be needed to carefully manage such a strategy. The areas to be burnt would need to be carefully identified, since they would have to contain sufficient residual soil moisture to permit sustained regrowth under the combined effects of fire and grazing. This points to either low-lying areas close to the rivers, or more clayey soils, or other areas where the water table is high. Cattle would have to be kept off the burnt area until the grass had regrown to at least 8-10 cm. The burn and its control would have to be organised, and community support for such an intervention secured (burning is still frowned upon by extension staff and thus also by many farmers).

Frost suggested that fertilisation of Cynodon dactylon on the termitaria would probably not improve efficiency since water rather than fertility is the limiting factor on these soils. He also suggested that the most appropriate action to take in relation to the riverine areas was to monitor them for signs of degradation (e.g. incisions, gullies), to undertake protection and reclamation measures when required, and to control cattle access to degraded areas.

More conventional recommendations for improving management would be to develop a system of paddocks in order to practise Short Duration Grazing (SDG), as advocated by Agritex

extension staff. The effectiveness of rotational resting in Chamatamba was questionable, however, given that most grass species were so fibrous and unpalatable.

If beef production was the main objective of livestock owners then the conventional methods of improving pasture quality during the wet season (planting improved species, including legumes, fertilising, and possibly irrigation) were recommended by both Frost and extension staff. The cost of such interventions would be high and their financial viability doubtful.

The Chamatamba leadership had clearly opted for the objective of beef production in relation to the use of the new paddocks. As became clear at the community meeting in November 1990 they had managed to secure at least acceptance (if not approval) of this project by the majority of residents. They were thus much more interested in pasture improvement using exotic species than in management practices aimed at improving the supply of draught power within the community as a whole - probably because for large herd owners draught supply was not a major problem.

If draught-oriented livestock production objectives were to become the central focus of grazing management within Chamatamba, then the questions of optimum size, and of an institutional structure able to ensure that management rules were observed, would have to be addressed. The subdivision of the scheme into at least two management units might be desirable, since the distance between Mhiriphiri village at the northern end of the scheme and Chinyanga village at the southern end is approximately 7 kms. Subdivision might also assist in the development of a more effective decision making capacity. If, for example, Mhiripiri and Munemo kraals managed one unit in the northern part of the scheme and the other three kraals managed the other, then the problem of uneven locational advantages could be reduced. This would address one of the sources of tension within Chamatamba.

The question of which set of objectives would predominate, or alternatively of a possible compromise solution in which both sets were pursued side by side on Chamatamba's relatively large rangeland resource base, was clearly not a technical issue; rather, it was political in character.

#### 6.1.7. Diagnosis of problems using the model

The analysis of Chamatamba grazing scheme presented here suggests that a number of "mismatches" between components of the common property regime were giving rise to a number of operational problems. In each case the "mismatch" is explicable only by reference to the dynamics of the power plays taking place, and the origin of these in the differentiated socio-economic structure of the community. Five examples will be given.

Firstly, the discrepancy between the deferred grazing rule and actual herding practices indicated that partitioning rules were ineffective. However, this was not due so much to conditions of jointness being threatened so much as two other factors: (a) partitioning rules did not take into account the "patchiness" of habitats, in particular the importance of the key resources of the termitaria and the riverine zone; and (b) the leadership of the scheme was not pursuing the goal of improving the condition of draught-oriented herds, but one of private accumulation through pen-fattening. The first reflects a disjunction between ecological dynamics and the technical aspects of the scheme, the second a disjunction between stated goals and institutional practice.

Secondly, the ambiguity as to jurisdictional boundaries and entry rules with respect to members of Chirata kraal is explicable in terms of the accumulation strategies of the Chamatamba power elite. This group welcomed wealthy herd owners from a neighbouring community into their co-operative and pen fattening ventures because of the capital they could bring in. Their active

participation was more important than that of other herd owners within Chamatamba who were not part of this entrepreneurial group.

Thirdly, the feasible sub-division of the scheme into at least two management units was not at any point considered, despite the tensions caused by Chinyanga kraal's partial "defection" from the scheme. The scheme leadership, however, was only ostensibly concerned with grazing management for the community as a whole, and this elite group drew on the wealthier members of all five kraals - hence the need to represent the scheme and its sub-projects as being for the benefit of all Chamatamba residents.

Fourthly, the lack of formalised grazing by-laws in such an apparently successful scheme, together with the infrequency of community meetings and the low levels of commitment to fence erection or repair, makes sense when the gap between representation and reality comes fully into focus. "Institutional development" in Chamatamba appeared to be deficient from the point of view of a fully developed common property regime, but served the leadership group very well. Poor attendance at meetings and work sessions reflected a low-level form of resistance to the leadership's plans by the community at large.

Finally, future developments on the Chamatamba commons clearly rested not so much on the ability of the leadership or its technical advisers (government extension staff) to analyse "mismatches" and design "adjustments", so much as on the outcome of the power plays taking place. For example, compromise solutions allowing the objectives of both improved supplies of draught power and beef production to be pursued simultaneously were only likely to come about if the "silent majority" of Chamatamba herd owners (and non-owners) actively sought them and pushed the leadership to make "community development" more of a reality.

## 7. CONCLUSION

Four other grazing schemes in Zimbabwe have been analysed using this political economy model of the commons, but space does not permit a comparative analysis to be presented here<sup>4</sup>. Interesting similarities and differences appear, with the disjunction between ecological and technical aspects of grazing schemes looming particularly large in some of the other cases. In all of them, however, complex political dynamics shaped the evolution of embryonic common property regimes. Coming to an understanding of these, as in Chamatamba, required an analysis of the discrepancies between ideological representations of resource management issues and the reality of devious and disguised power plays by opposed interest groupings within the "community". Although the links between these dynamics and socio-economic structure were not always immediately apparent, the necessity of disaggregating "communities" was clear in every case. It thus appears that the political-economy model assists analysis by directing attention to highly relevant, but sometimes ignored, dimensions of common property regimes.

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<sup>4</sup> For a partial analysis in terms of the model see Cousins 1992a and 1992b.

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