Managing The Commons.

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Victoria Edwards.

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513 NORTH PARK
INDIANA **UNIVERSITY**
BLOOMINGTON, IN 47408

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MANAGING THE COMMONS:

A conceptual model for analysis of institutional change and its application to the management of common land in the New Forest

Victoria Edwards
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CHAPTER ONE: INTRODUCTION

1.0 BACKGROUND

1.1 LAND MANAGEMENT AND POLICY ANALYSIS

Recent national and international evidence suggests that the environment has taken on new importance in the political agenda of many people. The success of the United Nations, in 1992, of enabling global debate on the environment at its Conference on Environment and Development (popularly known as the "Rio Earth Summit") is testament to that new importance. The Conference, which brought more heads of state and government together than any previous meeting (178 government were represented), resulted in the signing of five separate agreements[1] (Grubb et al.: 1993). Earlier, in 1989, Pearce et al. (1989:xiii) reported on the increasing importance of the environment in the perception of the European electorate (see Table 1.1). In Britain, the Government's White Paper, "This Common Inheritance" provoked widespread public interest on its publication in 1990.

Greater understanding of the source of environmental problems and increased realisation of the long-term implications of environmental degradation have resulted in a higher profile for environmental issues. There is recognition that we require better information concerning the limitations of natural resources and the allocation of resources to specific uses. In our attempts to improve such understanding, it is crucial that we appreciate the way in which different uses of resources are controlled and managed. Agenda 21 of the Earth Summit reflects recognition of the need to explore alternative strategies for the management of natural resources. Koch and Grubb (1993:97) comment that, compared with other international conventions, "Agenda 21 contains far more about the nature of problems, aims, possible approaches and desirable policies."

Of paramount importance in the debate over management of natural resources is the role of land ownership and management. Zuckerman et al. (1958:9) recognised that "since land is an essential feature of a nation's resources, the ownership and management of it are of utmost importance in the development and employment of resources" and continue that "policy-makers

[1] Two legally binding conventions, the "Framework Convention on Climate Change" and the "Convention on Biological Diversity", and three, non-legaily binding agreements, "Agenda 21'"- an 'action plan' for sustainable development, the "Rio Declaration" - comprising 27 principles for guiding action on environment and development and "Forest Principles" (Grubb et al. :1993).

commissioned to build up, use and preserve resource are apt to overlook or disregard the fundamental fact that land is owned by private persons, institutions of various kinds and Government departments, each enjoying an individual and distinct proprietorship in land."

1.1.1 Property Rights and Self-Governing Organisations

'Property" as a concept is a social instrument used to define a flow of benefits. Property rights to land are social institutions which have evolved as a means of enforcing claims to that benefit stream: "a property right is a claim to a benefit stream that some higher body - usually the state - will agree to protect through the assignment of duty to others who may covet, or somehow interfere with, the benefit stream"' (Bromley, 1992:4). By attaching rights to property, we show the intention to enforce duties of a potential user to observe restricted (or prohibited) access to and use of the resource.

In some cases, state involvement in the use and management of resources is no more complex than the enforcement of a collection of private property rights. Proper definition of property rights allows them to be transferred between users through the mechanism of a market, or series of markets. State involvement through the enforcement of private property rights leaves control of the resource, in terms of decision making for its use and management, with the rights holder. However, the state can assume control over the resource by intervening in the definition and allocation of rights. Traditionally, we have tended to accept the need for government control of natural resources in Britain, at the national or local level. Indeed, we have a plethora of designations and accompanying regulations, such as National Parks, Areas of Outstanding Natural Beauty (AONB), National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI), and Environmentally Sensitive Areas (ESA). There is an implicit assumption in acceptance of this system of resource governance that central government is in the best position to establish regulations and enforce compliance of land users in matters concerning resource use and conservation.

It is possible, however, that resource users, through local self-governing organisations, might be capable of controlling and managing the resources themselves. Until we begin to question the ability of individuals to control and manage resources through collective action, we will have insufficient knowledge and understanding of the types of self-governing organisations that are effective and those that are not. Concurrently, we must question situations in which government fails to properly control and manage resources. Wolf (1979:107) challenges the principal rationale for policy intervention, which lies in the inadequacies of 'market' outcomes, arguing that the rationale "is really only a necessary, not sufficient, condition for policy formulation." Wolf concludes that identified market failures should be compared with potential non-market failures associated with the implementation of public policies. He cites four categories of non-market or 'government' failures associated with the implementation of public

policy:
(i) internalities and private goals;
(ii) redundant and rising costs;
(iii) derived externalities; and
(iv) distributional inequity.
Wolf (1979: 139) advocates that "in order to make more reliable comparisons among alternative public policies, as well as between them and market outcomes, policy analysis should explicitly consider how particular policy alternatives will be implemented."

It is from this point of understanding whether governments or self-governing organisations can operate effectively that we will be able to introduce effective government intervention in resource management. Such government intervention might, where necessary, supplement self-governance mechanisms to form effective partnership arrangements.

Research suggests that the effectiveness of each system of natural resource management will depend upon the physical, social and institutional factors operating in each case: "The search for appropriate institutional responses must respect both the traditions and the constraint of local needs in specific choice environments. There are no universal prescriptions for efficient and equitable resource management." (Runge, 1992:35). Physical factors include the nature of the resource itself and the constraints placed upon its use by natural physical limitations. Social factors include the quantity and type of demands of the resource users, their social structure, time horizons, interests and established norms of behaviour. Institutional factors involve the rules which have been devised to govern the resource use, either through intervention or by the resource users themselves, and how those rules affect the choices and incentives of individuals. These factors interact to create a unique set of demands and problems to be tackled by the governing institution.

1.1.2 Common Property Resources

Of particular interest are the problems associated with resources controlled and managed as common property. When the a resource is held by a single owner, who is able to effectively exclude other users, the owner is afforded the ultimate control and management of the resource. The individual owner's ability to determine the type of use of the resource, the appropriate management and the means of implementing management, are all the more certain by virtue of the absence of other interested parties. When other parties who have a vested interest in the way in which the resource is used are introduced to the scenario, the problems of control and management become more complex.

The specific nature of common-pool resources and the problems encountered in managing their use has earned them special attention in natural resource policy analysis. Many books, articles

and conferences have focused on the issue of common-pool resources, and have included discussion on such varied resources as forests, grazing land, fisheries, irrigation systems, and have referred to the resources variously as 'the commons', 'common-pool resources', 'common-property resources'. A bibliography of "Common Pool Resources and Collective Action" has been published by Fenton (1992) at Indiana University.

The management of all resources must take into account the effect that resource use has on non-owners of the resource. For example, management of arable land must take into account the effect that a particular management regime might have on the surrounding countryside: such as, the possibilities of polluting water courses through chemical run-off; the air pollution created through burning straw; the loss of wildlife habitat involved in removing internal hedgerows. Interested parties will seek ways of influencing the management employed by the individual landowner. The management of common-pool resources, however, introduces a further complexity: in most common-pool resources there is no single owner. The resource is held collectively by several individuals. This creates problems of management even before the interests of other individuals, with *no* legal rights to the resource, are taken into account.

This thesis will examine the control and management of common land in England and Wales.[2] Peculiar to most common-pool resources, common land in England *is* often held by a private landowner: in some cases an individual, but in most cases a private organisation. However, rights to *use* the land are held by 'commoners'. In this respect, the problems encountered in the management of commons in England involve all the complex issues of managing a common property resource. The thesis will address, in particular, the type of institutional arrangements which might be employed to help manage common land and will investigate the circumstances in which local, self-governing organisations might be able to ensure the long-term viability of common land. By analysing the management of common land in the New Forest, the thesis will examine the factors which affect the performance of the governing organisations and question the way in which government intervention affects the operation of these organisations.

Control and use of common land requires the coordination and cooperation of a whole host of actors involved in the common: the freehold owner; the commoners (holding rights over the common); other users and non-users deriving benefit from the common; and the agents of any of these parties. Collective action problems occur when one of these actors has an incentive to use the common in a manner which is detrimental to the other actors involved. Institutional

[2] There are no commons, as such, in Scotland or Northern Ireland, although some land enjoys similar status. Shoard (1989:420) reports that "the nineteenth century land reforms in Northern Ireland usually resulted in grazing, turbary and other rights being divided up on an individual basis. Here and there, in areas where the land reforms have not reached, common rights survive." Similarly, in Scotland the commons were not protected by the England's Enclosure Commissioners and there is no land which bears the legal definition of 'common land': "the only category of Scottish land that has some similarities with the common land south of the border is the common grazing land used by groups of crofters."

arrangements are needed which will provide a structure of rules to enable the actors to maintain productive long-term relationships with one another. In many indigenous cultures such institutional arrangements have been established by the resource users themselves. The institutions devised comprise a wide variety of rules which specify rights and responsibilities among the users.

1.2 THE IMPORTANCE OF COMMON PROPERTY RESOURCES

Institutions based on the concept of 'common property' can play an important role in contributing to our understanding of the control, use and management of resources. The concept has been applied to a wide range of resources, from fisheries and grazing lands to forests, recreational sites, water and air. Essentially, it is a concept which encompasses situations where more than one user of the resource is present and where the resource produces a fixed flow of "use-units" per unit of time (Ostrom, 1990a:250). For fisheries, the use unit is the number of fish caught each year. For common grazing land, the use unit is the number of animals grazed each year. There is little problem when the number of use units consumed by those sharing access to a common resource is considerably less than the amount of yield that the resource is physically capable of sustaining, that is, reproducing over time. However, when the number of use units consumed from the resource exceeds that sustainable yield, institutions must be employed which will govern use of the resource in a sustainable manner, preventing resource degradation or depletion.

In 1968, Garrett Hardin published the "Tragedy of the Commons", which has become a strong symbol of the problems of common property resources and the degradation which must follow from common use of a scarce resource. Hardin uses the example of an area of grazing land to express the depletion of resources used in common. Use of the common is analysed assuming that each grazer acts as a rational individual. Each grazier, because he receives direct benefits from his own animals and bears only a delayed share of the costs resulting from overgrazing, is motivated to add more and more animals to the common. The tragedy is that the common becomes overgrazed as "each man is locked into a system that compels him to increase his herd without limit." (Hardin, 1968:1244).

A succession of authors have subsequently criticised Hardin for his exposition. Dasgupta (1982:13) comments that "it would be difficult to locate another passage of comparable length and fame containing as many errors." Certainly, empirical evidence, historical and contemporary, suggests that resource depletion or degradation is not necessarily the inevitable outcome of common use of a resource. Runge (1981) identifies three key problems with Hardin's model which render it unreasonable on empirical grounds. First, it assumes that each

grazier will "free-ride", disregarding the possibility that cooperative rules will be established, unless they are imposed from outside. Second, it ignores the fact that graziers' decisions are interdependent and the importance of their changing expectations of each others' behaviour. Third, it ignores the problem of uncertainty faced by graziers with regard to the action of others.

Implicit in Hardin's parable was an assumption that when a natural resource is physically and legally accessible to more than one resource user, the result will be a "free-for-all", with users competing with one another for a greater share of the resource to the eventual depletion in the quality and/or quantity available of the resource. Aristotle commented that "what is common to the greatest number has the least care bestowed upon it. Everyone thinks chiefly of his own, hardly at all of the common interest" (Politics, Book II, ch.3). More recently, several economists have argued that mere existence of common property rights over a scarce resource will lead to a tragedy of the commons (Demesetz, 1967; Cheung, 1970; North and Thomas, 1977; Smith, 1981). Assumptions of this type, that the resource users are incapable of devising institutions which will govern the sustainable use of the resource, have led to policy proposals which seek to impose some form of control of the resource over the resource users. Solutions frequently fall into one of two categories. The first suggest the creation of new patterns of ownership of the resource; turning the 'common' property into private property is thought to create the correct incentive structure to ensure that the resource is managed effectively (Demesetz, 1967; Johnson, 1972; Smith, 1981; Sinn,1984; Anderson and Leal, 1991). The second suggest that the imposition of state regulation will ensure that the resource is managed to carefully designed criteria (Ophuls, 1973; Hardin, 1978; Carruthers and Stoner; 1981). Both types of proposals are characterised by the assumption that institutional change must be devised and imposed upon the resource users by some external organisation.

Bromley (1991), also criticising Hardin's parable, warns us to beware of making policy predications based on false definitions of the problem. He explains that resources might controlled and managed as *common property:* that is, a particular property regime which involves common use of the resource can be successfully established and can contribute to effective management of the resource, just as establishing public property rights or private property rights might achieve the same objective. He clarifies the disparity between resources managed in common and the 'open-access' resources, over which there are no property rights, which form the basis for Hardin's tragedy of the commons. Earlier, Ciriacy-Wanthrup and Bishop (1975:721) were equally critical of popular interpretations of the concept of common property, claiming that "common property, *with the institutional regulation it implies,* is capable of satisfactory performance in the management of natural resources, such as grazing and forest land, in a market economy."[3]

Researchers have documented evidence of many cases where a common property resource has

[3] my emphasis

sustained productive use over a considerable period of time by virtue of the control and management system operated by the common users themselves. Indeed, institutional arrangements devised or evolved by resource users have been fundamental in ensuring the productive use of fragile natural environments for centuries. Examples, which include, amongst many resource systems, irrigation systems, fisheries, grazing lands, forests, have been recorded and analysed by as many researchers: most notably Ostrom (1990 and 1990a), Berkes et al. (1989), Bloomquist (1990), Bromley et al. (1991) and Curtis (1991). It is this empirical evidence that provides strength to the criticism of Hardin's parable. Twenty two years after publication of Hardin's article, Feeny, Berkes, McCay and Acheson (1990:12), conclude that it is "insightful but incomplete" and that self-regulation of commons by the commoning community is possible to prevent such a tragedy. Emphasising that "no single metaphor can tell the full story", the authors conclude that researchers must understand the institutional arrangements governing resource use and the cultural factors involved in order to be able to provide for better analysis and prediction.

1.3 COMMON GRAZING LAND

Work directed at the analysis of common grazing systems has been conducted by Netting (1972, 1976, 1981, 1982 & 1991), McKean (1982, 1986 & 1991), Campbell and Godoy, (1991) and Wade, 1988 & 1991). Ostrom (1990) summarises much of the work carried out. Typically, the research focuses on the use of grazing land as a resource system producing "resource use units" (Ostrom, 1990:30) which might measured by the amount of animals grazed each year. Grazers, using the resource in this way might be referred to as "extractive users."

Research indicates that, to date, little emphasis has been placed upon other uses demanded of the land: such as recreational and amenity uses. Common land in England has sustained pastoral agricultural for centuries. However, the twentieth century has brought new demands on the use of common land in England, extending beyond those made by graziers. In particular, the amenity value of common land has become an important focus for much debate about the future of the commons.

Improvements in agricultural technology have enabled British farmers to make more productive use of the fixed supply of land available to them. Post World War II developments in agricultural inputs (seed and fertiliser), coupled with the evolution of inorganic pesticides and insecticides, enabled farmers to achieve higher yields per unit area of both arable and forage crops and and to increase the variety of crops grown. In addition, their ability to employ increased mechanisation enabled the improvement of yields to be achieved economically due to the concurrent reduction in labour costs. The number of full-time agricultural workers in Britain

decreased from 739,000 in 1946 to 117,000 in 1984: a reduction of around 84 per cent (Shoard, 1997:193). This "high input, high output" farming has resulted in Europe becoming a net over producer in almost all major products (Table 1.1) Approximately one fifth of agricultural land in Britain (some one million hectares) is now surplus to production and it is estimated that by the year 2010, the amount of surplus agricultural land could double if price support of production continues to decrease; overseas imports are allowed to enter Britain on a competitive basis; and domestic agricultural productivity continues to grow (O'Riordan, 1991). (CHECK ANNUAL REVIEW OF AGRICULTURAL, HMSO). As a result of such over-production, the Ministery of Agriculture , Fisheries and Food has, along with EC directives, introduced several programmes designed to try to reduce over-production. Theses include the setting aside of agricultural land for fallow; deliberate reduction in output through lower productivity measures; reduction in nitrate fertiliser application; and the income support of farmers continuing traditional management.

As the agricultural value of the land decreases, an increasingly urban population values open space for its amenity benefits. The last half of the twentieth century has been characterised in Britain by increasing use of the countryside. The increase in countryside recreation can be attributed to a general increase in leisure in Britain, stimulated by: a decrease in the length of the working week; increasing holiday entitlements; increasing life span with an increased income during retirement; and higher disposable income. The focus on countryside leisure might be specifically attributed to greater car ownership and improved roads and motorway networks; and increased education about the countryside and its potential for recreation. The total number of countryside visits made in an average summer month is estimated to be between 80 and 100 million (Willis, 19??: 40).

Access to agricultural land has long been a contentious issue between farmers and recreational users. Works such as Shoard's *The Theft of the Countryside* (1980) and *This Land is Our Land* (1987) have sparked much debate over the continued maintenance of the public footpath system in Britain. Slee (1987:27) comments that "to the ramblers the footpath system is a licence for access into an otherwise inaccessible opportunity and footpath systems are jealously protected." Whilst users of footpaths do not strictly hold a 'licence' to use the path, they are afforded a legal entitlement to "pass and repass...." by virtue of the National Parks and Access to the Countryside Act 1949. No such right is provided on common land. Although the land is *physically* open to access by recreational users, the public has no common law right to wander over common lands and cannot acquire such a right through long usage.[4] Only the presence of public rights of way such as footpaths and bridleways over an area of common land will grant such a right. Nevertheless, both the physical ability to enter onto common land and the extent to which such land is visible from adjoining roads means that it forms a great

[4] This was laid down in a *g vAntrpbus (1905) 2 Ch 188,* where a public right of access to Stonehenge was rejected, and affirmed in the Court of Appeal in *re Ellenborough Park (1956) 1 Ch 131. (See* also Chapter Two, section 1.2.5)

attraction for recreational users.

In addition to meting recreational demands, common land in England and Wales is also capable of satisfying other amenity demands. In particular, common land may be rich in biological diversity and contribute to the conservation of plants and animals. One of the greatest threats to biological diversity is that of habitat alteration caused by agricultural and forestry development which can reduce a highly diverse natural ecosystem to a far less diverse agro-ecosystem. Since much common grazing land in Britain remains unaltered, the paucity of the land often not warranting 'improvement' (such as drainage, cultivations and inorganic fertiliser and pesticide use), a rich diversity of habitat may still exist. Recent research has confirmed that commons can be rich in wildlife: many Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR) in England and Wales are located wholly or in part on common land (Higgs et.al., 1993:7). In this respect, the status of the common land has helped to protect the land from change, and so conserve its biological diversity. Shoard (1987:409) comments that "the commons provide a refuge for once familiar plants and animals that are losing their habitat to landscape change." Shoard identifies four general causes which have helped to contribute to the extent of ecological value remaining in common land. First, the commons comprise unploughed land, an increasingly important characteristic as post-war agricultural change resulted in the ploughing of land containing natural or semi-natural communities of plants and animals. Second, since common land is widely distributed throughout England and Wales, it helps to provide habitat for "reservoir" populations of species. Third, since common land comprises a variety of soil types and climatic conditions, it provides a good cross-section of traditional British habitats. Finally, the methods of agricultural management practised on common land, which derive from traditional land use practices and have not changed much over time because of the nature of governing institutions, may actually encourage a type of vegetation which does not exist elsewhere in the country. For example, restrictions over the extent to which grass may be grazed over the winter, may conserve certain species which have, elsewhere, been destroyed.

1.4 A FRAMEWORK FOR ANALYSIS : Developing a Conceptual Model

Research into the control and management of common land in Britain must take account of this second set of actors, who might be referred to as "non-extractive users", and the demands which they place on the use of common land. Institutions devised to assist in the control and management of common grazing will not necessarily be successful in achieving sustainable use of the common for a wider variety of purposes. The complex nature of the emerging use patterns of common land may demand more complex institutional arrangements. The temptation, as with concern regarding over-grazing, will be to impose institutional change on

the commons. This thesis will question whether the imposition of such change is necessary or, indeed, desirable.

The hypothesis is that, whilst extractive resource users may be capable of organising collective action and devising new institutional arrangements for the successful management of commons (as earlier research has demonstrated), as the amount of other, *non-extractive* use increases, then external intervention is increasingly necessary for the effective control and management of the commons.

The situation which the common users face becomes more complex as the incentives of each individual to comply with the rules differs and changes over time. Thus, the institutional arrangement of the control and management of the common needs to be sensitive to the changing demands placed upon it. In addition, it is important to recognise that the institutional arrangements will affect the incentive structure of the users of the common land and the choices they may make in their use of the land. In this respect, they must be devised and adapted in a manner which will encourage cooperation from a particular set of users at a particular time.

Examination of different common lands provides information which reveals the potential and limitations for individuals to collectively control and manage common land independent of government intervention. Comparative research, however, demands a consistent framework of analysis. Tang (1992) suggests that three components of self-management need to be examined. First, different types of collective action situations need to be identified. Second, the various physical, social and institutional factors affecting the relationships amongst the actors involved need to be examined. Third, through analysis of the above, understanding might be obtained of the circumstances which allow resources users to solve their collective action problems through self-organisations and the circumstances under which control and use of the common would benefit from government intervention.

Institutional analysis has been remarkably absent from resource policy and management research in Britain. Whilst work has been carried out on the physical limitations of land and on the implications of changing social needs on resource use, little work appears to have been conducted in analysing the effect of diverse institutional arrangements on the governance of natural resources. Whilst several British researchers have adopted an institutional perspective in their research, few have been active in analysing British institutions and land use policy, focusing their research on overseas countries (such as, Wade, 1988 and 1992; Curtis, 1991). Institutional analysis conducted by Hodge on (1988,1989 and 1991) on nature conservation and incentive policies in Britain, is perhaps the type of research most closely related to this thesis. (CHECK OTHER REFS).

A consequence of the little institutional analysis conducted on land use policy in Britain is the lack of empirical evidence of the effects of various institutional arrangements on the ability of individuals to organise themselves for the collective management of resources. There is a need, therefore, to explore a wide variety of institutional arrangements for controlling and managing natural resources in Britain in order to understand the relationships between institutional arrangements and collective action.

The complex issues raised by the use or development of resources can seldom be satisfactorily resolved by a single person, discipline or agency. Solutions are required which integrate the range of disciplines involved. The disciplines of law, economics and political science have developed analytical frameworks which are essential to furthering our understanding of resource use and management. In 1978, Bromley called for "a reassessment of our approach to public policy in environmental matters" and put forward the case for "an approach which is implicitly institutionalist in that it focuses analytical attention on power relationships among economic agents through the concept of entitlements." (Bromley, 1978:44).

Land management, as a discipline, should seek to further the concepts and analytical frameworks developed in the area of institutional analysis. To date, resource management research in Britain and overseas has been concentrated at two levels: the policy level and, to a lesser extent, the organisational level. Researchers with a background in Land Management are in a unique position to expand research to include analysis at the operational level. It is a frequent criticism of central government departments commissioning resource management analysis that analysts fail to appreciate the effect of the policy prescribed at its implementation. In analysing the implications of resource policy, Land Management should be able to capitalise on the understanding of the use and management of resources at this operational level which is axiomatic with its applied approach. It is essential that natural resource policy is analysed to the operational level, for it is at this level that the implications of the policy for the *management* of the land or resource might be understood. Without such analysis, we will not develop our understanding of how to manage resources better, but only our understanding of how decisions affect allocation and use.

The New Forest grazing lands will be examined in detail to explain the varying institutional arrangements which affect common land users' incentives for cooperation. In order for the work to be subsequently useful in comparison of different common lands, three sets of contextual variables will be examined (Ostrom, 1990):

(1) the physical attributes of the land;

(2) the social attributes of the actors involved in the control, management and use of the resource; and

(3) the set of institutional arrangements used in each case.

Each of these set of variables affects the propensity of individual users of the resource to cooperate in collective action solutions, by shaping the structure of the incentives they face.

1.5 OBJECTIVES

The central aim of this study is to examine the effectiveness of the institutional arrangement of commoning in the New Forest. In particular, the study seeke to examine whether the institutions devised to govern the commons have aided or impeded the continuance of the practice of commoning. Ostrom (1990) rejects the notion that the appropriators of a common resource are incapable of supplying their own institutions, but questions whether they will adopt new rules whenever net benefits of a rule change will exceed net costs. Research on the New Forest will analyse whether the commoners are capable of adopting new institutional arrangements which will protect their rights or whether third party intervention is necessary, and if so, in what form.

The study has five broad objectives:-

* to critically evaluate the foundations of natural resource policy analysis, with particular attention to the analysis of common property resources;

* to analyse the institutional arrangement of the practice of commoning in the New Forest, as a means of providing a solution to contemporary problems of managing a common property resource;

* to suggest means of improving the institutional arrangement of commoning in the New Forest;

* to reveal a clearer understanding of the capabilities and limitations of individuals to create and sustain institutions for managing common property resources; and

* to develop an analytical framework for evaluating the success of institutions created to manage common property resources; in particular, those with multiple users.

1.6 METHODOLOGY

According to Bardach (1974:121), "In policy research, almost all likely sources if information, data and ideas fall into two general classes: documents and people." However, for any research encompassing policy analysis, the collection of such data is only useful if it can be fitted into an

analytical framework. Whilst most policy analysis demands the *adoption* of an appropriate analytical framework, the primary objective of this research was to *develop* a framework for analysis of common land problems in Britain. Accordingly, it was necessary to review the literature of both the 'topic' (common property resources and the New Forest) and the relevant 'fields' (economics, political science and land management), in order to develop an appropriate framework. Review of the field and topic literature provided information for the construction of a basic framework, explained in Chapter Four. The basic framework was then used to analyse the New Forest. Analysis of the New Forest and a subsequent evaluation of the framework's usefulness in that analysis provided material for further development of the framework in Chapter Ten.

The review included literature of four types:
(i) journal articles, books and dissertations;
(ii) publications and reports of interest groups and consultants;
(iii) government publications and research documents;
(iv) the popular press.
The popular press was particularly useful when research focused on the New Forest, providing the views of experts, stakeholders, organisations and interested parties and supplying information about further documents. Whilst information contained in the popular press was not detailed, it often proved to be the only published reference to local issues and certainly the most up to date source.

Field research for the New Forest was conducted through a series of structured and non-structured interviews. A directory of the actors involved in the management of the Forest and the policy process was constructed, together with an organisational chart (Figure 1.2). The directory comprised a comprehensive list of all government agencies (central and local), professional bodies and interest groups involved in the use and management of the New Forest. Interviews were sought with representatives of all groups. Networking was used to find the most appropriate and approachable representative of each group. Where groups clearly had more than one set of views on Forest issues, multiple interviewees were sought. Interviews were not restricted to current employees, but included retired employees and members of groups. It was anticipated that retired persons may be more forthright and analytical because of being removed from their particular group. Within the limits of availability, interviewees were selected for interview during the research according to the priority suggested by Weimer and Vming (1992:255), explained in Figure 1.2.

During the term of research (October 1991 - October 1994), I was resident in the New Forest and therefore able to attend various meetings and forums, to gather data and information about the New Forest. Such meetings included regular management meetings such as the Verderers Court, the New Forest Committee and the New Forest Consultative Panel and the annual

general meetings of New Forest interest groups. In addition, several one-off meetings, called to raise issues of particular urgency to the groups involved were attended. The content of such meetings was as diverse as the members involved, and ranged the Commoners Defence Association Extraordinary General Meeting (called to debate the proposed National Park Status of the New Forest) and the inaugural meeting of the New Forest Animal Welfare Group. A full list of the meetings attended is provided in Appendix... In addition, my presence in the New Forest enabled me to collect information on a random basis from friends and neighbours, from a wide variety of backgrounds.

In many cases, particularly at the early stages of the research, further documentation was revealed during interviews and meetings, as were potential interviewees. The research then became a truly reiterative process, as suggested by Bardach (1974:131), where documents lead to documents, documents lead to people, people lead to people, and people lead to documents. Figure 1.4 represents the process of combining documentation review with field research.

1.7 THE STRUCTURE OF THE THESIS

Chapter Two explains the importance of common land in Britain and the nature of the changing demands placed upon it. It introduces the actors involved in the use of common land and the institutions devised for its control and management. The chapter identifies changing social demands on common land and the problems of meeting that demand due to the constraints imposed by natural physical restrictions. The chapter concludes by introducing the concept of institutional analysis and explaining its relevance to the analysis of resource and land use problems.

Chapter Three explains the development of the theory of institutional analysis and its relationship to transaction cost economics. The chapter explains the relevance of institutional analysis to the study of common land and collective action problems. The chapter examines how institutional arrangements affect collective action by creating a structure of rules which can be effectively enforced, thereby reducing the uncertainty surrounding collective use of the common by the individuals involved and so contributing to longterm cooperation. Analysis suggests that the institutional arrangements governing the control and management of the commons must be flexible enough to adapt to the changing demands of common land.

Chapter Four discusses the research method used in examining the New Forest common land. Since all of the case studies previously executed comprised common land outside the United Kingdom, further empirical work was conducted in the British setting. The New Forest, Hampshire was selected as a case study.

Chapters Five and Six explain how the physical characteristics of the New Forest common and the social attributes of the users present, respectively, create a context for management of the common. In particular, the characteristics present opportunities and threats which will affect the choices available to those attempting to control and manage the common. The incentive system created by the physical and social characteristics of the common may be altered by the design and evolution of institutional arrangements governing use and management of the common.

Chapter Seven examines the present institutional arrangements governing control and management of common land in the New Forest. Analysis is conducted at three levels: constitutional; collective and operational and on the factors which lead to the emergence or adoption of the arrangements for control and management. The analysis demonstrates how institutional arrangements affect the nature of outcomes under varying physical and social circumstances. In particular, it addresses the extent to which the institutional factors and/or other factors affect the degree of government intervention present in the control and management structure.

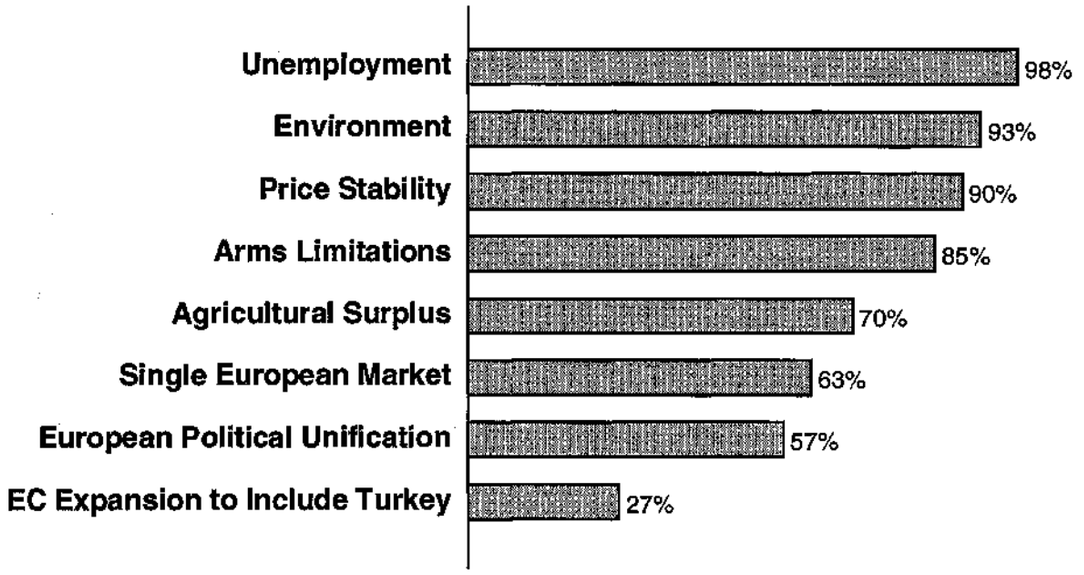
Chapter Eight analyses the patterns of outcomes experienced in the case study in relation to the variables identified in the analytical framework. It uses the framework to diagnose the root of problems in the New Forest in the use and management of common land and makes appropriate policy prescriptions.

Chapter Nine discusses the theoretical propositions derived from the study. Analysis is presented on the potential and limitations of self-governing organisations for the management of common land. The study concludes by examining how government agencies and self-governing organisations can work together to effectively manage England's common land.

Chapter Ten develops a model for designing institutional arrangements for the management of common land in England. The model explains the need for flexibility in institutional design and the importance of taking account of the physical and social characteristics of a particular common when designing institutions for management. The model suggests that design should allow for the evolution and development of institutions and so afford institutions the ability to adapt rapidly to changing demands.

Figure 1.1

Very Important Political Problems Today (1988)



Those who reply only: don't know/no answer vary from 1% to 4% from item to item

Source: DG Information, Communication and Culture, Brussels, Euro-barometer, No.30, December 1988

Table 1.1 Agricultural Products in which Europe is an Over-producer

To be drawn

Figure 1.2 Research Methodology (from Weimer & Vining)

To be drawn

CHAPTER TWO:
THE IMPORTANCE OF COMMON LAND IN ENGLAND

2.1 THE NATURE OF THE ENGLISH COMMONS

2.1.1 Evolution of the Commons

A frequent misconception in England and Wales is that common land is owned by the public at large and that they, therefore, have access to all parts of it. In fact, most of England and Wales' 1.5 million acres of commonland is owned by private individuals, or by a collective body, such as the National Trust, the Church Commissioners or the Crown. Approximately one fifth of common land is covered by a legal right for the public to roam at will, and much of this land is situated in urban areas. The other 1.2 million acres carry no legal right to roam[5] (DOE, 1983). The name 'common land' refers to the other, specific common rights which it is subject to.

Common land has been in existence in England for centuries. The earliest written land use records in Britain from the 7th Century indicate that Saxon England contained areas of common land. Ceorls, independent, free peasant proprietors, owned land individually and in common: land was held in common ownership by the people of a district or village. Ceorls owed support to the Saxon kings, in the form of food and military service. The Saxon kings eventually began to assign such rights of support to their territorial lords, the 'thegns'. The rights over the common land had grown up by custom over centuries of common ownership and practice. At times of low productivity, the peasants found it difficult to fulfil their obligations to the thegns and land was taken in lieu of payment: the free ceorls were permitted to remain on the land only as the thegn's workers. The territorial lords were thus able to increase the size of their holdings at the expense of the ceorl's ownership. However, when attempts were made to appropriate any land held in common, its ownership could not be absolute, but only subject to the customary rights attached to it.

After the Norman Conquest, when William I claimed all of England for the King, there was no absolute title to any land: with all land owned with the permission of the King. William rewarded his military men by establishing a landowning class of knights and barons. The Saxons became 'serfs' and were charged with providing labour on the knights' land in return for a small holding for their own benefit. It was the establishment of the feudal system.

Common land formed an important part of the manorial system, which from mediaeval times was the basis of England's feudal economy. Under the feudal system, the 'manor' was the

[5] for details of how legal rigts to roam are granted, see section 2.2.5

basic unit of land and the 'manorial lands' were held by the 'lord' of the manor. The lord owned the freehold of the land included in the manor, but the other inhabitants of the lord's land had rights of grazing and certain other rights over the land, which were recognised by the courts. Within each manor, there were three different types of land, as defined by the rights associated with them:-

Demesne lands, which remained in the lord's control;

Open fields, which were cultivated in strips by the free and unfree tenants; and

Waste land, which was left uncultivated, its produce available for tenants and landless cottagers and, occasionally, the residents of an adjoining manor (Oswald,1989:l).

'Commoners' are individuals who hold a legal right to practice some specified use of the common land and so extract produce of some type from it. Rights of common included:-

Common of Pasture, is the right to turn stock out on to the common to graze and remains the most important of the common rights;

Pannage is the right granted to an owner of pigs to go into the wood of the grantor and to allow the pigs to eat the acorns or beech mast which fall to the ground;

Estovers is the right to take underwood, small branches, either for fuel or for repairing fences or buildings, or bracken and similar growths for litter for the benefit of the commoner's animals;

Turbary is the right to dig turf or peat for use as fuel in the commoner's house;

Piscary is the right to fish in another person's lakes, ponds or streams;

Common in Soil is the right to take sand, gravel, stone or minerals for use on the commoner's holding.

Rights of common could exist over either the open fields or the waste land. Common land was not restricted to areas of rough pasture, as is frequently believed. Indeed, some common land comprised rich meadowland. As the capitalist economy developed, commoners did not necessarily remain poor peasants, but comprised craftsmen (earning their main income from a trade) and wealthy tenants. The grazing rights to common land were still important, however, enabling commoners to keep a cow regardless of whether they owned land. Equally important was the right to cut wood, which was an important source of fuel and building material.

Local manorial courts, in which the commoners could participate, were already establishing and enforcing rules to regulate the use of the commons. Shoard (1989:45) states that" A sophisticated armoury of local bylaws, enforced by the law-makers - in this case the commoners

themselves - existed to keep the common pasture in good heart, to protect the grazing animals against disease and accident, and to keep the common open to all occupiers." Such rules are still in force today and make up an important part of the institutions governing England's commons. The rules are explained in detail in Section 2.2.

2.1.2 Enclosure

Norman kings recognised the extinguishment of common rights would stimulate protest and be harmful to the agrarian economy which supported their military effort. By virtue of the Statute of Merton 1235[6], the lord of the manor could not enclose such lands without parliamentary authority, but was obliged to leave land as unfenced, open spaces. However, as the manorial system declined, common lands were enclosed. From the late fifteenth century to the early nineteenth century, changes in agricultural practices and population increases placed pressure on the use of common land. Large areas of common land were enclosed and rights were lost.

A large amount of common land was enclosed during the eighteenth and early nineteenth centuries. Private Acts of Parliament enabled large numbers of commons to be inclosed. The General Inclosure Acts of 1801,1834,1836 and 1845 were passed to simplify procedure. The extent of enclosure varied with region: in some counties, very little common land was left unenclosed, while in others, particularly where the land was of poor quality, very large areas of common remain unenclosed.

2.1.3 Protection of the Commons: the Emergence of Other Interests

Some attempt was made to ensure that the users of the enclosed commons were compensated. In particular, there were attempts to replace some land from enclosed commons located near urban populations, which were important for recreation. The General Enclosure Act of 1845 stated that where commons lay within 5 miles of towns of a population of 10,000 or more, the need for any prepared enclosure of land had to be proved and allotments provided for recreation and field gardens. However, although more than half a million acres of land were enclosed between 1845 and 1864, only 1500 acres of this land was set aside as allotments (Shoard, 1989:107). Current distribution of common land in England gives some indication of the regional variances of enclosure (Figure 2.1).

During the nineteenth century, public pressure to protect common land became increasingly organised. A series of Acts of Parliaments, commencing in 1836, made enclosure more difficult: the more important of which are the Metropolitan Commons Act 1866, the Commons Act 1876 and the Commons Act 1899. In addition, in 1865, the Commons, Open Spaces and Footpaths Preservation Society (referred to as 'the Commons Society') was founded. It was

[6] renamed the Commons Act 1236 (Stamp & Hoskins, 1963:37).

Britain's first national countryside lobbying group.

The Society's campaigning was instrumental in ensuring that the Law of Property Act 1925 confirmed the importance of the protection of common land for recreation. Section 193 of the Act provides the public with a right of access to metropolitan commons, manorial wastes or commons in urban areas and land in respect of which the owner has deposited a deed. Section 194 of the Act provides that "the erection of any building or fence, or the construction of any work, whereby access to land to which this section applies is prevented or impeded, shall not be lawful unless the consent of the Secretary of State is obtained....." This section does not apply to all common land: only to land which was subject to rights of common at the commencement of the Act on 1 January 1926.[7] Section 194 of the Act has had a substantial impact on preventing development on common land. Both sections are still in force, having been expressly preserved by section 21(1) of the Commons Registration Act 1965.

The combination of common rights, recognised under the common law of England and Wales and 19th Century legislation protected vast areas of open land. Nevertheless, some of the rights fell into disuse over time and others ceased to exist. During the Second World War, large acreages of common land were requisitioned by the Minister of Agriculture and Fisheries. Subsequent problems regarding the identity of the landowner and the commoners arose when the land was ready to be handed back. Accordingly, a Royal Commission was established in 1955 to review the use of common land and to consider whether or not it could be used more productively. In July 1958, the Royal Commission presented its report (Royal Commission on Common Land, 1958). The report essentially contained detailed proposals regarding two aspects of common land: registration and management. In terms of registration, the Report recommended that common land, common rights and ownership of common land should be registered. These recommendations were implemented under the Commons Registration Act 1965.

2.1.4 The Commons Registration Act 1965

The broad objective of the Commons Registration Act 1965 was to ascertain the present facts about common rights and land. As a means of fulfilling that objective, the Act introduced a system of compulsory registration for common land and town and village greens in England and

[7] In *A G v Southampton Corporation (1969) 68 LGR 288,* a 'work' was found to include a car park. Southampton Corporation sought to construct a car park without the Secretary of State's consent. The common was subject to a public right of access, and Mr Justice Foster ruled that a car park was an impediment to that access. It also includes a private right of way with a permanent surface which impedes access to grazing by a commoner's animals *{Eaton v Kurton, 14/10/1966, Cheltenham County Court).* "Access" is not defined in the section, but case law suggests that it should be construed to include access by commoners or others with legal rights over the land (such as those with private rights of way). This view is supported by s.194(2) which grants any other person interested in the common the power to take legal action to secure the removal of structures erected without the Secretary of State's consent.

Wales. Section 1 of the Commons Registration Act provided that all common land and common rights in England and Wales should be registered. Any land capable of being registered under the Act ceased to be a common unless it was registered. The same rule applied to common rights. The 1965 Act made reference to the possibility that Parliament would enact further legislation at some unspecified future date. As yet, no further legislation has been enacted, although attempts have been made to introduce private member's bills on the subject.

Registers were made by county councils and are held by them. The periods for making registrations and objecting to them have expired. Any common land which was not registered under the Act, and was not exempt by section 11 (see below), has since ceased to be common land. Likewise, any common rights not registered under the Act and not exempt have ceased to be exercisable, unless they had previously been registered under the Land Registration Act 1925.

Certain areas of common land, which were already recognised by their own Acts of Parliament and the common rights attached to them registered by virtue of those acts, were exempt from registration under the Commons Registration Act 1965. Section 11 of the Commons Registration Act 1965 exempts the New Forest and the Forest of Dean from registration, and land included in an exemption order made by the Minister. An order could only be made for land which fulfilled three criteria: -

(a) which was regulated under the Commons Act 1876, the Commons Act 1899, the Metropolitan Commons Acts 1866 to 1898 or under a local Act;

(b) over which rights of common had not been exercised for at least 30 years ; and

(c) of which the owner was known (Clayden, 1985:32).[8]

Where *ownership* of common land has not been registered, the Act requires the Commons Commissioners, appointed under the Act, to take steps to find the owner. The Commissioners also have to settle disputed claims arising from registrations which have been challenged by objections made under the Act. The 1965 Act has not superseded the common law and nineteenth century legislation on common land. Indeed, the effect of the hearings for registration has subjected parts of the common law to recent detailed examination.

There was no requirement under the 1965 Act for landowners to be notified when an application was made to register their land as common land. In addition, many errors were made and, because the registers were deemed conclusive, there was no provision for correction after the objection period. The Common Land (Rectification of Registers) Act 1989 enabled limited rectification where the registered land comprised a dwelling house or garden and existed as such

[8] Exemption orders were made for some 39 commons around England and Wales. Clayden (1985:32) lists them.

at all times since 1945. Sydenham (1993) reports that some 500 houses were registered as common land. Applications for rectification had to be made before July 1992.

2.1.5 Current Distribution and Type of Common Lands

The distribution of common land in England and Wales is noticeably uneven as a result of the manner in which land was enclosed. Forty per cent of the area of common land existing in 1858 had been enclosed by 1958, some one million acres in all (Shoard, 1989:416). There are 8,675 separatley registered tracts of common land in England and Wales, covering some 1.37 million acres (nearly 4% of the land surface) (Higgs et. al., 1993:7). There are significant regional variations in both the number of commons present and the acreage: the larger commons tend to be situated in the North and West of the country (Aitchison, 1990; Aitchison & Hughes, 1988; Aitchison & Penfold, 1990). Table 2.1 summarises the extent of coriimon land within each county. Widespread enclosure in Wiltshire has left onlt 0.2 per cent of the county as common land. In contrast, 41 per cent of Dartmoor remains common land. (GIS INFORMATION TO BE ANALYSED & INCORPORATED HERE).

2.2 CURRENT INTERESTS IN THE COMMONS

2.2.1 The Resource Users

Research on common land has concentrated on analysis of the grazers of the land as the sole resource users. In particular, recent institutional analysis has focused on their ability to control and use the land in a sustainable fashion. In many countries, common land is owned in common by the resource users themselves. In this respect, it is easy to exclude other parties from analysis at the operational level. However, as already explained, most common land in England is owned by a private individual or organisation. Likewise, increasingly competing uses for common land are becoming extensive enough to threaten its ability to support such uses in a sustainable manner: that is, in a manner which will allow common land to regenerate over time. The high demands placed on open space such as common land are acute in England and Wales where the total land mass supports a large population, which is concentrated in urban areas, has relatively high leisure time and is relatively mobile. The amenity value of common land and the amenity 'users' may not hold such relevance to overseas case studies.

In England and Wales, therefore, it is important to acknowledge the presence of two other categories of resource user: the owners of the common land and other, 'amenity' users and non-users, who may value the land for its non-agricultural benefits. It is possible, indeed likely, that the grazers using the land for agricultural benefit will also fall into the category of amenity 'users'. This section will examine the general characteristics of each group of user, the rights

which they hold and the subsequent value they derive from the commons.

2.2.2 The Agricultural Users - The 'Commoners'

'Commoners' are individuals who hold a legal right to practice some specified use of the common land and so extract produce of some type from it. As explained in section 2.1.1, it is by virtue of the existence of common rights that land in England remains unenclosed, as 'common'. Whilst six rights of common generally recognised by English common law are all still exercised,[9] the use of each varies consideably. The most important of the common rights in practice is that of *Common of Pasture,* or grazing. The right of *Pannage* often exists alongside rights of grazing in unenclosed woodland: it serves a practical means of removing green acorns, which can be poisonous to cattle and ponies (though not to deer) from the woodland floor.[10] The right of *Estovers* is still exercised, although not as widely as grazing. The rights of *Turbary , Common in Soil* and *Piscary* are probably the least exercised rights.[11]

2.2.2.1 The Use Benefits of Common Rights

The benefits which individual commoners might receive from their rights to common land are derived from both the use and non-use values of the land in its current state. Commoners can obtain private *use* benefits from the common by virtue of their right to graze and gather materials. The use of the resource is restricted by various common law rules which govern how rights of common might be enjoyed. These affect the extent to which the rights might be enjoyed; their transferability; and the susceptibility of the rights to be abandoned, extinguished or diminished.

The Extent of Common Rights: The basic right of any land owner is the peaceful enjoyment of their rights. This is equally true of common rights. Thus, if the landowner erects a fence to keep the commoner out, the latter may take it down.[12] Commoners may carry out any operation which is necessarily incidental to the exercise of their rights. Thus, troughs for animals to drink

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[9] Clayden, P. (1985). Our Common Land: the law and history of commons and village greens. The Open Spaces Society, Henley-On -Thames, p.9. These are the major categories, but others may have been recognised in particular localities. For example, a right to take game has been confirmed at a hearing before the Chief Commons Commissioner *Re Cock Moor, Brompton-by-Sawdon, North Yorkshire (no.2),* 21 June 1977. In addition, rights to dig clay to dress acid soil (rights of 'marl') currently exist in the New Forest.

[10] The commoner has no right to pick the acorns or even shake the trees.

[11] *Piscary* cannot exist in the sea or tidal rivers since there is a public right of fishing there.

[12] The fencing of common land is restricted under the Law of Property Act 1925, s.194. With certain exceptions, the section applies to any land which was subject to common rights on 1 January 1926. The consent of the Secretary of State for the Environment is required for any building or fence or the construction of any other work which interferes with access to the common. If unauthorised works are carried out, commoners, the local authority , the lord of the manor, or any other interested party has the right to sue in a county court to secure the removal of any fence, building or other work on a common. (Sydenham, 1993).

animals, deliver fodder, etc.

In exercising their rights, commoners must take heed of the common law rules which have emerged to ensure that use of the particular resource is sustainable over time and that the resource can continue to renew itself. For example, under estovers, the right to take underwood and small branches only applies to wood used either for fuel or for repairing fences or buildings, and the right to take bracken and similar growths applies only to that taken for litter for the benefit of the commoner's animals.[13] Equally so, the right of turbary permits turf or peat to be dug for use as fuel in the commoner's house only.[14] When the right of piscary is exercised, the fish must be taken in reasonable quantities for consumption in the commoner's own household. Stamp and Hoskins (1963) record that such rules emerged on grazing commons in the thirteenth century. An increasing pressure felt on the commons of England and Wales from the eleventh century onwards, largely caused by a steadily increasing population. Boundaries of commons were marked out in upland areas by many miles of wallls to settle disputes between different Abbeys. On lowland commons, a system of rationing common pasture rights had to be introduced, as villages expanded their open field systems to grow corn, eating into their own stock of common grazing land: "not only had the common pastures long ago been appropriated to particular villages, but it now became necessary to define more closely those who could use them and, furthermore, the precise degree to which they could use them" (Stamp and Hoskins, 1963:36).

Transferability: In accordance with *Davies v Davies (1974) 3 WLR 607,* a commoner may license a non-commoner to exercise his/her registered grazing rights, provided that the rightful numbers are not exceeded. In this respect, commoners can enjoy financial returns by trading their common rights to graze with other parties.

Abandonment: The case of A *G v Reynolds (1911) 2 KB 888,* established the principle is that if a commoner makes alterations to his property so that he can no longer benefit from his right, either now or in the foreseeable future, there is strong evidence of intention to abandon:

"modern instances would include a farmer who sold his farm for housing development so that there was nowhere to support animals; or the new purchaser of an old cottage enjoying rights of turbary who converted to electric central heating and blocked up the chimneys"

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[13] The nature of estovers was discussed by the Court of Appeal in *De la Warr v Miles (1881) 17 Ch D 535,* where a right of the defendant to cut furze and small branches from trees on Ashdown Forest was upheld.

[14] The right of turbary was reviewed in the leading case of *AG v Reynolds (1911) 2KB 888,* which made it clear that turbary can only exist for the benefit of a house, but that if an old house enjoying the right is demolished, then the right can continue for the benefit of the new house which replaces it.

(Clayden, 1985:23).[15]

Extinguishment/Diminution: By virtue of the Compulsory Purchase Act 1965 (s. 21 and schedule 4), commoners are entitled to share the compensation granted when common land is compulsorily purchased. If alternative land is granted in exchange for the original common, commoners are entitled to require that they may exercise their rights on the new land. The Acquisition of Land Act 1981 sets out the procedure to be followed by government departments, public authorities, statutory undertakers and local authorities when common land is acquired by them compulsorily, or is appropriated for another purpose.[16] The authority must give to the common, in exchange, land which is "not less in area and equally advantageous" to commoners and public, or submit the order to Parliament under special parliamentary procedure. It may be applied when an authority is acquiring land compulsorily or when, under the Town and Country Planning Act 171 (s.121), the authority already owns the common for one purpose (such as public recreation), but wishes to appropriate it and use it for another purpose (such as highways). Section 22 of the Commons Act 1899 regulates the acquisition and inclosure of common land by authorities by agreement, rather than under compulsory powers.

During their evolution, common rights moved from being an vital source of food and fuel support for commoners, to being a 'secondary' benefit: either providing extra grazing land for a small holding or providing a small, additional source of income for the commoner. Analysis of the financial rewards of commoning supports this observation (MAFF, 1988) (EXPAND IN DETAIL), as does evidence of the proportion of 'full' and 'part-time' commoners. (CHECK DATA)

Not all the benefits which commoners derive from exercising their rights may be quantifiable. For example, commoners may derive personal satisfaction from the knowledge that they are instrumental in managing the land. Equally, commoners may enjoy the recreational element of keeping livestock on the common which provides them with greater benefits than the financial returns. The Illingworth Working Party investigating commoning in the New Forest, commented:-

"The message which emerged from our investigations is that the commoners take great

[15] Reynolds had the right of turbary and estovers (one load of fuel wood) in the New Forest in respect of an old cottage. He the demolished cottage and built a summer house not far away. The summer house had a hearth and chimney. The court held that the rights were not lost because he erected a new building which could have peat and wood fires, Reynolds had indicated his intention of not abandoning his rights. Reynolds proved his right by simple production of the New Forest registers. At the time, the New Forest was the only part England and Wales where common rights were registered. If Reynolds had not built his summer house, then he would have lost his rights when he demolished the original cottage.

[16] (What happens now privatised??).

pride in their forest rights and will fight for them. They are proud of their traditions and history and the major part that their animals have played in shaping and conserving the New Forest. They feel that they have kept the Forest in good heart for 1,000 years and that the very existence of its unique fauna and flora proves this....They regard commoning as being the only remaining truly rural activity left in the New Forest and consider that to turn-out animals for the love of it and the life which goes with it is to belong to a special and exclusive society" (Forestry Commission, 1990: para 162).

Interviews with commoners in the New Forest conducted for this research confirmed this view. Most commoners were dismissive of the financial returns from commoning and Kitcher (1994) cited the fact that his family had been commoning for several generations as a major influence on his inclination to continue commoning.

2.2.3 The Owners of the Common

At English common law, the owners of freehold of the common may use the land, provided that the use does not interfere with the rights of the commoners. For example, the owner may graze cattle on the common; shoot game on the common or grant the right of shooting to another; work minerals in the soil of the common (such as sand, gravel, chalk). Thus, common land may be bought and sold, but is transferred subject to the common rights.[17]

The owner of common land may, subject to the rights of commoners and the public (where these exist) grant rights of way, rights to lay pipes and similar rights in, on or over common land. The most frequent form of easement to be found is that of a right of way from a road to a house across a common. Such rights were not registerable under the 1965 Act, although they may be noted on the register.

2.2.4 Other, Non-Agricultural Users

While commoners may derive benefit from exercising their rights over the common land, other individual members of society may also derive benefit from such practice. Non-commoning individuals may also derive *use* benefits from common land if they have the right of access to the land for recreation. In addition to private rights of way over a common, there may be public rights of way, such as public footpaths or bridleways. However, the public has no common law right to wander over common land and cannot acquire such a right through long usage.[18] Equally, the fact that a common may be owned by the Crown, Crown agencies,

[17] However, if the land is acquired by by a statutory authority for statutory purposes, special rules apply.

[18] This was laid down in *A G v Antrobus (1905) 2 Ch 188,* where a public right of access to Stonehenge was rejected, and affirmed in the Court of Appeal in *re Ellenborough Park (1956) 1 Ch 131.*

government departments and government agencies does not give automatic rights of public access to the common.

There is pressure from several amenity organisations for legislation to be introduced giving the public a legal right of access to all commons. Indeed, various statutes have granted the public a right of access for air and exercise over certain commons, or have provided that the statute can be applied to a particular common later. For example, a public right of access for air and recreation was granted by statute over metropolitan and urban commons by the Law of Property Act 1925, section 193. The public may also have a right of access over certain rural commons which have become regulated under the Common Act 1899, or where rights have been granted by deed by the freehold owners of the common (under the Law of Property Act 1925), or created by private Act. In the case of private acts, the statute usually provides for management of the common. For example, section 2 of the New Forest Act 1927 (as amended by s. 11 of the New Forest Act 1964) makes provision for a code of minimum conduct through bylaws created by the Forestry Commission as agents for the Crown. In accordance with section 29(A) of the National Trust Act 1907, commons owned by the National Trust must be kept unenclosed and unbuilt on as open spaces for the enjoyment of the public. Good behaviour bylaws have been passed by the Trust and cover all of its commons. A public right of access might also be granted by virtue of an agreement made under the National Parks and Access to the Countryside Act 1949. The Open Spaces Society has estimated that commons with public access make up between 1/4 and 1/5 of the total area of commons in England and Wales (Clayden, 1985;40).

All local authorities, including parish councils, have the power under the Open Spaces Act 1906 to buy open space and set it aside for public access and recreation. The definition of 'open space" in section 20 of the Act as land which "lies waste and unoccupied" may clearly include common land which no longer has an agricultural value. Private landowners of common land with no agricultural or mineral or shooting value may be eager to sell to a local authority where there are net costs of managing the land. The Countryside Act 1968 empowers local authorities to provide car parks and appropriate recreational facilities for the enhanced public enjoyment of a common. The Secretary of State's approval is necessary and central government grants may be available.

Common land of the New Forest, in Crown ownership, has proved a recreational arena for many years. Use of Forest for recreational purposes includes use by residents living within the boundary of the Forest, day visitors from nearby settlements and tourists from further afield. Until car ownership increased dramatically in the late 1950s, visitor numbers were relatively low. However, it is estimated that 8 million people currently visit the Forest each year, with around 7,000 cars and 25,000 people on a single Sunday afternoon (Forestry Commission, 1990:para 52). CONSTRUCT GRAPH SHOWING INCREASED VISITOR NUMBERS). Recreation includes informal activities, such as walking, model boat sailing, model aeroplane

flying and picnicking and organised activities, such as orienteering, cricket football and golf.[19] In addition, the Forest is used extensively for horse riding and is hunted by local beagles, foxhounds and buckhounds.

Urban commons are equally well used for recreational pusuits. Shoard (1989,406) reports that ten thousand people use Wimbledon and Putney Commons on an average summer weekend. Informal use varies, "from ice-skating and tobogganing in winter, to kite-flying, blackberrying, sunbathing, tadpoling, birdwatching, playing hide-and-seek, fungus foraying, tree-climbing, picnicking, sketching, painting and taking photographs, to walking dogs."[20]

In addition to actively enjoying the common land, individual, non-commoners cannot be excluded from enjoying certain *'non-use'* benefits derived from the aesthetic, existence, option or quasi-option value of the commonland in its present state. Such values do not require individuals to have an interest in the commonland, or to be allowed access to the land in order to derive some benefit from it. Non-use values include:

- Aesthetic value, derived from the sense of wellbeing that people may experience from being able to view the common land's habitat. Such benefits may be enjoyed from an adjacent area of land or roadside.

- Existence value: the value individuals place on the knowledge that a common exists, regardless of whether they are able to see it or not. Empirical studies have suggested that existence value can be greater than any use value (Kerr, 1986).

- Option value: the value non-users are willing to pay for the option to consume a resource in the future. For example, an individual may not wish, or be able, to visit the common at the present time, but would like to have the option to do so in the future.

- Quasi-option value is based on the uncertainty regarding the future availability of information associated with resources which might otherwise face irreversible development. Conrad (1980) suing up quasi-option value as "the expected value of information gained from delaying an irreversible decision"

Many of the benefits of natural habitat derived from such 'non-use' values are dependent upon

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[19] On the Open Forest there are 3 golf courses, 12 cricket pitches and 2 football pitches.

[20] Strictly speaking, Wimbledon and Putney Commons are not 'commons' as recognised by law. They ceased to be common by Act of Parliament and are not registered under the Commons Registration Act 1965. They are managed by a Board of Conservators on behalf of the public and are included here only as an illustration of the current importance of the use of common land for recreation.

conservation of habitat for wildlife.[21] Indeed, the status of the common land helped to protect the land from change, and so conserve its biological diversity. Shoard (1989:409) comments that "The commons provide a refuge for once familiar plants and animals that are losing their habitat to landscape change." Shoard identifies four general causes which have helped to contribute to the extent of ecological value remaining in common land. First, the commons comprise unploughed land, an increasingly important characteristic as post-war agricultural change resulted in the ploughing of land containing natural or semi-natural communities of plants and animals. Second, since common land is widely distributed throughout England and Wales, it helps to provide habitat for "reservoir" populations of species. Third, since common land comprises a variety of soil types and climatic conditions, it provides a good cross-section of traditional British habitats. Finally, the methods of agricultural management practised on common land, which derive from traditional land use practices and have not changed much over time because of the nature of governing institutions, may actually encourage a type of vegetation which does not exist elsewhere in the country. For example, restrictions over the extent to which grass may be grazed over the winter, may conserve certain species which have, elsewhere, been destroyed.

In this respect, the fact that the land remains as open space may not be enough to sustain the wildlife benefits and, thus, human values which are attached to the common. The grazing of the land by the commoners' animals is likely to have formed an important part of the landscape's development. As such, the values are attached not only to the land, but also to the land use practices. This is particularly true in the case of aesthetic value, where the visual beauty of the landscape may have been developed by the grazing animals over many centuries and, indeed, the sight of the animals themselves may add aesthetic value.

Thus, the *process* of grazing and its *product* contribute to the benefits of the common for non-commoners. It is important to recognise, therefore, that some benefit may be derived from the institution of commoning and not just the common land itself. In assessing means of addressing the issue of the management of the common, it is necessary to recognise that maintaining the resource itself (the common land) in its current state may not protect the total set of values which maintaining the resource and the *institution* of commoning would protect. This point is well illustrated in the New Forest, where the Illingworth Report recognises the importance of grazing for nature conservation in the New Forest: "The grazing animals put out by the commoners have shaped the landscape and have produced the unique ecology for which the Forest is recognised and valued" (Forestry Commission, 1990: para48).

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[21] Some analysts attribute 'intrinsic' benefits to wildlife habitat: suggesting that the habitat has some inherent benefit in its own right, regardless of the benefits humans may place on the habitat. However, since value is a human concept, I prefer to attribute wildlife benefits to one of the above use of non-use categories of benefits.

2.3. EXCLUDABILITY AND SUBTRACTABILITY OF THE COMMON

Work carried out by Ostrom (1990), Gardner et al. (1990) and Tang (1992), identifies that the physical attributes of a resource affect the relationship amongst the users and potential users of that resource. They build on the 'public goods' theory, in which a pure public good is often referred to as 'non-excludable and non-rival': that is, one which " may be enjoyed by all persons simultaneously and the consumption by one person does not subtract from the consumption opportunities of others" (Weisbrod, 1964). In doing so, they identify two independent attributes which are frequently used to classify goods or resources: the excludability of the resource and the subtractability. The extent to which potential users may be excluded from using a resource characterises its 'excludability'. The resource's 'subtractability' is characterised by the extent to which use by one person prevents use by another person. Tang (1992) adapts a matrix from Ostrom & Ostrom (1977) in which these two attributes are arranged to illustrate the four types of goods or resources which can be identified (see Figure 2.2). The matrix identifies four types of goods: Common-pool resources; Public goods; Private goods; and Toll goods.

This simple matrix might be adapted further to illustrate the range of goods which can be identified when these physical attributes have less definite characteristics. Tang's first assumptions is adopted: that it is sometimes technically and physically possible to exclude a potential user from using a resource, but at a cost. A second assumption is adopted for the subtractability of a resource: that a resource has degrees of subtractability. This introduces the idea of carrying capacity for resources: where a resource is subtractable up to a point, but beyond that point, although other may not be prevented from using the resource, the extent to which they may enjoy benefits from the resource will be affected by other users. An example of this is the problems of crowding in recreational areas, where a user's enjoyment of the area is diminished by the quantity of other users of the area.

The revised illustration (Figure 2.3) enables us to recognise that the problems encountered in managing resources are not clear cut and that excludability and subtractability are continuums rather than discrete entities. Clearly, the illustration now displays a whole range of possible categories of resource, and begins to illustrate the complexity of the extent to which resources might be categorised and, more particularly, the importance of the extent of the cost of excluding potential users and the marginal nature of the problem of the carrying capacity of a resource.

Common-pool resources are frequently seen as costly to exclude potential users from. In this respect, one of the difficult problems to overcome in the control and management of common pool resources is that of provision. Like public goods, unless people can be excluded from enjoying the good unless they contribute to the payment of provision of the good, there is no

incentive for individuals to refrain from 'free-riding' on other's payments. Thus, the most important collective action problem concerning public goods is the organisation of provision. For pure public goods, which are non-excludable and non-rival, this problem is usually solved through government provision, such as national defence, where the cost of provision is recouped through a system of taxation. However, once the good has been provided, because use of the good is non-rival, there is no problem over the allocation of the good, since it may be enjoyed simultaneously by all individuals.

Common pool resources differ from public goods, however, in the way in which one person's enjoyment of the resource rivals another's. Consequently, once problems of provision have been solved, it is necessary to regulate the use of the resource in order to ensure that efficient and equitable use is made of the flow of resource available at any one time. In the case of common land, this means devising means of restricting the amount of animals an individual may graze on the common at any one time. Thus, the control and management of common land involves the establishment of institutions which will exclude potential users *and* ensure that the resource is allocated in an efficient and equitable manner.
Rules governing the use of commons must adapt to changing demands and supplies. For example, if grazing is in short supply one year because of a drought, the total allocation of units of grazing must be reduced in order to maintain the longterm viability of the common. Over-grazing of the common may lead to eventual depletion of the resource because of the common's limited ability to restore itself. Without the presence of governing institutions, grazers of common land face a problem frequently referred to as the 'prisoner's dilemma'. If the amount of grass is in short supply one year, the grazers are faced with four possible situations concerning the use of the common (Tang, 1992):- (1) the grazer does not refrain whilst every other grazer does; (2) every grazer refrains from using the common; (3) none of the grazers refrain from using the common; (4) the grazer refrains from using the common while other do not. Assuming that the common is equally accessible to all grazers, the optimal long-term solution for the common is (2), for all to refrain from grazing the common and allow the grass to maintain sustainable growth. However, unless mutual agreement can be made, the individual grazer faces his/her own dilemma. As Tang (1992: 5) points out, "If outcome 1 occurs, the farmers is a 'free-rider'; if outcome 4 occurs, he is a 'sucker.' If every farmer tries to be a free rider and avoids being a sucker, the collective outcome is 3, in which nobody refrains."

Outcome 3, in which none of the grazers refrain from using the common is referred to as 'the tragedy of the commons' by Garrett Hardin (1968). However, Hardin's pessimistic picture of depletion of the common assumes that the individuals grazers have no control over the use of the common by other individuals. In effect, the tragedy of the commons only occurs when individuals think that they have no control over the situation they face: they are unable to communicate and to govern the situation to a satisfactory, longterm solution. If the individuals are able to develop institutional arrangements which will monitor and impose sanctions over

those who over-graze the common, then there will be the incentive for individuals to cooperate in the control and management of the common land.

The solution seems simple: the common land users must establish institutional arrangements for self-governance. However, the situation in England has become more complex as other interested parties establish their demands over the common land. No longer can the commoners rely on incorporating only their own demands on the commons in any governing institution. Other people with a vested interest in controlling the way in which the common is used and managed will seek to become involved in the design and operation of managing institutions.

According to Olson's Theory of Collective Action (1965), any large group of people seeking some public good, involving widely-diffused and collectively-shared benefits, is at a disadvantage when attempting to organise voluntary action. Large costs may be involved in identifying and obtaining funds from the individual members of society deriving benefit from the common. In order to become involved in managing the common, individuals would need assurance that the benefits arising from management will outweigh the costs. However, the uncertainty surrounding the benefits of protecting the common reduces the amount and quality of information reaching individual members of the community.

Moreover, the non-excludable and non-rival nature of the benefits to be derived from the common means that it is impossible to design a collection system for use of the resource on the basis of how much each individual benefits. The 'free-rider' phenomenon is epitomised by Hardin's Tragedy of the Commons (1968), whereby individual members can enjoy the non-excludable nature of the good attained, without bearing their full share of the cost. Thus, if there are net costs of managing the commons, and each individual beneficiary is aware that s/he need not contribute to those costs in order to derive benefit from the common, then all individuals pay less and the amount of resources allocated to managing the common results is less than is required to provide the aggregate beneficiaries demand.

Institutions must be carefully designed to overcome the problem of management associated with a resource which displays the characteristics of a public good. The complex nature of the commons suggests that management cannot be shared by a simple two-party agreement. Chapter Three explains the importance of institutions in managing land use. Specifically, it addresses whether the complex land use patterns emerging on the commons require government intervention, or whether the resource users can design and implement some form of voluntary control and management system.

The organisational problems and the problem of free-riders explained above *suggest* that state involvement in the protection and management of the common may be justified. The government has the ability to overcome the free-rider problem by spreading the costs of

protection throughout the public, usually through the imposition of taxes. Since the state and collective tax system already exist, organisation costs may be effectively reduced.

Ophuls (1973) argues that "because of the tragedy of the commons, environmental problems cannot be solved through cooperation ..... and the rationale for government with major coercive powers is overwhelming." Chapter Three, through an investigation of theories of market *and* government failure, will explore the arguments for and against government intervention in the management of the commons.

Figure 2.1 Distribution of Common land in England

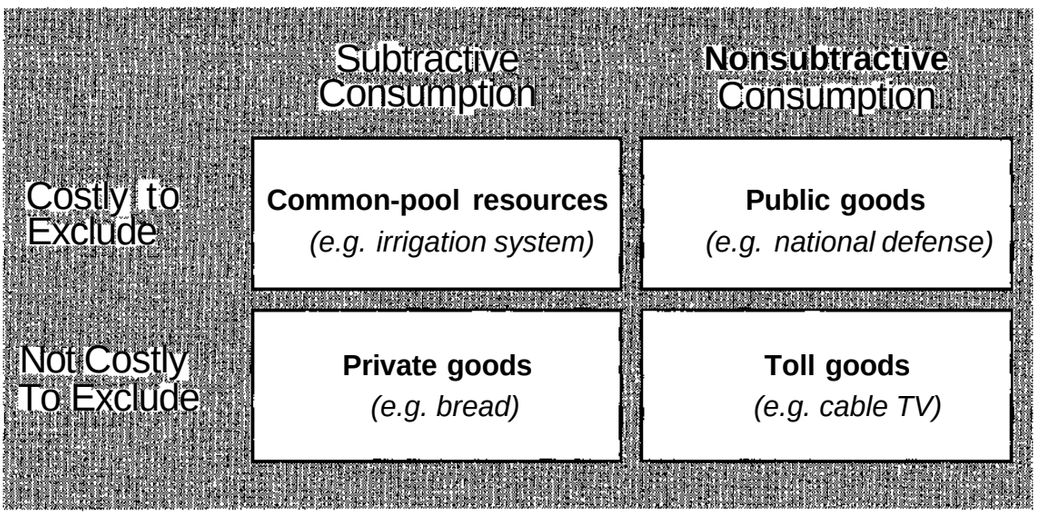
To be drawn

Table 2.1 Common land by County (England)

To be drawn

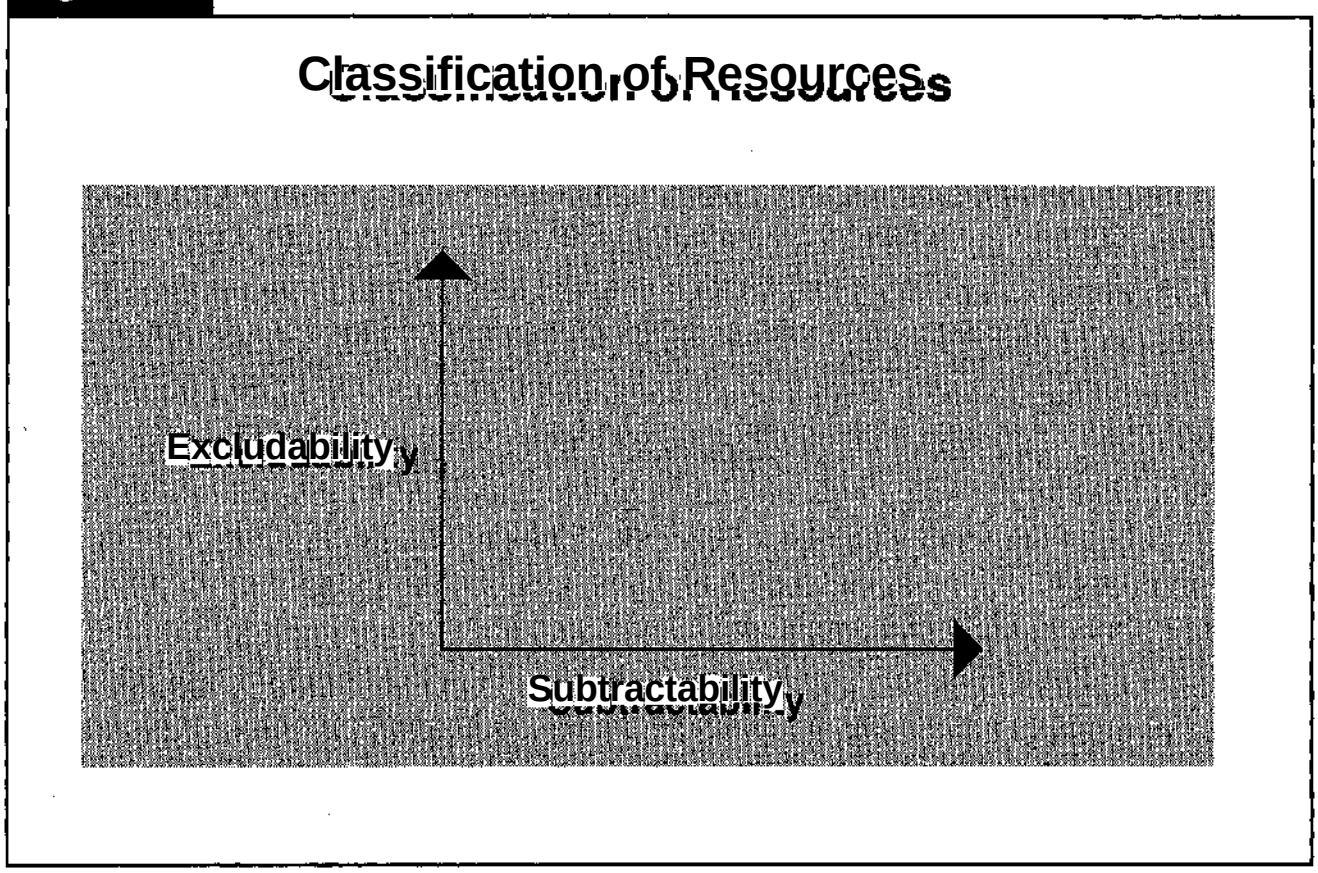
Figure 2.1 2.2

Classification of Resources and Goods



Source: Tang, S.Y. (1992). institutions and collective Action: Self-Governance in Irrigation. ICS Press, San Francisco

Figure 2.2.2 2.3. (To be completed)



CHAPTER THREE:
NATURAL RESOURCES AND ECONOMICS

3.1 LAND USE POLICY AND INSTITUTIONS

Institutional problems of land use are often more prominent and persistent than technical, physical or economic problems. However, in planning the management and use of our resources, little analysis is applied to institutional factors and the institutional arrangements governing the resource use. Frequently, land use policies fail at the implementation stage because of unanticipated institutional consequences. The problem then enters a viscous circle: failure to realise that a policy may falter due to institutional factors results in little thought to creating institutional responses to problems and so progressing our understanding of the effect of institutions on policies. Whilst some policy makers acknowledge that institutional factors need to be taken into account, they are often unclear as to how to undertake institutional analysis: typical discussions on institutions are brief and frequently involve a list of organisations, regulations and statutes governing a particular resource.

Ingram et al. (1984) put forward several reasons why institutional analysis is not present in the policy process. First, the agencies charged with planning the use and management of resources may perceive that they have no ability to change or manipulate institutions. Second, the agencies may enhance their own positions by denying that institutional considerations affect decision processes. Third, where greater emphasis is placed on quantitative analysis, institutional analysis offers less predictable outcomes due to its more qualitative nature. Fourth, there may be a political reluctance to deal with institutional factors, since varying institutional arrangements often affects the allocation of resources amongst individuals. Fifth, a pure lack of familiarity with institutional analysis amongst public servants and academics who are involved in natural resource policy has not furthered its application.

The aim of this thesis is to establish the importance of institutions in natural resource, and specifically, land use policy in Britain. It is proposed that an institutionalist perspective can be of considerable analytical power in understanding current land use problems in the British countryside. The hypothesis that land use problems in the countryside are one of 'structure' (that is, the institutional arrangements that define the choice sets within which individuals and groups operate) will be tested. The case of an institutional perspective will be made against a backdrop of received economic doctrine.

3.1.1 Institutions and the Need for Control of Resources

A basic law of human nature is that people have unlimited needs and wants. Unfortunately, the natural resources of earth are limited. It is obvious, therefore, why natural resource management issues frequently focus on means of limiting the use of natural resources so as to ensure their long-term viability.

The ability to understand means of limiting use of natural resource depends upon an understanding of the resources themselves. Natural resources can be classified as non-exhaustible, renewable, and exhaustible. Non-exhaustible resources are those which nature provides and renews continuously, such as wind and water. They are not without limit at any one given time, but in the long-term are assumed to be non-exhaustible. Renewable resources are those which can be replenished or reproduced by the efforts of people: for example, forests, grasslands, fauna. Exhaustible resources are those which can be used, but never renewed: for example, coal, oil and lead.

Whether they are termed exhaustible, non-exhaustible or renewable, all natural resources are limited. First, there is danger that the resource may become depleted: a decrease in the quantity of the resource available. Second, there is a danger that the resource may become degraded: a decrease in the quality of the resource available. The scarcity of natural resources, in terms of quantity and quality, demands that we make choices regarding those resources.

It is often assumed that the extent of natural resources in relation to the demands of a relatively small population mean that resources can be used without fear of depletion or degradation. However, small communities of resource users have found it necessary to limit and control use of resources for centuries, not because of encountering increasing population pressure, put because of spatial and physical constraints of the resources. Shoard (1989:18) documents the co-operative land use institutions of the Maori. Anderson (1991) explains how native American Indians restricted hunting of buffalo, trapping of beaver and fishing of salmon in order to prevent depletion.

The institutions devised by the resource users have helped to sustain the productive use of fragile natural environments for centuries. It is through a better understanding of those institutions and their effect in enhancing or detracting from effective management that we will be able to design and implement institutions for current and future resource management.

Economic theory is concerned with the allocation of scarce resources between competing objectives in order to achieve the greatest welfare for the human population. It also deals with the values and beliefs of individuals in society and the way in which they will be affected by the choices made. There is renewed interest in the role of institutions in economic theory: an increasing number of economists and political scientists are acknowledging the importance of

institutional analysis in policy research. Termed "new institutionalism", the theories and concepts are still in their infancy. Indeed, Bromley (1988:782) comments "I believe that many economists are indeed interested in the institutional dimension of the economy. The problem would seem to be that they are without a model with which to ask the relevant questions." This chapter will examine the role of institutional analysis in relation to the management of commons: Chapter Four provides a framework for analysis. First, however, it is important to explore the evolution of institutional analysis against a backdrop of economic theory.

3.2 THE ORIGINS OF INSTITUTIONAL ANALYSIS

3.2.1 Neo-classical Economics

Economics can be divided into two categories: 'positive' economics and 'normative' economics. Positive economics is often referred to as dealing with "what is" and therefore tries to explain and predict how people behave. Normative economics deals with "what should be" and therefore relies upon underlying value judgments in order to make policy prescriptions. As such, it is not possible to use economics to decide what is the best solution unless objectives have already been established.

As a discipline, economics combines positive and normative economics in order to understand natural resource problems. In doing so it provides: hypotheses that can be tested and predictions about behaviour (positive economics); prescriptions from which policy choices can be made (normative economics); and predictions as to their likely consequences (positive economics). Nevertheless, in order to prescribe policy solutions, the objectives of individuals must be established first. Positive economics makes various assumptions about individuals which help to establish these objectives. In particular, economic theory builds upon the propensity of individuals to act so as to optimise their own interests. In this respect, positive economics is concerned with the private-personal preferences of individuals. In addition, economics identifies intelligent pursuit of individual gain with rationality: implying that other modes of behaviour are not rational.[22]

On identification of the nature of humans as rational self-interested individuals, economics concerns itself with theories of how individuals might conduct transactions to optimise their interests. It is through the pursuit of self-interest that outcomes which may benefit the public interest are achieved: "It is not from the benevolence of the butcher, the brewer or the baker that we expect our dinner, but from their regard to their own self-interest." Adam Smith's 'Wealth of Nations' acknowledges the presence of an 'invisible hand' which makes it possible to

[22] Other modes of behaviour considered not rational include behaviour which regards others and actions directed toward the public good. Anderson and Leal (1991:4) consider that "this self-interest may be enlightened to the extent that people are capable of setting aside their own well-being for close relatives and friends or that they may be conditioned by moral principles."

construct an economy based on individual self-interest. He argues that the propensity of humans to exchange goods and services will result in overall benefit to society:

"He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it" (Smith, 1776:IV.ii)

Central to Smith's confidence in a satisfactory exchange taking place is the ability for individuals to have exclusive private rights to economic assets. Since Smith's work, research in mainstream economics has continued to concentrate on an examination of a single set of idealised rules governing exchange through the market. Outcomes of exchange are regarded as indicators of value.

Microeconomic theory examines how individuals pursue self-interest. It seeks to determine how scarce resources are allocated among competing individuals and who benefits from the goods and services provided. Microeconomic theory has provided important insights into the fundamental nature of exchange and resource allocation in decentralised markets. In particular, three concepts of microeconomic theory have implications in public policy analysis and resource allocation decisions.

First, microeconomics has identified that there is always an 'opportunity cost' of using resources: that is, since resources are scarce, whenever the costs (and benefits) of using resources in one project increase, there is a decrease in the resources available for another project and so a cost in terms of forgone alternatives. Thus, an economist's preoccupation with costs might equally be seen as a preoccupation with benefits. As a concept, opportunity cost reminds us that the costs relevant to decisions are those connected with opportunities. Costs which have already been incurred are, in this respect, irrelevant. Nevertheless, decisions regarding resource allocation continue to be made on the premise that too much has already been invested to abandon the project. McLean: refers to this as the 'Concorde fallacy':

"Every year researchers have said, 'Just give us another billion dollars and we will have it airborne within the year.' Every year, they have got their billion dollars. This year, the government is getting restless, but the Minister for Scientific Research says, 'If we don't spend another billion, we shall have wasted the nine billions we have spent so far. Therefore we must spend it.' So they do. The plane gets off the ground; but it never recovers its costs - not even this year's billion" (McLean, 1987:4)

This raises a second important concept of microeconomic theory; that is, 'marginalism'. Marginal analysis questions the importance of an additional unit of cost or benefit. When Adam Smith considered his famous paradox of diamonds and water he recognised that; "the things

which have the greatest value in use (e.g. water) have frequently little or no value in exchange; and, on the contrary, those which have the greatest value in exchange (e.g. diamonds) have frequently little or no value in use." (WN, I. iv. 13). Smith identified that both goods provided 'utility', the former because it can be used in a practical way, the latter because the good appeals to our senses. The paradox became known as the paradox of 'value in use versus value in exchange'. Smith appreciated that the higher exchange value of diamonds was partly attributable to their scarcity. However, it was not until the late nineteenth century that the distinction between marginal utility and total utility was made. Rhoads explains:

/The total utility or satisfaction of water exceeds that of diamonds. We would all rather do without diamonds than without water. But almost all of us would prefer to win a prize of a diamond than one of an additional bucket of water. To make this last choice, we ask ourselves not whether diamonds or water gives more satisfaction in total, but whether more of one gives greater additional satisfaction than more of the other" (Rhoads, 1985:25).

Answers to marginal utility questions depend upon how much of each particular good we already have. The utility of additional marginal units continues to decrease as we consume more and more. The term 'marginal' is often paired in economics with 'benefit' or 'cost'. 'Marginal benefit' is the additional satisfaction obtained from consuming one extra unit of a good or service. 'Marginal cost' is the cost to produce an additional unit of a good or service.

Thus the concepts 'opportunity cost' and 'marginalism' are inextricably linked: marginal cost is defined as the opportunity cost, and opportunity cost means alternative marginal benefits foregone. However, although they are linked, they are not the same: marginalism helps to define opportunity cost, but it has wider relevance. For example, when considering the effect of timber prices on the propensity to fell forests, we are less concerned with the effect of an increase in price on the *total* amount of timber felled, but more interested in the percentage of any *additional* timber felled as a result of the price increase.

The third concept of microeconomic theory of importance to policy analysis is that of incentives. Economists since Adam Smith have been seeking ways of using monetary incentives to accomplish public purpose. Schultze refers to this as "The Public Use of Private Interest" and comments that:

"Harnessing the 'base' motive of material self-interest to promote the common good, is perhaps the most important social invention mankind has yet achieved" Schultze (1977:).
His argument is that rather than exercise political power through regulation to change individual behaviour, the incentive structure in which individuals make choices should be understood and then extended towards the common good. The individual's pursuit of self-interest would then help to achieve public good.

Economists have attempted to derive public sector applications of simple supply and demand

curves. On the premise that if the price of a good increases then people will consume less of it, price control can be used to solve problems of over-exploitation of a resource.

3.2.2 Welfare Economics

Welfare economics rests on two fundamental normative assumptions. First, that societal welfare depends upon individuals' subjective senses of satisfaction; and second, that satisfaction is best achieved by allowing individuals' preferences to determine the use of society's resources. Having accepted these two assumptions, economists can show that society should be concerned with achieving economic efficiency: for society's ability to maximise welfare is dependent upon efficiency. Efficiency is achieved by reaching a point of production where net benefits of production (benefits minus costs) have been maximised.

Economist, Vilfredo Pareto extended the efficiency criteria by arguing that the 'optimum' position of allocation of a resource has been reached when it is no longer possible to re-allocate the use of resource so that one individual will gain without loss to another. The theory has important implications for the allocation of resources, since it seeks to achieve a balance between those competing to use or enjoy resources in different ways. If a change in the allocation of resources can be achieved so that if the gainers gain enough to fully compensate the losers and *still* have an improved situation themselves, the change meets a 'potential Pareto' criterion and shows that change would improve economic efficiency. Economists argue that the change is economically efficient, even if the transfer to the losers does not actually take place.[23]

The Pareto optimal principle suggests that free trade is generally desirable, since parties would not consent to any trade unless each expected to be at least as well off after the exchange as before. Thus, it has been argued that natural resource problems might be solved by the market. Central to this theory is the need for conditions in which markets might operate efficiently.

The transfer of resources may not necessarily increase social welfare in situations where external diseconomies are present. Neo-classical economic theory predicts that an individual's use of a resource will be determined by their *private* costs and benefits. As such, individual use may or may not contribute to a socially 'optimal' type of use and management. This occurs simply because the individual user does not take into account the 'social' benefits derived from the resource by other individual members of society.

Thus, an individual user of land in producing private benefits for his/her own enjoyment may at the same time produce external or 'social' costs. Equally, a user may produce social benefits in pursuing his/her own private interests. The economist Arthur Pigou analysed various inefficient

[23] The change may not meet equity criterion. Some economists do not like the potential Pareto improvement concept and argue that economic efficiency is obtained only if compensation of losers actually takes place: thus, there are no losers.

situations in terms of a divergence between private and social costs and benefits. His most common example was that of the factory-owner who would produce goods up to the amount where the marginal private benefit of producing an additional unit of the good was equal to the marginal private cost. However, in operating the factory the owner was also producing social costs, in terms of pollution. Since the owner does not take into account the costs to society when deciding on the level of production, the factory owner might set the level of production (and hence pollution) at a *greater* amount than is socially optimal for society.

The theory might be equally applied to a situation where individuals are combining to produce public benefits. In such a situation, whenever the private benefits to be derived from the activity are less than the benefits enjoyed by the rest of society, then the private individual may under-supply the good, the socially optimal level of provision will not be reached, and a misallocation of resources will occur.

Externalities, which arise when operators in a market produce and exchange goods which create costs and benefits for third parties, are said to be evidence of 'market failure'. In such circumstances, the goal must be to equate the marginal private and marginal social costs of the transaction.

Pigou's analysis suggests that the market is better at producing private goods and services than 'public goods'. In the case of the former, the pricing system provides signals regarding what is to be produced; how those goods and services are to be produced; and for whom the goods and services are produced. As part of this process, the price mechanism will be critical in determining whether and how much of a scarce resource should be used in production.

In the production of 'public goods', the price system does not provide the signals necessary to elicit appropriate behaviour. Whereas a pure private good is one which confers benefits to a single user, who is able to exclude others from using the good, a pure public good is one which "may be enjoyed by all persons simultaneously and the consumption by one person does not subtract from the consumption opportunities of others" (Weisbrod, 1964).

The implication of Pigou's analysis is that whenever such inefficient situations arise, market *failure* requires that corrective government action should be taken. However, some economists argue that many kinds of environmental problems involving 'external' costs and benefits can be taken care of under a suitable system of property rights. Rather than replace the market with some form of government provision, they would advocate extending the market to enable the successful transaction of previously 'external' goods and services: in essence, internalising externalities.

In 1960, Coase suggested that contractual agreements (accompanied by payment) between a

private producer and other individuals, who may gain or lose from the producer's activity, could result in socially optimal behaviour on the part of the producer. The 'Coase Theorem' resulting from the work implies that either private producers may compensate the individuals who may suffer from his action **or** that the individuals affected may pay the producer to take their interests into account. In either case, a Pareto optimal solution might be found. Coase emphasises that there must be clear definition of property rights and while distribution of those rights may not influence the economic efficiency of the solution, they would influence the distribution of income. Thus, in the above example, if the factory owner has a right to pollute, rather than the individual members of society a right to clean air, then society will have to pay the private producer to reduce activity to an acceptable level and will, therefore, suffer a reduction in income. The importance of Coase's work, however, lies in its recognition that the neoclassical model holds only under the severely restrictive assumption of zero transaction costs. He identified that there must be no barriers to exchange for the factory operators and individuals suffering pollution to successfully re-arrange their affairs so as to maximise their own benefits.

3.2.3 The Importance of Transaction Costs

The assumption that there are no barriers to exchange is an unrealistic one: in practice the costs of undertaking a transaction can be sufficient to prevent the exchange being completed. Coase argued, therefore, that policy makers should concentrate their attention on reducing transaction costs: acknowledging that it is transaction costs rather than externalities per se which prevent a Pareto optimal solution being achieved.

More recently, Cheung (1978) emphasised the importance of clarifying *why* there is a divergence between private and social cost and Pareto optimality is not reached. He refers to two empirical investigations which support his observation. The second investigation concerns the use of bees in pollinating apple trees. Cheung criticises assumptions made by other analysts that the owner of the bees is providing a 'free service' to the owner of the apple orchard: he offers evidence of regular contractual arrangements between the individuals. He states that in much analysis of social cost the constraints which are assumed to prevent the Pareto condition occurring are not present in reality.

Eggertsson (1990:14) defines transaction costs as "the costs that arise when individuals exchange ownership rights to economic assets and enforce their exclusive rights." He cites Mathews (1986:906) who identifies that they consist of "the cost of arranging a contract ex ante and the cost of enforcing it ex post." In the Epilogue to Cheung's paper, Burton suggests that externalities "arise not from 'market failures' but rather from obstruction to market trading of high transaction costs. These take four main forms and result from the cost of acquiring information; negotiating the price; charging for the use of the resources; or excluding 'free-riders".

Dahlman (1979:161) confirms that it is transactions costs and less than perfect information "that prevent us from reestablishing the Garden of Eden here on earth." These ideas are developed further by Baden and Stroup (19??: 17), who argue that private ownership and the transferability of property rights provide the basis for equitable and efficient resource use: "When rights are private and transferable, a decentralised market provides diversity, individual freedom, flexibility, information and equity, since the interests of non-owners are unavoidably observed and respected." They consider that it is important to examine the cause of market failure, because it is only then that an appropriate response can be made.

More recently, Anderson and Leal (1991:22) have placed certain prerequisites on the attainment of market solutions: "Only when rights are well-defined, enforced, and transferable will self-interested individuals confront the trade-offs inherent in a world of scarcity. As entrepreneurs move to fill profit niches, prices will reflect the values we place on resources and the environment."

The implications of the transaction costs approach is that it focuses attention away from advocating Government intervention to equate social and private costs (as would follow from Pigou's analysis) to a position whereby the relative merits of alternative institutional arrangements can be considered. This perspective develops the neo-classicist approach of determining optimal resource use to the extent that institutions become a *subject* of the study.

Nevertheless, this perspective, which might be referred to a 'public choice' perspective, takes a narrow position concerning the role of government in altering the arrangement of institutions. Many public choice economists argue that the government's role should be limited to a precise definition and subsequent enforcement of property rights (Anderson, 1982). However, as Livingston (1987:283) identifies, "the assertion that rights should be precisely defined gives absolutely no indication how rights *should be structured* (Randall, 1974). There is still no way to evaluate or compare alternatives. Thus, while attention is given to institutions per se, the problem of choice remains."

Public choice theory asserts that if property rights are well defined and transferable, change should occur through market transfers. The argument is that whenever the benefits exceed the costs of changing institutional arrangements, the invisible hand of the market will transfer rights to those positions where they produce most benefits. Any attempt to intervene in this process is perceived as 'rent-seeking': that is, efforts by interested parties to change institutional arrangements to their favour, which will enable them to enjoy an 'economic rent' associated with use of the resource under a particular institutional arrangement. Rent-seeking behaviour is not supported by public choice economists: on Paretian grounds; because it favours a biased approach; and because it creates uncertainty in the market place. Livingston (1987:284)

summarises the public choice perspective : "While any public change results from biased rent seeking, any market change constitutes a revealed preference for a superior institutional arrangement."

3.2.4 Institutions

As described above, mainstream economics does not provide a basis for analysing institutions, assuming them to be fixed and determining efficiency within that context. The neo-classical "efficiency" approach focuses on outcomes and is not concerned with the process by which they are achieved: it takes the existing set of institutional arrangements and concentrates on how trade might be improved within that given market place. This might include improving the availability of information and the improvement of negotiating and enforcing contracts. Bromley criticises the orthodox economists' preoccupation with markets and pricing as a mechanism to reflect social value:

'To believe that markets determine value is to believe that milk comes from plastic bottles. More critically, to believe that market-derived prices faithfully reflect social value is to believe that social relations and culture are subsets of the economy rather than conversely." (Bromley, 1988:781)

The public choice theory of economics develops the neo-classical approach to the extent that institutions become the subject of study. However, criticism of public choice theory identifies several problems with the public choice view of market institutional change. Most frequent of such criticisms is that it fails to see that the efficient evolution of institutional arrangements rests on the initial distribution of property rights. To this end, public choice theory ignores the fact an individual's ability and willingness to pay depends upon the incomes resulting from the initial endowment of rights.

In natural resource management issues this has serious implications. The initial endowment of property rights governs who may exploit a particular resource and so gain benefit from the resource. For example, the owner of a mine may extract the resource for financial gain. If the use of that resource produces external costs to other individuals, (such as noise and air pollution) public choice theory expects those individuals to purchase property rights from the original owner and so govern the way in which the resource is used in the future (such as operate the mine at a lower capacity and so reduce the pollution). In such cases the external costs may be dispersed amongst a large number of individuals, whilst the benefits are concentrated on the single owner of the resource. According to Olson (1965), any group of people seeking a solution with widely diffused and collectively-shared benefits is at a disadvantage when attempting to organise collective action. Clearly, the costs of organising the purchase of property rights in this instance may outweigh the benefits. Public choice theorists refer to this state as Tareto irrelevant'.

The second, and perhaps more important failure of public choice theory is its inability to recognise the importance of institutional arrangements. Transactions (that is, property rights transfers), take place *within* the context of the existing law and do *not*, therefore, change the basic choices established by government policy. Whereas institutions refer to the 'rules of the game', property rights refer to ownership of certain rights obtained under a particular set of rules. In this respect, analysis of property rights will not reveal an understanding of broader issues concerning alternative institutional arrangements.

It is the public choice theorists' aversion to design and adjustment of public policies, which necessitates an ethical stance, which leads to a reliance on the market as an allocation mechanism. Goldberg (1974) comments that public choice economists are reluctant to take an ethical stance and "play God". Anderson and Leal (1991:17) concern themselves more with the tendency of politicians and public servants to play God and be swayed in their value judgments by powerful lobbying: "the fundamental dilemma of political economy is : Once the state has the coercive power to do what voluntary (market) action cannot do, how can that power be constrained from being usurped by special interests?" Thus, public choice theorists argue that "politically made changes in institutional arrangements are biased, destabilising, create uncertainty, and cannot be supported on Paretian grounds." (Livingston, 1987:283).

Support for a market approach to solving natural resource management issues often stems from such criticism of government intervention. Burton (1978) raises several issues to advance criticism of public sector intervention. First, he states that there is an implicit assumption in the Pigouvian analysis that the cost of administering government intervention is zero. Clearly, this is unlikely to be true in the case of management of resources, where a public agency must develop a formal resource use strategy and negotiate, monitor and enforce that strategy with other users. Indeed, the costs of government intervention may outweigh the benefits.

Second, government intervention involves the assimilation of information which will allow decisions to be made regarding how the resource is used and what sort of government policy (subsidy, tax, regulation, provision) must be employed to enforce use requirements. However, the government may not be able to attain the information necessary from the individuals concerned. The efficient level of use is characterised by an equality between the marginal cost of supply and the sum of the marginal values. In theory, if the public agency is to achieve efficient use of a resource, then it should seek information which will provide data on the marginal benefits and costs to each party. Individuals place different values on the use of the resource and, since it is difficult to determine how much any one person values use, it is virtually impossible to determine an aggregate of those values.

Third, Burton, like Anderson and Leal, is critical of the unrealistic assumption that both

government electees and public servants will aim to maximise social efficiency in their design and implementation of public policy for land. In the case of political appointees, one might assume that decisions will be determined by vote considerations, meaning that powerful lobbying (which may not accurately represent public opinion), is likely to sway decision-making.[24] The weakness of the assumption that politicians seek to maximise social welfare is reinforced by suggestions that public servants who manage the conservation projects also have **their** own goals.[25]

3.3 THE NEW INSTITUTIONAL APPROACH

In a recent OECD study (Renewable Natural Resources: economic incentives for improved management), discussion on the causes and potential remedies for 'policy failures' in a variety of countries characterised such failures as " 'government failures' attributable to public ownership and management of natural resources and the broad range of government incentives aimed at private owners, or 'market failures' derived from private ownership and exploitation" (OECD, 1989:9). This dichotomy of problems typifies an approach to natural resource management issues which ignores the importance of institutions and so ignores a broad range of possible solutions which are not characterised by a purely public or purely private approach. Just as some analysts assume that government provision offers a panacea to the problem of providing collective goods, so others offering market solutions often ignore the problems encountered in establishing and maintaining a well-functioning market.

An increasing number of political economists are recognising the importance of analysing the institutional arrangements governing natural resource decisions. Bromley (1988:781) in advocating the analysis of institutional arrangements states that: "Whereas the neo-classicist is interested in the maximising behaviour that occurs within predetermined choice sets, I am more interested in how those choice sets get determined." Edwards and Sharp (1990:316-7) in examining the effectiveness of land protection mechanisms in New Zealand comment that "to view the problem in terms of a choice involving either public or private provision is to impose a restriction on the range of institutional alternatives for land protection..... A variety of approaches, beyond the private-public dichotomy, can foster aggregate participation in conserving land and improve the quality of information on opportunity costs."

Institutional arrangements define choice sets within which individuals and groups operate. The institutional arrangements provide a structure which governs how individuals will behave with

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[24] In addition, even if the majority rule of voting is accurately used, social welfare will not necessarily be maximised (see J.M. Buchanan in "The Coase Theorem and the Theory of the State" Natural resources Journal, 1973, pp 579-94).

[25] Ibid.

respect to each other and with respect to the natural resources involved. As such, the institutional approach emphasises the need for change: whereas the public choice theory relies on the stability of the market, institutional analysis is concerned with the ability of institutional structures to adapt to changing social demands (Livingston, 1987).

Eggertsson (1990) differentiates between what he refers to as "neo-institutionalists" and "new institutionalists". In the former, he is referring to those whose approach "constitutes a modification of the protective belt of neoclassical economics, primarily, as we shall see, by introducing information and transaction costs and the constraints of property rights." The latter refers to institutional economists who reject elements of the hardcore of neoclassical economics, such as the rational choice model.

New Institutionalists argue that the market is a subset of existing institutional arrangements, rather than vice versa. Individuals come together to negotiate the collective rules which will govern their individual and group behaviour by providing a structure of choice sets. In this respect, these bargaining sessions establish the working rules for interaction and precede any market transactions. Bromley (1988:781) comments that "markets can only reflect a prior underlying structure of entitlements that indicate who has rights, duties, privileges, no rights, power, liability, immunity, and no power." Ostrom (1990:15) comments that "no market can exist for long without underlying public institutions to support it. In field settings, public and private institutions frequently are intermeshed and depend on one another, rather than existing in isolated worlds."[26]

It is possible that the misconception that institutions are derived as a subset of markets, and not vice versa, may be assisted by the confusion between institutions and organisations. Institutions are not organisations. Institutions constitute 'the working rules'. They are established by individuals' ability to come together and express, and agree to be bound by, conditions which will govern future individual and group action. As such, institutions define organisations: the organisation is a real manifestation of a set of working rules in much the same way as the market. Commons (1961:73) comments that "it is this shift from commodities, individuals, and exchanges to transactions and working rules of collective action that marks the transition from the classical and hedonic schools to the institutional schools of economic thinking. The shift is a change in the ultimate unit of economic investigation, from commodities and individuals to transactions between individuals."

3.3.1 Institutions and Political Science

The importance that economists have placed on institutions recently has been echoed in political science. March and Olsen (1988) attribute this resurgence of interest in institutions to the "cumulative consequence of the modern transformation of social institutions and persistent

[26] Ibid.

commentary from observers of them." They acknowledge that attention to political institutions has increased in academic literature in a wide variety of political analyses.[27] March & Olsen (1988) explain that "the new institutionalism insists on a more autonomous role for political institutions." This demand is not routinely accommodated by modern political theory, where political outcomes are perceived as a function of three primary factors: preferences (interests) among the political actors, the distribution of resources (powers), and the constraints imposed by the rules of the game (constitutions). Whilst in political theory each of these is treated as exogenous to the political system, new institutionalism argues that preferences and meanings develop in politics (as such they are dynamic and endogenous in the political system); that political institutions affect the distribution of resources (thus, the distribution is also partly determined endogenously); that the distribution of resources affects, in turn, the power of political actors (and thereby affects political institutions); and, finally, the rules of the game develop *within* the context of political institutions. (March & Olsen, 1988).

In essence, institutions *affect* and are *affected by* society. Work needs to be carried out, however, in developing this theory; "It is interesting to suggest that political institutions and the society are interdependent, but that statement needs to find a richer theoretical expression." (March & Olsen, 1988:742).

3.3.2 Institutions - Towards a Clear Definition

Whilst there appeared to be considerable interest in the study of institutions towards the end of the 1980s, there was little agreement on what the term "institution" meant and, indeed, how to undertake a study of institutions. Ostrom (1986) identified several different interpretations of "institutions" and concluded that "we cannot communicate effectively if signs used by one scholar in a field have different referents than the same sign used by another scholar in the same field." Ostom advocates that the concept of 'rules', is used to symbolise the term 'institution'. She categorises four different types of rules: "Rules are the result of implicit or explicit efforts by a set of individuals to achieve order and predictability within defined situations by: (1) creating positions (e.g., member, convener, agent, etc.); (2) stating how participants enter or leave positions; (3) stating which actions participants in these positions are required, permitted, or forbidden to take; (4) stating which outcome participants are required, permitted, or forbidden to affect." In this respect, rules do not directly affect behaviour, but affect the structure of a situation in which actions are selected: they rarely prescribe one action or

[27] Literature on legislatures, budgets, public policymaking, local government, and political elites; in studies of the origin of the state, the development of national administrative capacity; in analyses of the breakdown of democratic regimes; in discussions on coporatism; in the Marxist rediscovery of the state as a problem in political economy and of the importance of organisational factors in understanding that role; in studies in formal organisations and the place of such organisations in the implementation of public policy; in attempts to link the study of the state to natural sciences and to the humanities; in a renewed interest in making historical-comparative studies of the state (March & Olsen, 1988:734)

outcome, but specify a set of actions or outcomes. Rules must be separated from behavioural and physical laws: theoretically, rules can be changed, whereas behavioural and physical laws cannot. This has important implications for understanding institutions: the fact that rules can be changed makes them interesting variables. Second, rules have a prescriptive force, so that knowledge and acceptance of a rule leads individuals to recognise that if they break the rule, other individuals may hold them accountable.

In conclusion, Ostrom (1986) defines institutions as "sets of working rules that are used to determine who is eligible to make decisions in some arena, what actions are allowed or constrained, what aggregation rules will be used, what procedures must be followed, what information must or must not be provided, and what payoffs will be assigned to individuals dependent on their actions."[68]

3.4 INSTITUTIONS AND THE COMMONS

Much work has been conducted in Britain in recording the various rights which exist over common land (Clayden,1985; Oswold,1989; Shoard,1989; Sydenham,1993). Work of this type falls into the category of legal analysis and has provided comprehensive documentation on the existence of common land and common rights in Britain: that is, the property rights as ownership of physical goods obtained under a particular set of rules, as referred to above. However, there has been little analysis on the institutional arrangements of common land. Since it is the institutions surrounding the commons which will determine their survival, it seems important that research is now focused in this area.

Institutions provide opportunities for individuals and groups to act on the values they associate with certain circumstances. One of the most important group of 'actors' in the management of common land is the commoners themselves. Ostrom (1990) rejects the notion that the appropriators of a common resource are incapable of supplying their own institutions: "Instead of presuming that the individuals sharing a commons are inevitably caught in a trap from which they cannot escape, I argue that the capacity of individuals to extricate themselves from various types of dilemma situations *varies* from situation to situation." She questions therefore whether they will adopt new rules whenever net benefits of a rule change will exceed net costs.

Analysis which shows that there is a complex mixture of demands placed upon the English commons, suggests that more complex and dynamic institutions may be required for sustainable management. The different benefits associated with the common and the variety of interested parties may, indeed, result in the need for third party intervention in the management

[28] Ostrom, E. (1986). An Agenda for the study of Institutions. *Public Choice,* 48, pp.3 - 25.

of the commons. Research on the case studies will analyse whether the commoners in England are capable of adopting improved institutional arrangements and whether such arrangements will be acceptable to other interested parties. Improvements in institutional arrangements are defined as problem solving: thus, in order to evaluate the success of institutions, one must examine whether changes conform with policy intent to resolve identified problems. If it is found that third party intervention is necessary, it will be important to suggest the appropriate form.

3.4.1 The Need for Institutions to Evolve

Institutional arrangements define the distribution of choice and incentives faced by individuals and groups. In contrast to the public choice theory of institutional stability, institutional analysis emphasises the need for institutional change as economic and social circumstances change: they assert that emerging problems require flexibility and innovation. Bromley (1988:784) refers to the need for dynamism in institutions as the "order-change antithesis", and recognises that "order creates expectations about secure futures, but that there must also be mechanisms for mid-course correction....Too much 'order' and not enough 'change' insures revolution, too much 'change' and not enough 'order' insures the absence of expectations, and hence stagnation."

It has already been explained that the demands placed on common land in England are increasing in type (beyond that of grazing) and in size. It is vital, therefore, that any institutional arrangement for the management of common land are flexible enough to accommodate such changes. Change is demanded when there is a discrepancy between achievable and desired social goals and actual outcomes that arise from present institutional arrangements. Livingston (1987:287) confirms this requirement "resource use for recreation, aesthetic and intrinsic purposes places increased demands and pressures on the environment. According to institutional theory, arrangements governing resources and their use must adjust to accommodate a new mix of social goals."[29]

Chapter Four establishes an analytical framework for examining the institutional arrangements of commoning in England and the effect that it has on the control and management of commons.

[29] Importantly, the public/private sector mix resulting from institutional change is regarded as incidental (see also Klein, 1985). Whether institutional change is brought about by rent-seeking, market forces or other forms is irrelevant: each case is examined to see whether the change solves the initial problem.

CHAPTER FOUR:
ANALAYSING THE COMMONS:
The Development of a Framework and Model

4.1 THE PURPOSE OF AN ANALYTICAL FRAMEWORK

4.1.1 The Need for a Framework

The introductory chapter discussed the different types of resources which are can be classified as 'commons'. They range from grasslands and forests to water and fisheries. Whilst differing widely in their physical nature and the uses to which they might be put, they share an important feature: that they are controlled and managed under a common property regime. The key problem which all resources managed in common face is the extent to which use by many individuals might be coordinated in manner which prevents the resource from becoming depleted or degraded over time. When individuals fail to cooperate in the management of commons, the tragedy depicted in Hardin's parable (Hardin: 1968) *can* become a reality.

Chapter One discussed the ability of institutions to govern resource use and so prevent the tragedy of the commons. Some of the institutions which have evolved or been designed to govern common-pool resources may be highly successful, whilst others may not. In our understanding of resource management and, in particular, of resources managed in common, it is important to identify successful situations and appreciate the underlying reasons for their success. Such an understanding will help the diagnosis of unsuccessful resource management situations and assist in the prescription of appropriate solutions.

4.1.2 The Need to Develop Existing Frameworks

A general analytical framework will allow comparison of different types of resources and different situations. It can be used to collect information about the commons and facilitate analysis across a variety of resources. Much work has been conducted on the development of such a framework, most notably by Oakerson (1981 and 1991), Kiser and Ostrom (1982) and Ostrom (1990). However, as identified in Chapter One, little research on commons has reflected the extent to which non-extractive users of the resource (in particular, amenity users) might affect the control and management of its overall use. Oakerson (1991:42) likens the commons to a production factory, but states that they differ in that the commons produces "not a series of differentiated products, but a stream or pool of undifferentiated 'product' from which individuals take a portion for their use." His analogy, which emphasises the production of a single product from common land, is consistent with the concept developed in this thesis that

only the grazers partake in "extractive use" of the common, but is misleading in the English context in its implication that no other stream of benefits are derived from the resource. The English commons produce a stream of differentiated benefits or "products". The hypothesis of this research is based on the presence of this stream of benefits. It supposes that the complex and often competitive demands placed upon common land in England might result in the need for external intervention in the design of institutions which will allow effective control and management of the resource. To this end, the conceptual frameworks developed elsewhere in research require further development for proper application to the English common grazing lands. In particular, they need to be adapted to properly take account of *all* resource users.

In this chapter, a conceptual framework for analysing English common land will be developed from existing research. The framework must be specific enough to enable it to be adopted by researchers of grazing land throughout Britain and, indeed, in similar developed countries where commons suffer from competing uses. However, it must be flexible enough to allow individual researchers to develop it to the specific situation of a particular area of common land. For this reason, the framework developed does not attempt to be a fully specified model, but merely a conceptual tool for organising and analysing information about the commons. The framework does not attempt to provide any answers, rather to provide a series of questions and so distinguish characteristics of the commons and facilitate an understanding of their relationships. Thus, it will provide the basis for a systematic approach to study of common land in Britain. The relationships between the variables identified are specified in ways which will allow diagnosis and understanding of common land problems in Britain and facilitate prescriptions to be made with respect to particular solutions.

The framework developed in this Chapter was tested on a case study and is further developed in Chapter Ten, in light of the results of that analysis. To be used for the case study of the New Forest, it was imperative that the framework was capable of adaptation so as to provide information about institutional change. Initial research into the New Forest commons suggested that the institutional arrangements governing control and management of the commons needed to develop to suit changing patterns of demand on the commons. The conceptual framework was thus developed to produce a more dynamic framework of institutional change.

4.1.3 The Plan for the Chapter

Section 4.2 explains, in detail, the four characteristics distinguished in the conceptual framework developed to analyse common land. The relationships between each characteristic are examined. The Section explores means of applying the framework to different common lands with different uses. Section 4.3 explains the multiple levels of action which must be taken into account in the institutional analysis. The Section explains how the operational level is nested in a set of organisational (or "collective choice") rules, which in turn are nested in as set

of constitutional rules. Section 4.4 explains how the different variables in the framework combine to result in action from individuals, patterns of interaction and eventual outcomes. Section 4.5 summarises the analytical deductions made in the development of the framework and shows how it might be used to diagnose and understand problems in different common land situations and to predict the likelihood of desired outcomes in different policy settings. Developing discussion on the ability to use the model to predict desired outcomes, the Chapter concludes by identifying the complexities of establishing performance criteria for the management of common land which has multiple use demand and establishes the importance of dynamic, flexible institutions which will allow use and management of the commons to respond rapidly to any change in perceived threats to the common.

4.2 THE CONCEPTUAL FRAMEWORK

4.2.1 Four Characteristics of Management of Common Land

The framework presented here distinguishes four types of characteristics used to describe common land. It is based upon work by Oakerson (1991), which was subsequently applied and developed by Tang (1992). The framework is presented in diagrammatical form in Figure 4.1. Each component part will be explained before explanations of the relationships between the variables are provided.

4.2.1.1 Physical and Technological Characteristics

Problems concerning commons of all types are firmly rooted in the natural, physical constraints placed as a result of the physical characteristics of the resource. If grassland commons covered an infinite area and could produce infinite quantities of grass, there would never be a problem of over-grazing. However, constraints imposed by the size of the common, the availability of wa^er, the rate of growth (affected by such variables as the type of grass mixture, climate and degree of shading) will always curb use of the common as a resource. Inclusion of technology with the physical characteristics of the common acknowledges an ability to control, to some extent, the natural limitations set by the resource by employing technology. For example, recovery of grassland might be facilitated, if other favourable conditions are present, by the application of artificial fertilisers. Technology will also help in the transfer of water from an area of the common where it is naturally occurring, to another where water is scarce.

Ostrom (1990:30) separates the "resource system" from the flow of "resource units" it provides. In doing so she clarifies the difference between the common itself and the grass it produces and provides a useful distinction in terms of the British common. Graziers, who are referred to as "appropriators", extract resource units (i.e. grass) from the resource system (the common). In a renewable resource, such as grassland, as long as the average rate of withdrawal does not exceed the average rate of replenishment, the resource can be sustained over time. This at once

helps us to distinguish between what are referred to here as "extractive users", who appropriate resource units from the resource system, and "non-extractive users", who derive benefit from their use of the resource system itself. Such non-extractive users would include recreational and amenity users.

Much of the work conducted on common grazing land has questioned how the physical properties of the common have limited its ability to support extraction of resource units. In the English context, it is important, however, that we question the ability of the common to support the resource system itself. The capacity of the resource system to support the variety of users identified for English commons in Chapter Two, might be measured using the same concepts: concepts used in analysis of the physical attributes of the common in earlier work are equally applicable to both lines of inquiry. Kiser and Ostrom(1982) refer to the concepts affecting the resource governance: (i) the 'subtractability' (or 'jointness of consumption') of a good; and (ii) the 'excludability' (or the 'extent to which exclusion is possible'). In subsequent work, Oakerson (1991:43-5) identifies the importance of "jointness, exclusion, and indivisibility", which are also acknowledged by Tang (1992:20).

(i) Subtractability: as identified in Chapter Two, the *subtractability* of resource is the extent to which one person prevents use by another person. The concept is central to public goods theory, where a pure public good is often referred to as 'non-excludable and non-rival', that is, "one which might be enjoyed by all persons simultaneously and the consumption by one person does not subtract from the consumption opportunities of others" (Weisbrod, 1964:). Oakerson (1991) recognises that subtractability of a resource can be affected not only by simultaneous use, but also serial use. Thus, in using a common for football practice, one team might not subtract from the enjoyment of another if they time their departure from the common to coincide with the other team's arrival. However, they may detract from the enjoyment of the second team by leaving behind a deteriorated pitch, strewn with litter. In this respect, subtractability might affect enjoyment of the common in two ways. First, whatever is extracted by one user cannot be extracted by another. Thus, one grazer's use of the common leaves less resource units in the form of grass for a second grazer. Equally so, one family picnic at the best viewpoint of the common prevents other non-extractive users from using the same area. Second, cumulative use of the common might eventually subtract from its total yield over time. This is clear in the case of grazing, where, as stated earlier, extraction of grazing units from the common must not occur at a rate higher that the rate of recovery in order for production yields to be sustained. For non-extractive uses, cumulative use can be just as damaging. In particular, erosion of footpaths and riding tracks can be the result of non-extractive cumulative use of the common.

Interestingly, both extractive and non-extractive use which damages the common has an effect on the other. Over-grazing which causes damage to the grass (and, arguably, increases the

amount of dung on the common) reduces the amenity benefits of the common by providing picnickers and walkers with a less attractive landscape. Equally so, increased use of the common for horse riding, mountain biking and walking might reduce the availability of grass for animals.

Just as over-use of the common affects the flow of benefits subsequently available to users, so might *under-use*. The Illingworth report on the New Forest recognised the importance of grazing for providing an appropriate landscape for recreation. Speculating on what would happen if grazing were to cease on the New Forest commons, the report notes "Small mown areas adjacent to car parks would provide the only space for games, and walks would be confined to set routes along purpose-made paths. Access to the heathland for both walker and rider alike would be limited to mown hard-edged rides running through rank heather or dense grass and ponds, and many streams would be bounded by impenetrable thicket" (Illingworth, 1991:49). Whether the grazer's use of the common would be affected by under-use of the common by amenity users will attempt to be answered in the case study.

Most commons exhibit partial subtractability: the threshold at which use of the commons becomes subtractive varies with each common and, indeed, varies over time. An understanding of the physical limits of the common which impose subtractability, enables users to devise and impose rules for reducing the subtractability of the common. Rules which can be devised in this way are largely affected by the degree to which exclusion can be achieved on the common.

(ii) Exclusion: The exclusion concept is used to differentiate public from private goods. A pure private good is one which can be enjoyed by a one person, to the exclusion of other. No one can be excluded from enjoying a pure public good (the most frequently cited example is air), the flow of benefits derived from it are available to all. Commons usually fall somewhere between these two definitions. The physical nature of the common land and the availability of technology will affect the degree to which exclusion can be achieved (for example, the size and shape of the boundary of the common and the cost and availability of appropriate fencing).

(iii) Divisibility: refers to the extent to which the resource is capable of being divided amongst the users into smaller parcels for management or ownership. It is important to recognise that the degree of divisibility of a common does not necessarily imply its suitability for division into private property (Oakerson, 1991:45). Indeed, division of large commons for management purposes can facilitate collective control of the common.

4.2.1.2 Characteristics of Parties Involved

Tang (1992:19), develops Oakerson's framework (1991) and distinguishes a further characteristic of commons, that of the "attributes of the community". He refers only to the resource appropriators (of irrigation systems) and collects information concerning their number,

social and economic characteristics, and the extent to which they depend upon the irrigation system studied. Again, it is important in the context of the English commons to identify and study more than one user group. Information should be gathered not only about the grazers ('commoners'), but also about other user groups of the common. Whilst the first task may be relatively straightforward (albeit time consuming), in that commoners are readily identified in England from registers, the second may be more complicated. Many other users of the common will reside outside the boundary of the common. As casual users, who are not registered and, in most cases, have no specified legal rights to use the common, amenity groups are difficult to identify for data collection. In particular, therefore, it is important for the researcher to select an appropriate means of obtaining information on this group through a sample. This might involve surveying users whilst they are present on the common, or conducting a postal-survey of an appropriate catchment area.

The social characteristics of the users will affect the way in which they use the common and the extent to which they are able to coordinate their use. Weisbrod (1975) suggests that the degree of heterogeneity of a nation (the diversity of income, cultural heritage, and religion), will indicate the extent to which the individual's demand curves for a collective good will differ. Sugden (1984) argues that the more heterogeneous a community, the more difficult coordination becomes. Ostrom (1990:36) explains that the type and extent of shared norms amongst the user group will have an important impact on the degree of opportunistic behaviour employed by individuals. Shared norms may prevent the need for elaborate monitoring and enforcement mechanisms.

Norms of behaviour, which affect the way that alternative strategies are perceived will also affect the way in which strategies are evaluated with respect to time. Individuals attribute less value to benefits which they expect to receive in the distant future than to benefits to be received in the immediate future (Ostrom, 1990:34). The extent to which individuals discount future benefits in this way depends upon social norms of the user group, and physical and economic security of the individuals. For example, resource users with descendants who expect to rely on the resource for their future livelihood are likely to place a greater value on future benefits to be derived from the common than those whose children may already have left the area and/or are not dependent upon the common for economic security.

In analysis of the English commons, the homogeneity of each user group must be examined and, in addition, the homogeneity between user groups. This will be further complicated by the presence of the same individuals in different categorised groups. For example, because of the links with commoning and pony breeding and keeping, it is typical in the New Forest for graziers to also enjoy using the common for recreational riding and/or hunting. The type of information that might be collected concerning user groups includes information on:
- the number and distribution of users;

- social activities, norms and preferences;
- economic condition, source of income (particularly, dependence on the common);
- size of family/community unit and degree of continuity of that unit.

4,1.2.3 Institutional Arrangements

So far in this exposition of the conceptual framework, there has been little to differentiate the commons situation from that described by Hardin (1968). Hardin recognised that that social characteristics of the graziers, in terms of number and preferences (his were 'rational individuals') would ensure overgrazing and that the physical properties of the common would limit its sustainable use (over-grazing lead to eventual depletion of the resource). Absent from his theory was the recognition that individuals can design and enforce rules which structure their individual and collective choices. Bromley (1986) refers to these as "resource regimes", Oakerson (1991) as "decision-making arrangements" and Kiser and Ostrom (1982) as "institutional arrangements." Authors from other disciplines, working in similar areas, have identified the importance of institutional arrangements, albeit using different terms. Curtis (1991:12), a social anthropologist, refers to "organisations" and "structures", but captures the essence of institutional arrangements when referring to problems of the provision of collective goods "solutions to these problems are found in sharing formulae - social constructs which legitimate and sanction particular patterns of relationship and allow co-operation to take place."

Kiser and Ostrom (1982:179) define institutional arrangements as "the rules used by individuals in determining who and what are included in decision situations, what actions can be taken, and in what sequence, and how individual actions will be aggregated into collective decisions." The rules may be formal, written down and detailed, or informal. Organisations are formed as composites of participants following the rules. Whilst widely accepted that institutional arrangements comprise a collection of rules (specified and unspecified), it is also recognised that they not only *constrain* individual action by imposing a set of limitations on behaviour and disincentives to ignore those limitations, but also *encourage* certain behaviour by creating incentives.

Absence of institutional arrangements controlling the use and management of a common pool resource will not necessarily result in resource depletion: the extent to which the resource may become depleted will depend, also, upon the two other variables presented in the model so far: physical and technological characteristics and characteristics of the community. However, it is likely that resource use will be inefficient and inequitable without agreed arrangements for management, as individuals compete for the resource. Inefficient use stems from the need for individuals to employ extra resources in order to secure as large a share of resource units as possible. Inequitable use occurs by virtue of the nature of appropriation of resource units: when characteristics such as force, locality, or wealth of individual users dictate the amount of resource units they receive.

Not all institutional arrangements are an improvement on the management of common pool resources without any form of institution. Institutional arrangements can assist or impede the ability of users to solve common pool problems. The ability to design and implement *effective* institutional arrangements is often a reflection of :-

(i) the amount of information available to resource users;

(ii) the degree of uncertainty they face in terms of the resource (physical properties and, in particular, its ability to produce a stream of resource units);

(iii) the extent to which opportunistic and self-interested behaviour is employed by the resource users;

(iv) the frequency with which resource users are expected to make individual contributions to management of the resource (Tang, 1992).

North (1990a: 192) writing on institutions in general, reflects similar observations "how well institutions solve coordination and production problems is a function of the motivation of the players involved (their utility function), the complexity of the environment, and the players' ability to decipher and order the environment (measurement and enforcement)."

4.3 MULTIPLE LEVELS OF ACTION

Research regarding the the problems of common pool resources often concentrates on analysis of resource use at the operational level. Such analysis leads us to assume that over-grazing of a common is the direct result of individuals, acting in self interest and placing too many animals on the common. Whilst this may be true, the conclusion that there is a problem of over-grazing is in fact an identification of a symptom of a more deep rooted problem, which has yet to be diagnosed. In fact, the rules affecting **operational** choice are made within a set of **collective-choice** rules which are themselves made within a set of **constitutional-choice** rules. It is this "nesting" of rules within rules which forces us to delve deeper in our analysis of common pool resource arrangements to properly find the root of problems (Figure 4.2).

It is most important to recognise that decision-makers at the operational level are not helplessly constrained by the institutional rules which govern them: they are able to change those rules. According to Ostrom (1991), "Individuals who have self-organising capabilities move back and forth between operational-, collective-, and constitutional-choice arenas, just as managers of production firms switch back and forth between producing products within a set technology, introducing a new technology, and investing resources in technology development."

Kiser and Ostrom, E. (1982) differentiate between the levels of rules which, cumulatively, affect the actions taken and the outcomes obtained:-

4.3.1 Operational Level

Operational rules directly affect the day to day decisions made by individuals, concerning, for example:

- when, where and how to exercise common rights;
- who should monitor the actions of others, and how;
- what information must be exchanged or withheld; and
- what rewards and sanctions will be assigned to different combinations of actions and outcomes.

Their purpose is to regulate behaviour in the interest of maintaining the common and, in particular, its ability to continue to produce an acceptable flow of resource units over time. Indeed the success of operational rules might be measured by their ability to ensure that the products of the resource are sustainable at a particular level over time. In the case of the English commons, this will include not only the common's ability to produce a flow of extractive resource units (grazing units), but also the common's ability to sustain a certain amount of amenity users over time.

The degree to which use of the resource subtracts from the resource will determine the type of operational rules which must be devised. Some single uses of the common, if practised to a large enough degree, can deplete or degrade the common over time. Different uses may be mutually incompatible, with a particular use driving other uses out. Rules which are devised to limit use of the common to a sustainable level will reflect the subtractability of different uses. For example, highly subtractive uses, such as peat cutting, may be limited in area or prohibited altogether. Less subtractive uses, such as grazing or mountain biking, which can damage the common through cumulative use, might be limited in duration. Where more than one use is made of the common, as with the English commons, then operational rules must take into account the relationships between the uses. Where uses are mutually incompatible, segregation of use over time or area might be necessary. Thus, operational rules over common land might comprise:

(i) Definition of users - such as a register of people entitled to out animals out to graze the common and clarification of any other rights of access;

(ii) Specification of what the users can do - rules concerning the manner in which the common may be grazed and regulating amenity use of the common;

(iii) Detail of how rules will be enforced - who will adjudicate disputes and what recourse they will have in attempting to remedy issues.

Clearly, coordination of the use and management of the common is facilitated if all users and other interested parties share knowledge of the operational rules. Different authors have identified different categories of rules (Kiser and Ostrom, 1982; Ostrom, 1990; Tang, 1992).

For the purposes of the English Commons, four categories are identified in the conceptual framework:

4.3.1.1 Boundary rules

Boundary rules limit the number of individuals entitled to resource units from the common. In England, boundary rules comprise registers of commoners: a well defined set of rights holders created by statute. Boundary rules may or may not be congruent with the physical nature of the resource. For example, individuals with rights to graze the common may not necessarily reside adjacent to the common. In addition, certain rules may allow casual use of a common by graziers without rights to that common. Specifically, when two commons adjoin each other in England, animals may stray from one common to the other. This is recognised as a legal right, known as 'the right of common by reason of vicinage.' It is not a separate right, but arises only from the right to graze one common, and can be terminated by the owner of the adjoining common by the erection of a barrier.[30]

The existence of the register of commoners prevents a sharp increase in the number of grazers on the common, by making the common a true "common-pool" resource as opposed to one with open access to all. For this reason, the existence of boundary rules is often seen as a necessary condition in the control and management of a common. However, it is not a sufficient condition for sound management. Indeed, just as boundary rules preclude the common from being over grazed by too many individuals turning out animals, so restrictive boundary rules can result in inefficient under-grazing if the number of specified rights holders is too low and may not be increased. In England, those holding rights may choose not to exercise them, and so the number of commoners grazing animals on the common can vary from year to year and over a longer period.

Boundary rules for amenity use of the commons in England are not so clearly defined and depend upon the existence of public rights of way and bylaws permitting access to the common. Generally, the open nature of the common means that for amenity purposes it is often treated as an open access resource: where access to the common for recreational purposes is freely available for an unlimited number of people.

4.3.1.2 Allocation rules

Allocation rules prescribe the procedure for limiting the amount of use units individuals can

[30] For this reason, it was ruled in *In The Matter of Cheesewring Common, Henwood Common and Longstone Downs, St Cleer, Cornwall (206/D/4-13; 5 June 1975)* that the right was not a right of common capable of being registered under the Commons Registration Act 1965. However, in *Newman v Bennett (1980) 3 AER 449* the High Court held that it was a right of common and that Newman, whose cattle strayed from the 'home' common onto the New Forest common, was rightly convicted of a breach of the New Forest bylaws relating to the marking of animals belonging to those with rights of common in the Forest. Since the New Forest is exempt from registration by virtue of s. 11 of the 1965 Act, the case cannot be taken to overrule Mr Commissioners Settle's decision.

withdraw from the common. Allocation rules restrict the type of animals which may graze, the number of animals, and the periods which they might be left on the common. In England such rules are found in a combination of common law, stemming from the 13th Century, and locally devised management rules.

When common rights were registered in England under the Commons Registration Act 1965 (s.15), claimants to commons which were not governed by separate, specific statutory legislation had to register a right to graze a specified number of animals of a specified type: old rights to graze animals without limits can no longer exist. The Act gives no guidance on how this is to be carried out. In many cases where claimants were not certain as to their rights (because there was no documentary evidence), a very large number of rights were registered and many objections were made.

Originally, pasture rights held 'appendant' in England were governed by the rule of 'levancy and couchancy', which stated that the number of beasts which a commoner could pasture was limited to the number which could be kept over the winter on the commoner's holding, using only the produce of that holding.[31] Similar rules of proportional-allocation are used in commons throughout the world. Ostrom (1990:64) states that the 'home-feed' base rule was common throughout most of feudal Europe.[32] Citing Picht (1987:4), she reports on other proportional-allocation rules used for Swiss alpine meadows, whereby the proportion is based on (1) the number of animals that can be fed over the winter, (2) the amount of meadowland owned by a farmer, (3) the actual amount of hay produced by a farmer, (4)the value of the land owned in the valley, or (5) the the number of shares owned in a cooperative. More straightforward rules of numerical limitation are referred to as 'stinting' and are currently exercised in the New Forest.

'4.3.1.3 Input rules

Input rules specify the amount of labour and other resources which each commoner must contribute to the management of the common. On smaller commons, commoners might cooperate to provide operational management, such as renewing fencing and water troughs. In England, where the freehold ownership of the land is often held by a private individual, management of the common may be conducted by an agent for the landowner, with some form of contribution expected from the commoners. On larger commons, contributions often take the form of monetary payment to some form of commoners' organisation which manages the

[31] The rules of levancy and couchancy are defined by Lush J in *Lascelles v Lord Onslow (1877) 2 QBD 433* (at p.449) as follows: " The right to turn out is measured by the capacity of the commonable tenement to maintain; it is to turn out as many commonable animals as the winter eatage of the tenement together with the hay and other produce obtained from it during the summer is capable of maintaining.

[32] Indeed, the Forest Service and Bureau of Land Management in the United States presently allocate grazing permits based on the home-feed base of the applicant and the carrying capacity of the grazing area (Ciriacy-Wanthrup and Bishop, 1975).

common on behalf of the graziers. When the type of task necessitates the presence of large numbers of people (such as rounding up the animals) then commoners will be expected to participate. The extent to which participation at such events is a written requirement of each commoner or relies on peer pressure may be a good indication of the cohesiveness of the commoning community.

4.3.1.4 Penalty rules

Penalty rules specify the penalties for breach of common rules. The most effective design on penalty rules depends upon the characteristics of the users' community. A homogeneous community may be able to rely on peer pressure for effective enforcement of rules. It is generally accepted that severe penalty rules need to be enforced by some external authority with legal power for coercion. Penalty rules may take the form of fines to be imposed, sanctions or total exclusion of a grazier from the common.

In each of the categories of rule specified, it is important in the English setting to continuously recognise that there is more than one user of the common and that the operational rules for the amenity users of the common may not be as well defined or enforced as those of the grazers.

[HYPOTHESIS FOR THE NEW FOREST:
THERE ARE RULES FOR COMMONERS, BUT NOT FOR AMENITY USERS. ==>
AMENITY USERS ARE LESS CONTROLLED AND MANAGED THAN COMMONERS =>
RESULT = DAMAGE TO THE ENVIRONMENT, BUT MORESO...
RESULT = COMMONERS' RULES BREAK DOWN AS A RESULT OF THEIR UNMANAGED PARTNERS ON THE COMMON??]

4.3.2 Collective-choice Level

Collective-choice rules indirectly affect operational choices. These are the rules that are used by the commoners, their officials, or external authorities in making policies (the operational rules) about how the common land should be managed. Whilst operational rules control use of the common by establishing constraints, they are not self-generating nor can they be enforced without the presence of some collective body.

Institutional arrangements must, therefore, be established to enforce the operational rules, resolve any conflicts, enforce decisions, and subsequently monitor, and modify the existing set of operational rules. Tang (1992: 31) argues that collective choice rules are particularly important because of individuals' bounded rationality and opportunism: whilst individuals' bounded rationality makes it impossible to devise operational rules that anticipate all kinds of contingencies, opportunism makes individuals inclined to take advantage of their fellow commoners. As a consequence, collective-choice arrangements are a necessary ingredient in

order to sanction against opportunistic behaviour and to facilitate modification of the operational rules as circumstances and information changes. Thus, we might assume that the performance of collective-choice institutions might be measured according to their ability to (a) successfully enforce operational rules and to resolve any operational disputes; and (b) to maintain the dynamic nature of operational rules, ensuring that they are adapted and modified to suit changing conditions. Empirical research using time series applications would provide valuable information for this part of the analysis.

As with operational rules, authors have devised different categories for investigation. Kiser and Ostrom (1982:93) refer to six categories:-

4.3.2.1 Boundary rules

Boundary rules set the entry and exit conditions for participating in the organisation. They should specify, for example, who may be a member of the collective-choice decision-making organisation; whether membership is compulsory for users of the common; and whether rights of collective-choice decision making can be taken away from members. The boundary rules determine, to a large extent, the legal domain of the collective decision making body. Other jurisdictional boundaries must be stipulated in the terms of reference of the collective organisation.

4.3.2.2 Scope rules

Scope rules specify allowable action and allowable outcomes from interaction within organisations. Such action might include the ability of the organisation to sanction certain uses of the common or to allow for the transfer of rights within and outside the existing group. For example, commoners with grazing rights may be able to sell or licence their rights to other commoners or to individuals with no rights. The ability of groups to exercise such arrangements will depend upon the relationship it has with the wider legal environment. It may be that while certain groups have rights to use the common (such as grazers), they have no power as a group to regulate overall use of the common.

4.3.2.3 Position and Authority rules

Position and authority rules distribute authority among the positions within organisations to take particular actions.

4.3.2.4 Aggregation rules

Aggregation rules specify how joint decisions within the organisation may be aggregated;

4.3.2.5 Procedural rules

Procedural rules link decision situations together in complex situations.

4.3.2,6 Information rules

Information rules specify information constraints in the organisation.

The size and complexity of the community using the common will determine the complexity of the collective-choice institutions. It has already been identified that the English commons have a complex structure of rights, with freehold ownership being vested in an individual or public body and with different specifications of user rights. This situation is made more complex when the common is owned by the Crown, who will then vest management of the common in some public agency.

The presence of the various interested parties in the English setting suggests that very few commons will be governed by a collective choice entity that has been devised and established by the common grazers themselves. Indeed, it is likely that users of the common will be subject to multiple sets of operational rules, either adopted and enforced by different collective choice entities or controlled by one organisation. Separate entities to deal with separate issues is often an effective means of preventing large bureaucracies from forming to control use of the common. Success of separate entities, however, is likely to rest on the extent to which they are capable of coordinating activities to ensure lack of duplication and/or conflict.

4.3.3 Constitutional Level

Constitutional-choice rules are the rules which affect operational activities and the outcomes of individual action in this way. Thus, it is at the constitutional level that we must analyse the processes used to create, enforce and modify collective-choice or 'organisational' rules.[33] Decision-making rules which are external to the immediate community of the common affect the operation of the common, both indirectly and directly. First, they may affect the operation of the common by influencing the way in which the community engages in collective-choice decision-making by determining the specific rules to be used establishing the set of collective-choice rules present. Constitutional level rules might specify the terms of reference of the organising body or bodies responsible for controlling use of the common. Second, the community may be directly dependent upon external decision-makers for legislation and enforcement of operational rules. In the context of the English commons, where many of the operational rules are derived from English Common Law, communities rely upon the judicial courts to enforce restrictions over exercise of common rights. In addition, as detailed in Chapter Two, extensive statutory legislation has been passed to specify who holds common rights (such as the Commons Registration Act 1965) and how they might be exercised (such as the Law of Property Act 1925).

In addition, market arrangements external to the common may be relevant in establishing

[33] Bromley, D. W. (1988) and Ciracy-Wanthrup, S. V. and Bishop, R. C. (1975) refer to the constitutional choice level as the "policy level".

economic parameters within which management of the commons can be undertaken. For example, the availability and price of land which has common rights attached to it will affect the number and type of persons eligible to exercise grazing and other rights. Equally so, the density and type of residential accommodation near the common will affect the extent to which there is a demand for amenity use of the common.

4.3.4 Links Between the Different Levels

Ostrom (1990) illustrates the linkages among these rules and the related level of analysis at which individuals make choices and take actions (see Fig 4.3). "The processes of appropriation, provision, monitoring, and enforcement occur at the operational level. The processes of policy-making, management, and adjudication of policy decisions occur at the collective-choice level. Formulation, governance, adjudication, and modification of constitutional decisions occur at the constitutional level."

It is important to recognise, however, that rules are in fact changed less frequently than are the strategies that individuals adopt within the rules. Changing rules at any level of analysis will increase the uncertainty that individuals will face. Rules provide a stable environment of expectations and efforts to change rules can rapidly reduce that stability. It is also important to recognise that it is easier to change operational rules than collective-choice rules and collective-choice rules than constitutional-choice rules.

4.4 THE ACTION ARENA AND PATTERNS OF INTERACTION

4.4.1 Relationships Between the Variables

The presence of a well established set of rules does not necessarily guarantee successful collective action. As Kiser and Ostrom (1982:180) remind us, institutional rules "do not impinge directly on the world", but to have affect must first be understood and complied with by individuals; must affect the strategies they adopt; and finally, the aggregation of individual strategies must result in changed outcomes. The central focus of the framework presented is the area of interaction between the individuals involved in the common. This is the area in which mutually chosen strategies for action are executed and consequential patterns of interaction are apparent. North (1987:422) comments that "institutional analysis is at the base the study not simply of the rules of the game but of the individual responses to such rules." It is the action undertaken which leads to outcomes and consequences which affect the future of the common. It is in the area of interaction that Hardin (1968) predicts that individual grazers will free-ride, with the outcome reflected in an over-grazing of the common. Oakerson (1992:49) reminds us that "between the rules and observed behaviour lie the unobserved mental calculations of individuals who make choices." When conducting such mental calculations, Oakerson suggests individuals will take into account the costs and benefits of alternative decisions. These

economic concepts, which reveal the origins of institutional analysis in transaction cost economic theory, become less abstract when we consider them in terms of the incentives and constraints presented to the individuals in the choices available to them. When we combine information about the incentives and constraints present with information about (i) the individuals' norms and preferences, (ii) the discount rates they might apply in terms of future benefits and costs and (iii) the certainty they perceive over specific outcomes, then we are able to gain a better understanding of their expected flow of benefits over time and the present value they place on those benefits.

The behaviour of individuals on the common is interdependent. Observations and expectations of how others behave will affect the strategies of individuals (Runge, 1981). Kiser & Ostrom (1982:188) refer to such strategies as "contingent strategies". Ostrom (1990:36) discusses the concept of contingent strategies further, explaining that they include "a whole class of planned actions that are contingent on conditions in the world." This much more sophisticated view of individual strategy formulation, which is presented in Figure 4.4, incorporates a broader concept of the rational individual than majority of work on cooperation theory. It identifies four variables which affect individual strategy formulation: expected benefits; expected costs; 'internal' norms and the discount rate. The type of norms and the discount rate selected by an individual is influenced by variables outside the individuals' own 'internal' world: the shared norms held by the relevant user group and the opportunities available outside a particular situation. For example, in deciding whether to renege on limited grazing rules on a common, a grazer may refrain from doing so because (a) their is a strongly shared ethic amongst the grazers that each will observe the agreed rules and (b) the grazer in question knows that she has to rely on the future productivity of the common for her livelihood. The presence of these variables results in her perceiving (a) a high present cost (in terms of community disapproval/penalty) against overgrazing and (b) placing a low discount rate on expected future benefits of grazing, and thus opting not to renege on the limited grazing agreement. In this respect, Ostrom's model of individual strategic decision-making emphasises the need to collect information on external variables and different situations and to use that information to predict individual behaviour. It thus removes the pressure from researchers to attempt to measure each individual's subjective values, which is a much more daunting and, arguably, impossible task.

4.4.2 Relationships Between the Characteristics, Action and Outcomes

Once the information on the variables detailed above has been collected, the relationships between the variables should become the focus of the study. In order to fully understand the link between individual action and the resultant outcomes, we must not only examine how the characteristics lead to the adoption of individual strategies and thus *indirectly* affect outcomes, but also take a look sideways at how the characteristics *directly* affect the outcomes.

Physical and technological variables which, to a large extent, cannot be altered by human intervention, are unique in the three categories of characteristics identified in the framework, in that they can have a *direct* effect on outcomes, independent of human interaction. This is represented in the framework (Figure 4.2) by a strong black line. Thus, outcomes, in terms of how action affects the common, are dependent not only upon the patterns of interaction of the individuals involved, but also upon the physical nature of the common and the technology available to use in controlling natural, physical limitations. Hardin's theory (1968) acknowledges the importance of this link, and predicts that the common will become depleted by the free-riding pattern of interaction between the grazers is based not only upon his pessimistic assumption of lack of coordination between the grazers, but also upon recognition that the common has physical limitations which will prevent sufficient recovery of the grass to sustain the level of grazing imposed. In this framework, it is equally important that this relationship between the physical nature of the common and the eventual outcome of action is appreciated.

In addition, physical and technological characteristics can have an *indirect* affect on outcomes by (a) influencing the type of the institutions which are adopted and by (b) affecting the action strategies of individuals. These relationships are represented on Figure 4.5 by a thin blue line and thin green line respectively. The social attributes of the commons community have no direct effect on outcomes, but can only affect outcomes through (a) their influence on the decision-making rules (institutional arrangements) and (b) the effect that they have on selection of individual strategies and patterns of interaction. These relationships are also represented on Figure 4.5 by a thin blue line and a thin green line respectively. In both cases the lines are shown with a series of arrows to illustrate the dynamic nature of the relationship: as the physical and technological and social characteristics change, so the affect that they have on the decision-making rules changes.

The framework further develops Oakerson's framework (1992) and Tang's adaptation of it (1992), by showing that the relationship between the social characteristics of the community and the institutional arrangements are iterative in nature. That is, that the social characteristics of the community affect and are affected by the institutional arrangements for the commons. This is represented by an arrow, indicating the feedback which the community provides to the institutional arrangements.

4.5 OUTCOMES AND ANALYTICAL USE OF THE FRAMEWORK

The framework has been adapted from previous designs with the intention of providing an analytical tool to assist in the understanding of relationships which affect the nature of use and

management of the English commons. It does no purport to solve any problems, but instead raises several questions which aid in the diagnosis and analysis of problems and may subsequently help in the design of policy prescriptions.

In order to diagnose problems, one must work backwards through the framework, first focusing on outcomes. For commons used only by graziers, the type of information sought on outcomes will include information concerning the inputs to the common over a specified time, its physical condition at a given time, and the outputs received from the common over a given time (see Figure 4.5a). From this, predictions might be made concerning the common's ability to sustain current yields given the present level of inputs and outputs and whether it can support increased use. The analysis becomes more complex when one includes outcomes of other uses of the common. Outcomes for amenity users might include information on the amount of users on the common, the time they spend on the common and the aggregate amount of utility derived from that level of use; the present physical state of the common and they the input that they put into the management of the common (see Figure 4.5b). From this, predictions might be made concerning the common's ability to sustain current yields of use given the present level of inputs and outputs and whether it can support increased use.

Information concerning outcomes can be used in two ways. First, analysts can use the information to work backwards through the conceptual framework to analyse how certain outcomes came about. Second, analysis of the outcomes themselves can be used to predict how changes in the institutional arrangements governing the common might be altered to produce new, desired outcomes.

4.5.1 Diagnosis of Problems

Working backwards through the framework means that the analyst must examine first, the patterns of interactions between the users of the common and second, the physical and technological characteristics of the common and the social characteristics of the community. Oakerson (1992:54) argues the value of working backwards through the framework by explaining that the outcomes reveal the effect of a problem, the problem is manifested in the patterns of interaction between the users, but that the root of the problem lies in the lack of congruence between the first set of attributes. In Oakerson's framework this "first set of attributes" are the physical and technological nature of the common and the decision-making rules. In this framework, the social characteristics of the community must also fit the institutional arrangements of the common. Lack of congruence between these variables may be at the operational, collective of constitutional level. For example, rules limiting the amount of cattle that can be grazed on a common should match the physical characteristics which affect the ability of the common to maintain a certain yield of grass, such as the amount of rainfall in an area. If efforts to adapt the operational rules to changing physical characteristics have failed,

then the problem might lie in the next level of analysis: that of the collective choice level. For example, the management organisation may not respond quickly enough to change the amount of animals allowed on the common to suit the current levels of rainfall. Further, failure to adjust the management organisation so that it might respond more quickly may reveal that problems lie at the constitutional level and the manner in which external decision-making structured the organisation. Too rigid a structure may result in an organisation which is incapable of adapting the manner in which it functions to suit demands at the operational level.

Diagnosis of current problems will provide a clearer understanding of the relationships between the characteristics of the common and its community, the action strategies which individuals adopt and the observed outcomes. This understanding might then be used to predict future outcomes in comparable settings, or to predict outcomes when any of the variables identified change or are changed. The analyst might then work forwards through the framework to predict how altering the institutional arrangement of the commons might affect the patterns of interactions between users and the resultant outcomes.

4,5.2 Producing New, Desired Outcomes

The outcomes themselves can be monitored and measured against stated operational objectives. Thus, if we are aware that a specified outcome is sought from some type of policy change, such as a change to the institutional arrangement of the management of the common, then a combination of understanding the relationship between the variables in the framework and being able to measure the performance of outcomes given certain variables will help use to predict the level of change of outcome which might accompany a change to one of more variables. In particular, we are interested in how the framework might be used to assist in the design and establishment of new institutions for management of the commons.

Clearly, the crucial ingredient in this scenario is the ability to be able to measure outcomes. In measuring the success or failure of a particular outcome, we must adopt some performance criteria. Oakerson (1992) suggests the adoption of 'efficiency' and 'equity' as appropriate. Efficiency is concerned with the overall rate of use. He suggests that the physical and technological characteristics of the common will indicate the optimal rate of use, this being one which will allow a maximum amount of animals to graze the common without reducing the common's capacity to produce similar yields in successive years. A recent model of land use developed by Savory (1988) emphasises the complexity of different physical and technological variables in contributing to the ability of grasslands to sustain production in this way.

In measuring the performance of a common used only by grazers, Oakerson's suggestion of efficiency as a criterion is relatively useful. However, it becomes more problematic when we introduce other, non-grazing users to the equation. This necessitates an approach which helps

us to judge the success of a particular outcome in "overall" terms: that is successful for all interested parties. We must recognise that the optimal rate of use will be different when judged by users from different categories. Thus, three separate individuals using the common may have a very different perceptions of the optimal use by another user. The permutations are great. First, taking a judgment of the optimal use of the common in terms of grazing animals:
(i) the grazier might base optimal rate on the extent to which each animal remains in good health and the grass yield harvested is sustainable;
(ii) the naturalist might base optimal rate on the extent and type of habitat remaining for the birds; and
(iii) the recreational user might base optimal rate on the extent to which the common is well cropped and provide a good playing surface for football practice and other ball games.
Second, overall measurement becomes even more complex when each individual is asked to judge optimal rate of the other's use of the common. Thus, the grazier may comment on the optimal amount of footballers or birds he/she considers appropriate for the common.

Once we have found the optimal rate for each user, we must then combine them to try and arrive at some overall optimal rate. It is at this point that we might employ the criteria of Pareto optimality, which seeks to improve the use of the common to a point where it is no longer possible to bestow further benefits on one group without a resultant loss in benefits to another. Thus, if placing five more cows on the common improves the efficiency rate for a greater number of grazers than the number of bird-watchers and recreational users whose efficiency rate is consequently reduced, then Pareto optimality may be reached. In theory, those who have benefited from an increased use will be able to compensate those whose benefits have been reduced. In reality, however, the delicate nature of interdependence of all the uses renders the Pareto optimality criterion redundant. The complexity involved in measuring how a change in the rate of one use will affect all other uses suggests that an 'optimal' overall rate will never be established. If we add to this complexity the reality that both demand for use and the effect of the interrelationships of use change over time, then we quickly appreciate our inability to judge some optimal rate. Oakerson suggests that whilst it may be impossible to measure a Pareto optimal position, it should be possible to identify situations in which a Pareto-efficient change might be made. He argues that costs incurred in obtaining collective-action will be reduced "by seeking amelioration rather than optimisation per se."

It must be recognised that the Pareto optimality criterion does not take into account the effect of distribution of benefits and rights in the first place which will affect each individual's measurement of optimal rate. Oakerson's second criteria, that of equity, is the ingredient which might combine separate efficiency judgments into some sort of overall optimal outcome. In our dilemma of *whose* optimal rate of use we should judge as successful, employing a second criterion of equity should enable us to compare optimality between users. However, equity of use is arguably more difficult to measure than efficiency of use. Oakerson (1992:52) argues

that the presence of inequities might be revealed as a breakdown in collective action and subsequent inefficiency of use results from users failing to receive a "reasonable and fair return on their contribution". However, he warns that we may be compelled to rely on "rough-and-ready indicators, such as whether most members of the commoners community seem to be relatively satisfied with existing arrangements." Ostrom (1992:309) suggests interesting measures of efficiency and equity which may be particularly relevant in the English setting. She raises the issue of the difference between the benefits arising from the operation of an organisation formed by the commons' users and the decision-making and potential deprivation costs of the organisation: "A minimal efficiency criterion is that this difference is positive." Thus measurement might be adapted to the English setting by measuring the amount of benefits each user group receives from the commons relative to the amount of costs they incur in contributing to the overall management of the common and the operations it supports. Wherever net benefit is revealed, then at least minimal efficiency might have been achieved for that particular user group. She then suggests that two questions are involved in using the criterion of equity: "(1) is the distribution of the costs roughly similar to the distribution of benefits? (2) Are there patterns of redistribution that appropriators wish to achieve at this level of organisation?" (Ostrom, 1990:309).

The writing on performance measurement of common-pool resource management seems to emphasise the importance of analysing institutions as dynamic entities whose performance might be measured in their ability to adapt to changing circumstances. We are left with Popper's advice that" 'piecemeal tinkering' (as it is sometimes called), combined with critical analysis, is the main way to practical results in the social as well as in the natural sciences. The social sciences have developed very largely through the criticism of proposals for social improvements or, more precisely, through attempts to find out whether or not some particular economic or political action is likely to produce an expected or desired result." (Popper, 1966:58)

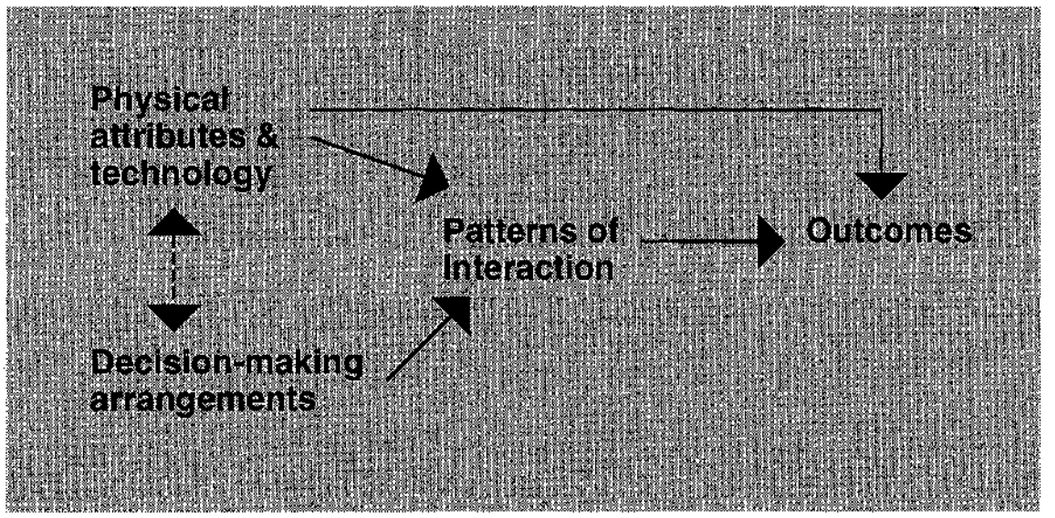
The increasing demands placed on common land in England (in terms of increasing types of uses and the extent of demand), suggest that forming clearly defined policy objectives which incorporate efficiency and equity criteria might be difficult. More feasible may be the attainment of Ostrom's minimal efficiency and equity criteria for the commons' users. However, in order to manage to such incremental performance measures, it is vital that the institutional arrangement governing use and management is flexible enough to accommodate changing and competing demands. Change is demanded when there is a discrepancy between achievable and desired social goals and actual outcomes that arise from present institutional arrangements. In a situation where there are multiple users, such achievable and desired social goals are likely to exist in one state for a short period of time: either the 'desirability' of a goal will alter or the 'achievability' of the goal will be altered by changing variables identified within the framework. Livingston (1987:287) confirms the requirement that multiple demands require a flexible approach: "resource use for recreation, aesthetic and intrinsic purposes places increased

demands and pressures on the environment. According to institutional theory, arrangements governing resources and their use must adjust to accommodate a new mix of social goals." Importantly, the public/private sector mix resulting from institutional change is regarded as incidental (see also Klein, 1985). Whether institutional change is brought about by rent-seeking, market forces or other forms is irrelevant: each case is examined to see whether the change solves the specified problem.

To be coloured

Figure 4.1

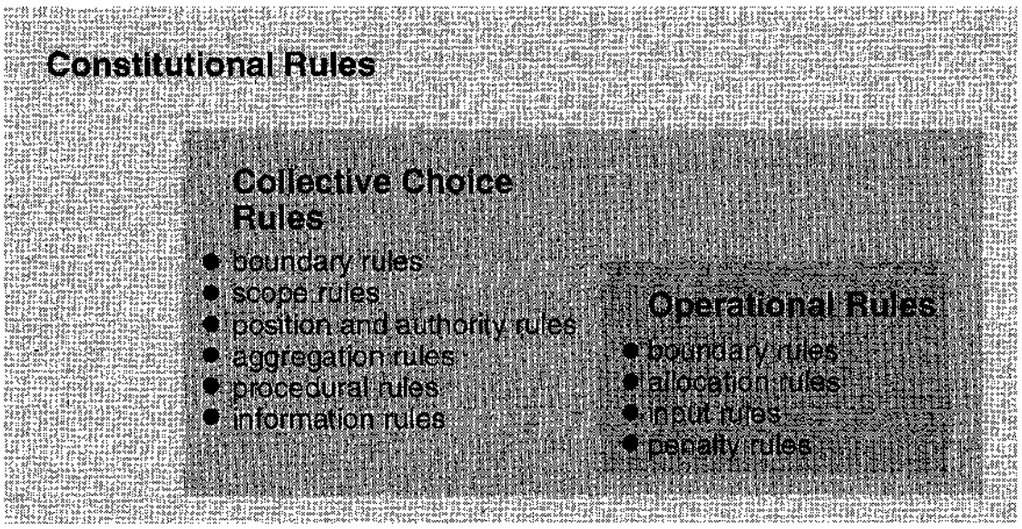
Oakerson's Framework for Analysing the Commons



Source: Oakerson, R. (1992). Analysing the Commons. In Making the Commons Works: Theory, Practice and Policy, San Francisco, ICS Press, 41-59

Figure 4.2

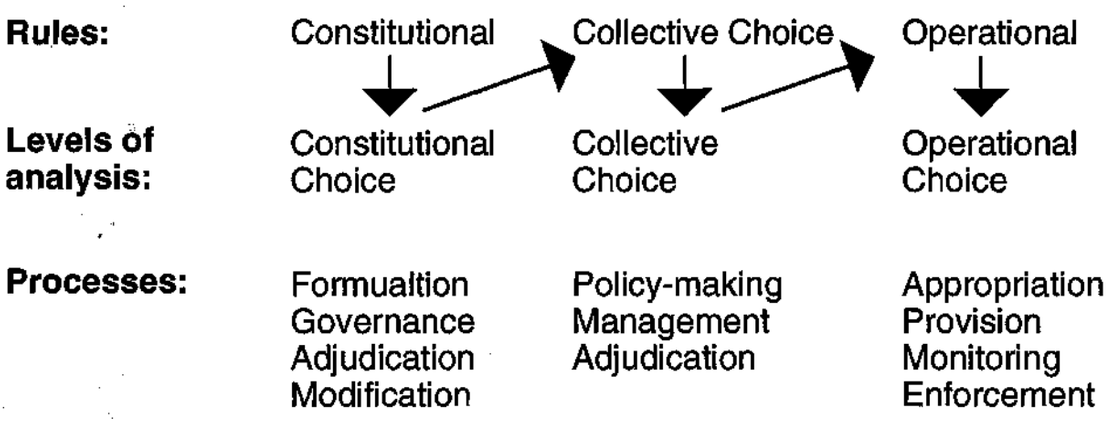
Institutional Arrangements: The Nesting of Decision-Making Rules.



Source: Adapted from Ostrom, 1986

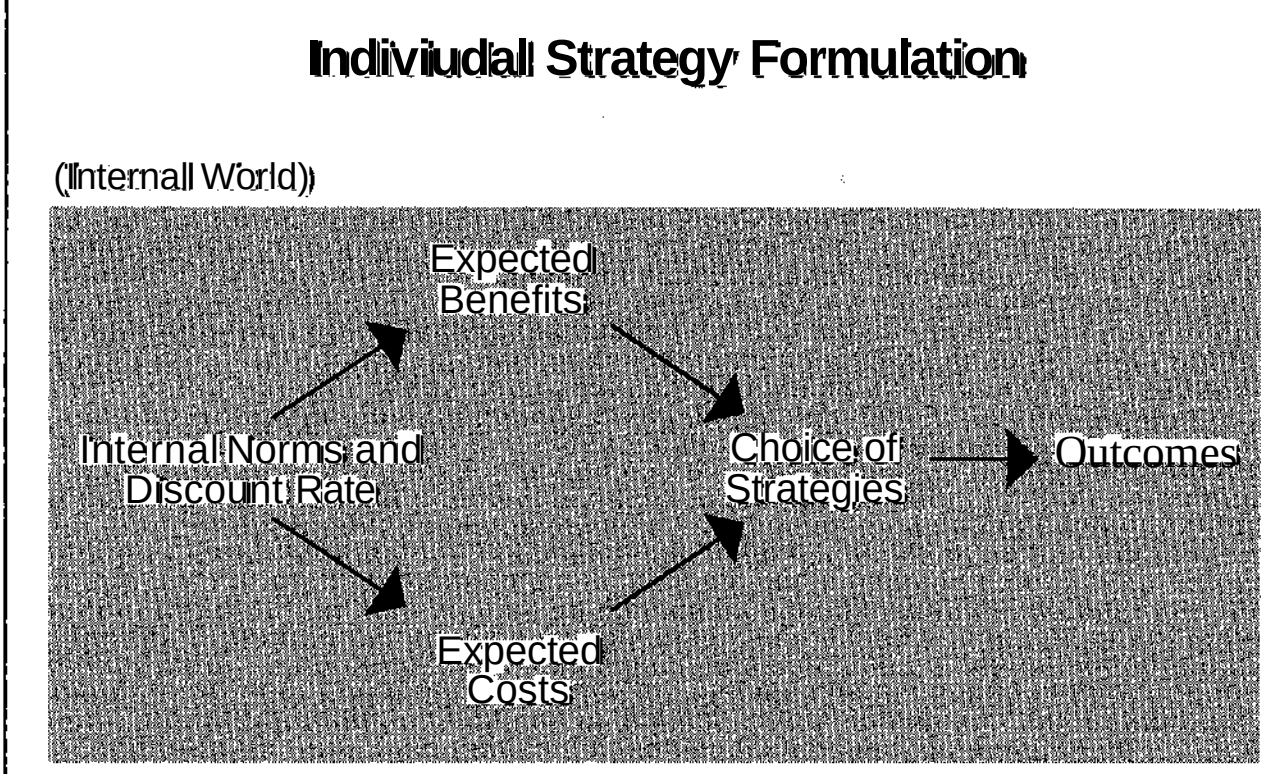
Figure 4.3

Links Between Different Levels of Decision Making



Source: Ostrom, E. (1990). Governing the Commons. New York: Cambridge University Press

Figure 4.4

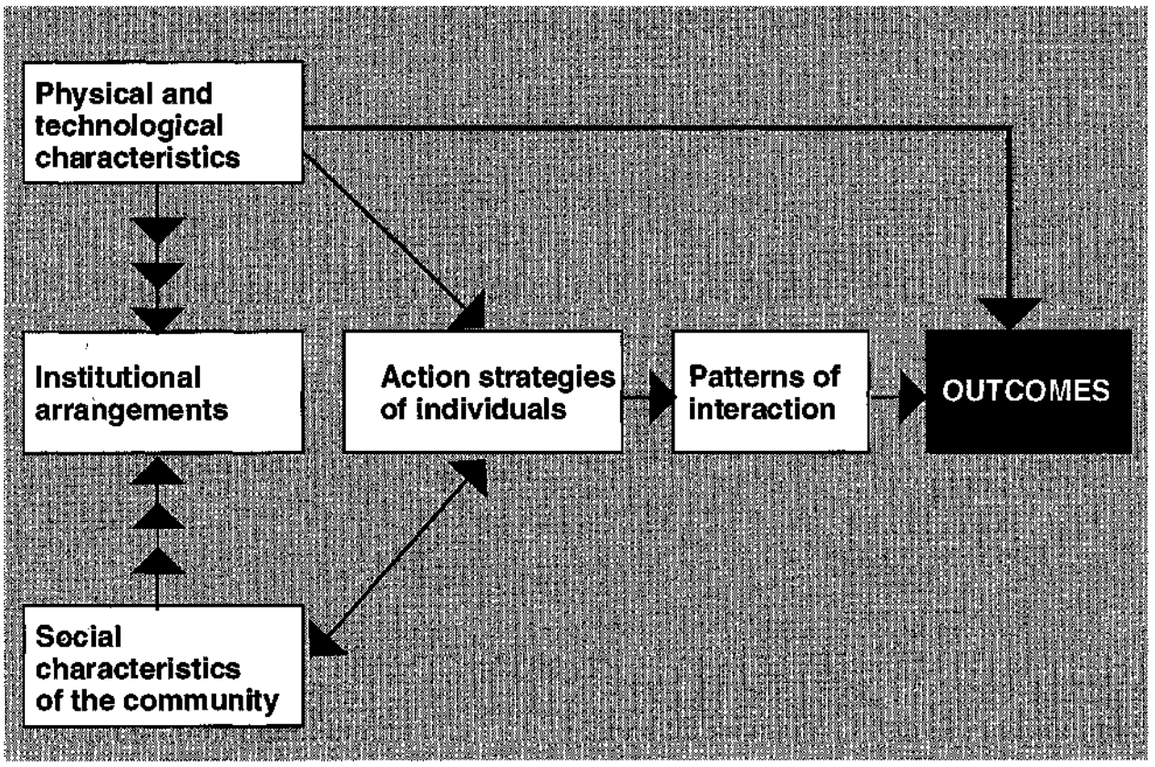


Source: Adapted from Ostrom, E. (1990). Governing the Commons. New York: Cambridge University Press.

To be coloured

Figure 4.5

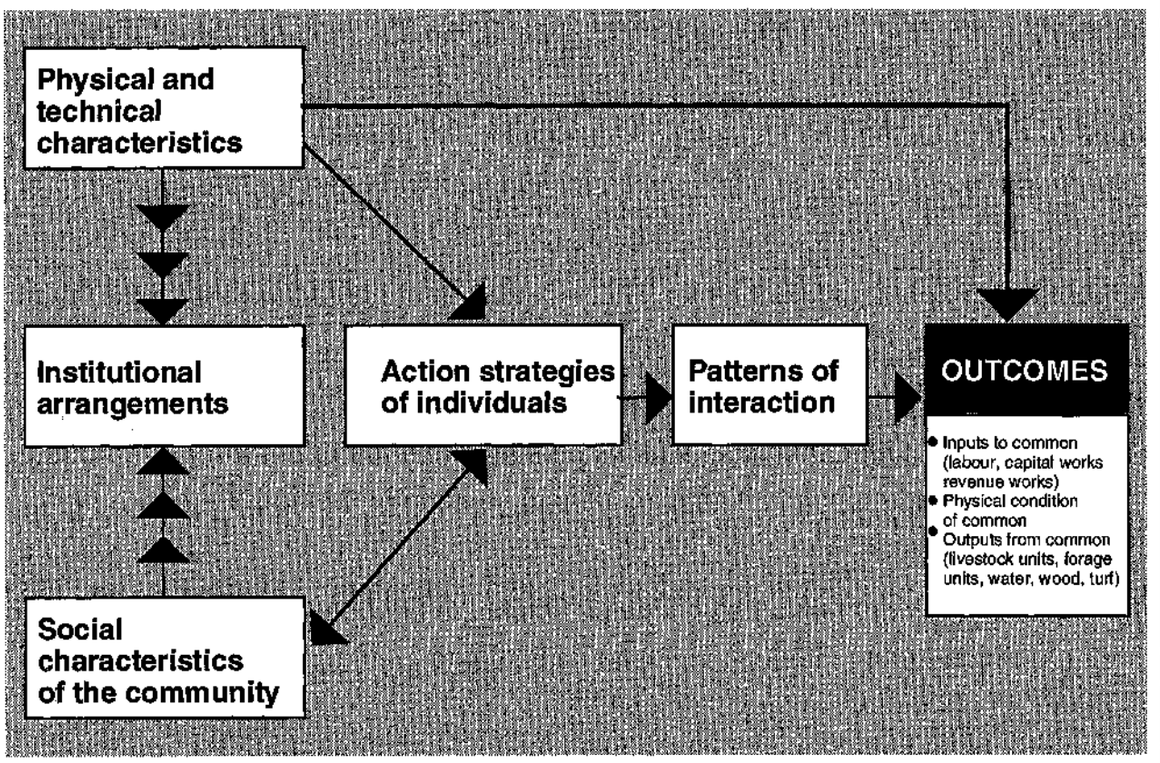
Framework for Analysing the English Commons



Source: Adapted from Oakerson, R. (1992). Analysing the Commons.In Making the Commons Works: Theory, Practice and Policy, Ed. Daniel W. Bromley, San Francisco: ICS Press 41-59

Figure 4 5a

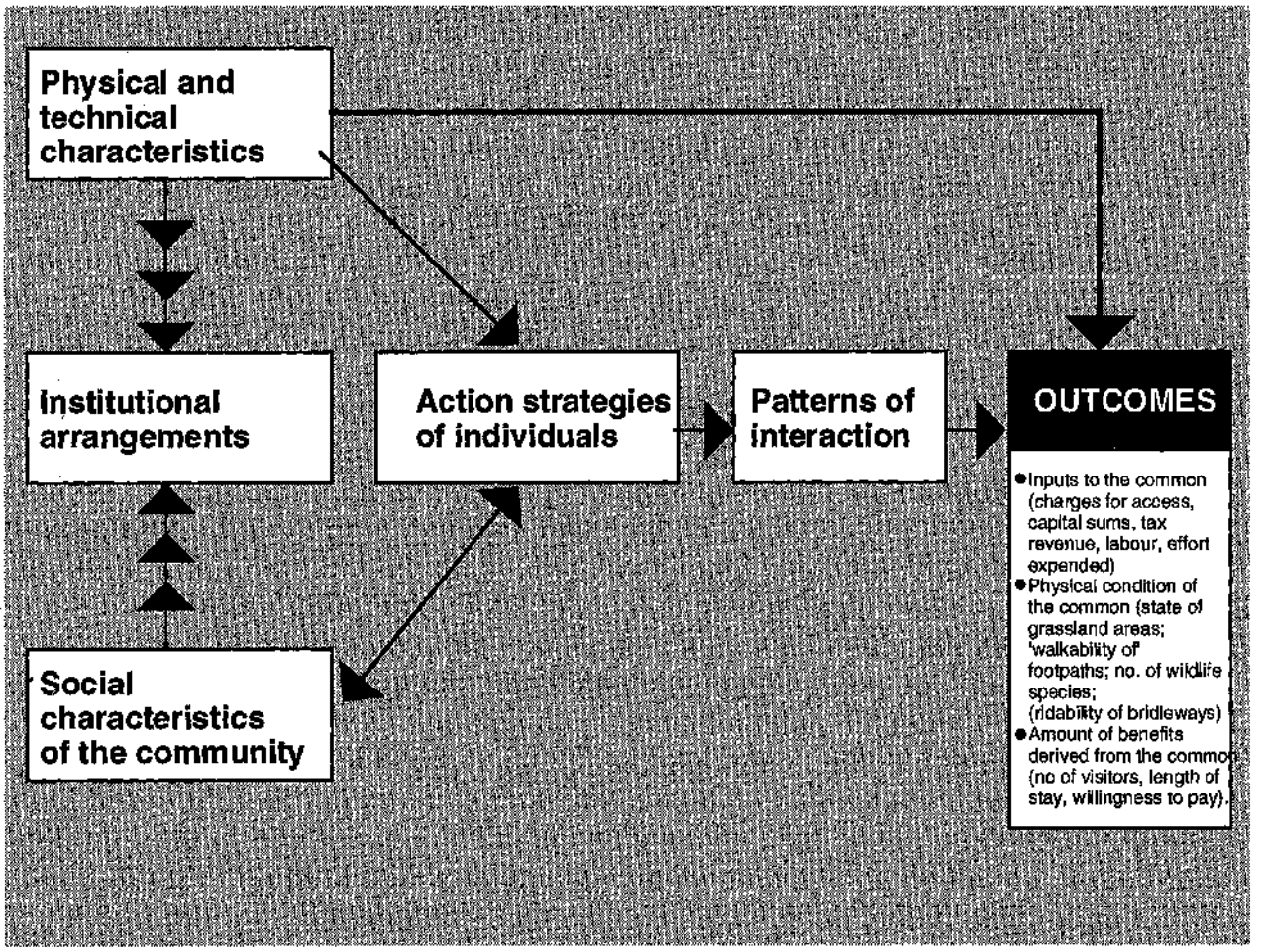
Framework for Analysing the English Commons - Grazing Land



Source: Adapted from Oakerson, R. (1992). Analysing the Commons.In Making the Commons Works: Theory, Practice and Policy, Ed. Daniel W. Bromley, San Francisco: ICS Press 41-59

Figure 4.5b

Framework for Analysing the English Commons-Amenity Use



Source: Adapted from Oakerson, R. (1992). Analysing the Commons.In Making the Commons Works: Theory, Practice and Policy, Ed. Daniel W. Bromley, San Francisco: ICS Press 41-59

CHAPTER FIVE:

ANALYSIS OF THE NEW FOREST
Physical and Technological Characteristics of the Common

5.0 INTRODUCTION

The New Forest forms an interesting case study for analysis of the management of common land in England. First, the land known collectively as "The New Forest" is managed as a common property resource as defined within this thesis: the products of the resource system (forage, fuelwood, and turf) are used by an identifiable number of individuals, known as "commoners", and are not open for exploitation by any number of individuals. Second, the system of common management in the New Forest is sufficiently established to provide detailed information over time concerning the evolution of the common land and the management regimes which accompany it. In addition, an assortment of records provide good information on the institutions devised and maintained to control use of the common land and the manner in which they operate and enforce associated rules. Third, despite experiencing the economic, social, political and technological pressure exerted on all common land in England which challenges the continued existence of "commoning" as an agricultural institution, the New Forest has managed to survive. It therefore provides an interesting case study of management of common lands over time and, in particular, the ability of common land systems to adapt to changing demands and so ensure continued existence. Fourth, it has already been identified that the greatest pressure on common land in England in the next few decades is likely to come from the demands of amenity users. In identifying the New Forest as an appropriate case study in which to analyse institutional change, it is important to recognise its situation and location in England and, in particular, its close proximity to several urban areas (see Figure 5.1).

5.1 ESTABLISHMENT OF "THE NEW FOREST"

It is important to note that the New Forest is neither new nor merely a forest. The current name of the area is thought to have been established in approximately 1079 by William I, who named the area as "Nova Foresta" and claimed it as a royal hunting reserve. The Forest in fact comprises a mixture of open heath, open woodland, enclosed woodland and settlements. It is impossible to separate analysis of the natural physical attributes of the New Forest from the institution of commoning itself; for use of the area as common grazing land for cattle, ponies,

pigs and other animals and as a stock of materials for inhabitants of the Forest (such as marl, turf, wood and berries) has helped to shape the current characteristics of the New Forest. A short history of human settlement in and use of the New Forest will, therefore, help to explain its current physical state.

5.1.1 Historical Use of the Forest

Archaeological evidence shows that humans have used the New Forest area for gathering materials, grazing and other purposes for thousands of years (Tubbs, 1968). The current nature of the soil in the area is dependent not only upon the physical constraints imposed by the geology, topography and climate, but also by the use made of the land by man. The ancient woodlands of the New Forest have been modified over the years by clearance and exploitation by humans.

Evidence of settlement in the New Forest prior to the Norman Conquest in 1066 is only fragmentary, but serves to explain the presence of large tracts of unenclosed woodland and heath at the time of the Invasion. Tubbs (1968) suggests that whilst Neolithic man may not have settled on the heaths of the New Forest, he probably hunted them. He suggest that Neolithic (3200 B.C.) and probably Mesolithic (8000-3200 B.C.) man may have increased his game supply by forest clearance, probably using fire.[34] There is evidence that the lands were occupied by Bronze Age settlers (1800-500 B.C.) during which time the New Forest was partially cleared by a shifting system of arable cultivation and pastoral agriculture. Such practice probably contributed to the deterioration of the soil which began with Neolithic clearances to the extent that the area was subsequently deserted: there is only scant evidence of occupation during the Iron Age (500 B.C. - A.D. 43) when cultivation was probably no longer possible because of the impoverished soil and the limited cultivation techniques available. From Iron Age times the heathlands were considered 'wastelands', only suitable for pastoral agriculture. However, not all of the New Forest had deteriorated to poor heathland soils. The modern pattern of settlement is thought to have its origins in the establishment of Saxon communities.[35] The Jutes and Saxons communities settled in the more fertile parts of the Forest from about the Fifth Century. The poorer sites of the Forest were left during this time to provide resources such as: timber; peat for fuel; bracken for bedding and litter; and limited grazing. The resultant mixture of open heath, woodland and small settlements, characterises the New Forest today.[36]

[34] Tubb's conjecture arises, in part, from evidence that the North American Indians increased buffalo herds by increasing the ground area of their grazing (Roe, 1951).

[35] Indeed, the place names of settlements in the Forest tend to be Germanic in origin, such as Burley Tatchbury and Exbury (Saxon names for Iron Age hill forts); Charford (derived from 'Cerdicesford', where Saxoon king Cerdic fought a battle in 519); Eling (meaning 'Elda's followers') (Llloyd, 1989).

[36] Tubbs (1968, chapter 3) provides a comprehensive explanation of how human exploitation of the New Forest and, in particular, removal of tree cover would result in a decline in the fertility and potential productivity of the area.

5.1.2 Property Rights and the Royal Forest

The ancient common rights of the New Forest are thought to date from such Jutish times when any area of unenclosed woodland or heath would have been used for grazing by nearby settlements It is clear, however, that the open parts of the New Forest were never 'manorial wastes' on which commoners could claim rights: it seems certain that the whole area was 'common' before the establishment of a Royal Forest (see on). Indeed, conflict over the New Forest during the 19th Century gave rise to much debate over the origin of commoners' rights. The Crown claimed that the rights were granted as compensation for the imposition of Forest Law. The commoners claimed that the rights predated both the Forest and Forest Law and that afforestation *curtailed* rather than created them, but it is acknowledged that each case has yet to be proved (Pasmore, 1969).

Establishment of the area as a Royal Forest is a fundamental part of the common land's history. It was not until the Norman Conquest that the New Forest acquired its current name, but more importantly, it established the management structure for the common land:

"With the Conquest the land use pattern assumes peculiar characteristics arising from the status of the area as a Royal Forest, and man's activities becoming governed and conditioned by an individual and complicated administration" (Tubbs, 1968:38).

In identifying the area as a Royal Forest, William I also established New Forest as an identifiable area, although the precise boundaries of the New Forest have changed over time. The natural physical features which provided a boundary probably dictated the size of the Forest at its establishment. Tubbs (1968) supposes that it was 220 square miles and bounded by the River Avon (west), the edge of the chalkland area (north), the Solent (south) and Southampton Water (east). This area of land was probably reduced to the existing 145 square miles by the middle of the 14th century.

It is unclear whether the New Forest was cleared of its population during the twenty year period after the Conquest which saw its establishment (1066-1086) and then repopulated, or whether there was continuous occupation. Evidence from the Domesday Survey suggests that settlements remained in occupation but that afforestation of the area meant that they were outside the scope of the survey (Tubbs, 1968). If the inhabitants did remain, then they would certainly have had their livelihoods threatened by the establishment of a Royal Hunting Reserve.

At that time the word "forest" described any area of unenclosed land within which wild animals were protected by Norman Forest Law for the benefit of the King: it did not refer exclusively to

continuous tracts of woodland, nor a specific type of ecosystem or landscape.[37] Afforestation and establishment of a Royal Hunting Reserve did not necessarily mean that the land became the property of the Crown. Forest Law was imposed on *other* man's lands, prohibiting it from enclosure or cultivation and restricting use over the pastoral grazing. Domesday evidence suggests that much of the land afforested remained in the *ownership* of the king's subjects (Tubbs, 1968). However, as a royal hunting ground, the King could claim the sole right to hunt deer in the Forest, all wild animals being the property of the Crown. The Forest Law imposed severe restrictions on use of the area in order to preserve the king's hunting through protection of the deer, their food and their cover. It is known that penalties were extreme in Norman times and that a man might lose his life for killing a stag. The first written document of forest law is the Assize of Woodstock, dated 1184. It most probably comprises a re-enactment and expansion of existing laws of the time, since it refers to more stringent penalties than had been in force in King Henry I's reign (Stagg,1984).

The principle objective of management of the Forest was for the production of deer for hunting. However, pastoral land uses were permitted to continue to the extent that they would not jeopardise the wellbeing of the game. The exploitation of the Forest's resources were therefore closely controlled. As the first set of rules governing management of the Forest, Forest Law is reflected in some of the rules imposed and enforced today; although the purpose of them was quite different. For example, the enclosure of forest land for cultivation ("purpestures") was forbidden since it would prevent the free movement of deer and may take up valuable grazing area; the conversion of woodland to arable ("assarting") which would reduce deer cover was also forbidden; domestic stock, which were allowed to graze the area, had to be removed during the "Fence Month" (20th June to 22nd July) when the deer gave birth and during "Winter Heyning" (22nd November to 4th May), when forage was scarce and fawns were vulnerable to disturbance and predation (Illingworth, 1991:12).[38] The grazing of parts of the forest by cattle was probably necessary to keep down undergrowth and make hunting possible, hence it was of mutual benefit to the king and his subjects. The Assize of Woodstock also includes restrictions related directly to the protection of deer, including restrictions on the possession of bows and arrows; the keeping of unlawful dogs; setting of traps for deer; and hunting at night.[39] The period during which pigs could be turned out was restricted to about two months each autumn,

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[37] Stamp (1963) comments that there seems little doubt that the New Forest was a royal hunting ground in pre-Norman days. It is evident in the Domesday Book that a large part of the Forest was already the property of the Crown. Tubbs (1968) confirms that in Saxon times, the wider and more infertile tracts of land were regarded as hunting grounds common to all. However, they became the perogattve of the over lord and eventually the Saxon kings claimed such areas a Royal hunting grounds with progressively more restrictive rules over use. He contests, however, that the New Forst was a Royal Forest before the Conquest and contends that much , if not all, of the afforestation can be attributed to William I.

[38] Stamp (1963) translates 'heyning' as" 'close season' or heydays' in the life of a deer.

[39] Further information about Forest Law and custom of the time is contained in a document, "The Customs and Assise of the Forest". It details the customs and laws concerning trespass to the Forest and its venison, the procedure of the Courts and the duty of the inhabitants and the foresters.

when the mast fell. Again, this served a useful purpose for the Crown since green acorns can be fatally poisonous to both cattle and deer when eaten in large quantities without a considerable bulk of fibrous material.

5.1.3 Enclosure

In the 13th century, the increasing land requirements of the growing population put pressure on the Crown to allow disafforestation and expansion of settlements. The *Charta de Foresta* of 1217 allowed for such disafforestation and legalised the enclosure and cultivation of private lands in Forests under licence from the Crown (Tubbs, 1968). In the New Forest, clarification was sought as to the extent of Forest Law. By 1279, a boundary (or 'perambulation') was established for the New Forest, placing holdings on the periphery clearly outside the Forest and Forest Law. It can be assumed that these people who found their property lay outside the perambulation of the Forest were pleased not to be bound by the restrictions imposed by Forest Law. The perambulation remained substantially unchanged until modification by the New Forest Act 1964 (see on). Since then it has been the subject of much debate and, contrary to the 13th century, owners of property outside the perambulation seem eager to be included in the New Forest and enjoy the protection its unique legislation offers from urban development. Proposals to extend the boundary are made on a regular basis from various interest groups.

From the 13th century, pockets of private land within the New Forest boundary continued to appear. The private holdings arose over the ensuing centuries from a combination of:
(i) grants of land by the Crown.;
(ii) enclosure of private freehold under licence; and
(iii) encroachment.
Tubbs reports that all three methods of enclosure provided revenue for the Crown; the first two by way of payment and the third by way of fines imposed by the Forest courts. The enclosure of private land in the New Forest had ceased by the 17th century, by which time much of the fertile land had already been enclosed. In addition, there is evidence that other land enclosed during mediaeval times was later abandoned to heath (Tubbs, 1968).

From the 15th century, the interest of the Crown in forests changed from one of the conservation of deer to the production of timber. The New Forest became an area of national importance as a source of timber, primarily for the oak demanded for the building of warships, but also for wood to make charcoal as domestic fuel and for the manufacture of salt, iron and other industrial products. As the largest of the Royal Forests (together with the Weald of Kent and Sussex) the New Forest contained the largest reserves of timber in Lowland Britain within easy reach of coastal sites suitable for ship building (Tubbs, 1968). Increased demands for timber resulted in the enactments to allow large areas in the New Forest to be enclosed for the establishment of woodlands. The first Forestry Act in the country was passed in 1483,

allowing the inclosure of areas of coppice to prevent damage of coppice shoots from browsing deer (the 'vert' of young shoots was needed for the wattle-and-daub construction of dwellings at the time). Enclosures were made by digging a ditch around the area and planting the inside bank with furze. Stamp (1963:174) reports that in the reign of Queen Elizabeth I, five or six thousand acres had been enclosed in this way: "The New Forest seems then to have consisted of oak and beech - Scots pine came later- but with many smaller trees and a fairly dense undergrowth of hazel, ash, alder and buckthorn." The silvicultural practice was similar to that known today as 'coppice with standards': the coppice being left for fuelwood and charcoal and the timber trees reserved for the Crown.

The impact of Forest Law had gradually diminished and the unenclosed land of the area was more freely exploited for grazing and fuelwood. Hunting was allowed under licence and grants of land from within the Perambulation of the Forest were used as payments and inducements by the Crown. Many small scale enclosures of land took place, both legally and illegally (Kenchington,1944). By the mid-Sixteenth Century, the turning out of animals onto the common which had been allowed by custom had become legal rights of common. A judicial system had evolved which protected the balance between common rights and the royal ownership and use of the land. Common rights began to be formally recorded, with claims to such rights registered at the Justice Seats in 1635 and 1670.

The areas which were enclosed for forestry were later re-opened up to cattle, once the trees were established. This process became known as the "rolling power of inclosure". The New Forest Act of 1698 allowed inclosure of 6,000 acres at any one time. The practice of rolling inclosure ensured that the area of woodland established was substantial: to the detriment of common grazing land. It is important at this point to emphasise a custom of the New Forest to distinguish between the terms "inclosure" and "enclosure." Pasmore (1969:28) clarifies that "the former is taken to be land over which rights of common have been extinguished (at least for a time), and the latter a physically enclosed space." Pressure for timber continued into the eighteenth and nineteenth centuries. A major shipyard was constructed at Buckler's Hard, on the southeast corner of the New Forest (see Figure 5.2). It is here that Nelson's "Agamemnon" was constructed, along with other craft serving in the Napoleonic Wars.

5.1.4 Administration of the Commons

At this time, the administration of Justice in the forests was carried out in two stages. First, a local court determined whether an offence had been committed. The local courts, known as the Courts of Regard, Swainmote and Attachment, had no power to pass sentence on offenders. The offenders were, therefore, referred to a higher court, the "Forest Eyre", or Justice Seat: a Court presided over by the Lord Chief Justice in Eyre. Originally intended to sit in each Royal Forest every 3 years, after the 13th century the Forest Eyre was held at irregular intervals

around the various Forests of the country. The last such Court in forestal history was held in the New Forest in 1670. The appointment of the Justice Eyre was finally abolished in the early 19th century (Tubbs, 1968). Without this higher court, the lower courts were somewhat powerless and had begun to function more in the manner of a manorial court, with the exploitation of the common land controlled more for the benefit of the commoners.

Whilst the enforcement of Forest Law had become less powerful, the legal status of the New Forest as a Royal Forest continued to play a vital role in its history by preventing the reclamation and cultivation of 67,000 acres of land, despite the presence of technical and economic incentives in the 18th century which would have rendered even the most infertile soil capable of agricultural production. This is particularly significant when one considers the vast demand for land in lowland Britain in the 19th and 20th centuries. The laws, albeit now less rigorously enforced, secured an agricultural economy based on the exercise of common rights.

The New Forest Act 1698 was the first legal recognition of the rights of commoners over the New Forest, although they had been registered since 1635. The New Forest Act of 1698 awarded the lesser Courts of Swainmote and Attachment, held by the "Verderers" (named from Anglo-french, "green") the power to impose fines for offences such as stealing timber, burning the heath, and destroying forest cover. The Verderers were judicial officers of royal forests. Over the years they became important in protecting the commoners' rights as much as preserving royal prerogatives, hearing representations from the commoners with regard to the effects of the hunt. Whilst similar courts were established in other Royal Forests, such as the Forest of Dean, only the New Forest has retained its own court. Further powers were awarded the Verderers by the New Forest Act of 1800, in respect of unlawful enclosures and encroachments, and the New Forest Act of 1819, over the exercise of common rights. It was not until the New Forest Act 1877, however, that the Verderers' powers received clear definition and the Verderers became a state body officially responsible for safeguarding and managing the commoners interests rather than, as had been the case, the interest of the Crown (see on).

The class distinctions present in the formal management structure established at this time are, to some extent, still in evidence in the New Forest today (seem Chapters 8 & 9). The executive officer in charge as the Lord Warden: an appointment which could be hereditary or held "by appointment by letters patent during the King's pleasure" (Tubbs, 1968:69). The Four Verderers of the New Forest were appointed by the county and normally comprised owners of large local land holdings. The operational management of the Forest, such as game keeping, was carried out by 'Foresters' and other lesser officials. Again, many of these posts were honorary positions held by the local gentry (who, in turn, employed others to carry out their tasks). In addition, 'Regarders' (originally 12 knights of the county) were responsible for inspecting the perambulation of the Forest; although in the 16th and 17th centuries their main

function became the inspection of woods and marking of timber for felling.

This range of Forest appointments had increased considerably by the early 18th century. Figure 5.3 illustrates the hierarchy of management. At the top is the Lord Warden, appointed by the King or Queen. He occupied the King's (or Queen's) House in Lyndhurst[40], the manor of Lyndhurst and was paid an annual salary. The positions of 'Riding Forester' and 'Woodward' were both held by royal appointment and also attracted a salary. The appointees of the Lord Warden were positions held by local gentry, who employed keepers to carry out their duties of preventing Forest offences and presenting offences to the Court of Swainmote and Attachment. The keepers were not paid a wage, but were paid in kind. Both the Verderers and the Regarders were selected by the free-holders of the county. No salary was attached to these posts and they tended to be held by local gentry also. Finally, there was the Deputy Surveyor, responsible for silvicultural management operations in the Forest (MORE DETAIL?).

5.1.5 Preservation of Common Rights

By the end of the 18th century, the New Forest comprised a mixture of Open Forest, private landholdings and Crown Inclosures for timber production. Tubbs (1968) provides a comprehensive account of mis-management of the Forest at this time by the public bureaucracy, revealed by the *Fifth Report of Commissioners to Enquire into Woods, Forests and Land Reserves of the Crown,* which was presented to Parliament in 1789.

The Report reveals fundamental deficiencies in the structure of management in the New Forest, largely stemming from its original mandate as a reserve for deer. Most of the officers in the Forest, from the Deputy Surveyor to under-keepers, had been granted the privilege of deriving income from the sale of timber, deer, rabbits and pigs. As a consequence, deer and rabbits were encouraged by the keepers, to the detriment of the regenerating woodlands. Indeed, three Inclosures are reported to have been converted to rabbit warrens by keepers who enjoyed a healthy income from their sale (Tubbs, 1968). Clearly, the incentive structure which caused the Forest officers to manage for such income sources was contrary to their duties as timber managers and conservators. The Report considered that the Forest was so overstocked with deer that many perished each winter for lack of food. In addition, controls over the exploitation of resources had fallen: the fence month and winter heyning were not observed; excessive quantities of timber were extracted, not for fuel but for resale; and fern heath and gorse was cut with no regard for young tree shoots lying amongst it.

Several enactments in the early 19th century attempted to tighten control over the use and management of the Forest. The Enclosure Act of 1808 confirmed the existing 2247 acres of enclosures made under the 1698 Act and provided for a total of 6,000 acres to be enclosed at

[40] Now used as the Forestry Commission's New Forest head quarters and the seat of the Court of Verderers

any one time. Between 1808 and 1848, 6704 acres were enclosed and planted. In 1848 a Select Committee of the House of Commons was appointed to investigate the changes needed in the management of the New Forest. Evidence presented to the Committee showed that the deer in the Forest were costing the Crown vast amounts of money, whilst commoners complained that they competed with their livestock for keep (Tubbs, 1968).

The view of a subsequent Commission, the *Royal New and Waltham Forests Commission* of 1849, was that the deer should be removed from the Forest and the Crown should recover compensation for the relinquishment of its interests in deer preservation: the ensuing Bill provide for a further 14,000 acres of common land to be enclosed for timber production (under the Enclosure Act 1852). Various sources (such as Tubbs, 1968 and Pasmore, 1977) suggest that the Bill was hastily moved through Parliament before commoners could organise opposition. At the last minute, local landowners protested on behalf of the commoners and succeeded in obtaining a reduction from 14,000 acres of permitted additional enclosures to 10,000 acres. The subsequent Deer Removal Act 1851 finally established the Crown's purpose for the New Forest as the production of timber. The Act as worded to the effect that the Crown, or its agent, the Office of Woods, was able to continue to impose its right to a 'rolling power' of enclosure provided that the fenced are did not exceed 16,000 acres at any one time.

In addition, the 1851 Act provided for the preparation of a Register of Commoners and Common Rights. Continuous use of rights since 1800 was held to be good title to rights. By 1858 some 850 claims to rights had been allowed and about 450 disallowed (Stamp, 1963:173). The "Register of Decisions on Claims" which was subsequently published gives full details of every holding carrying rights of common over the Crown lands at the time. The rights are not personal, but are attached to the land. The register contains details of the owners of the holdings at the time of registration, a description of the holding, the tithe numbers of the land and the nature of the rights (Pasmore, 1969:8). Common rights are attached to land both inside and outside the boundary of the Forest. Not all land within the Forest carries rights.

Occupiers of land in the New Forest who claimed rights in the 19th century varied from landowners of large holdings and their tenants, to peasant farmers. In general, however, they were exercised by smallholders living on a self-sufficient basis, supplemented by some work outside the Forest. A typical smallholding comprised a cottage, temporary sheds, a pigsty and one to five acres of land (Eyre, 1883). The Register of Claims shows that at least 304 holdings (some 50% of the total number of holdings with rights of pasture and/or mast) were less than 5 acres in size (Kiff, 1973). The enclosed area was used for the production of domestic crops and for hay for winter forage for the animals put out onto the common. Each commoner would own at least one cow, for milk, and several mares. The foals produced were sold at the pony sales at Beaulieu Road, which still take place today. One or two breeding sows would be kept, with breeding taking place during the summer months so that young pigs could be turned out to

feed on green acorns and beech mast in the pannage season (September to November). Several commoners were able to rely entirely on their income from farming, by expanding the size of their small holding to ten to twenty acres and selling produce such as eggs, surplus milk, ponies and calves. Contribution to the common from the commoners was made in the form of "marking fees" for each animal depastured and labour during the communal "round up" of ponies (Kenchington, 1944).

5.1.6 Protests

Prior to the Deer Removal Act of 1851, the number of deer in the Forest had been estimated at seven to eight thousand. Although the Act aimed to remove all deer from the Forest within two years (by shooting; capture by hounds and nets; and hunting with bloodhounds), some deer inevitably survived, probably by inhabiting the dense private woodland surrounding the Forest. No payment of monetary compensation was offered to the commoners in return for the inclosed area, nor was an alternative area of grazing land offered: only the removal of deer and the competition they represented in terms of grazing. In fact, the substantial reduction in deer led to a rapid spread of coarse herbage and a deterioration in the quality of grazing on the open forest, to the extent that deer were later allowed to redress the balance.

Protest over the enclosures allowed by the Deer Removal Act 1851 was organised in the establishment of two new organisations: the Commoners Defence Association and the New Forest Association (see Chapter 7). They petitioned the House of Lords which, in return, appointed a Select Committee to consider the commoners' complaints. The Committee concluded that there would be a constant source of conflict between the Crown and the commoners and recommended disafforestation and partition between the two bodies. A Bill to disafforest the New Forest was introduced in 1871, but subsequently withdrawn. In 1875 a Select Committee of the House of Commons was appointed to reconsider the commoners' case.

By this time, opposition to enclosure from the commoners of the New Forest was assisted by people living outside the area. Inclosure between 1851 and 1871 amounted to some 5,037 acres out of the total permissible quota of 10,000 acres under the Deer Removal Act and a further 4,228 acres under the New Forest Act 1698 (CoCo, 1984:1). This represented 14 per cent of the total area of Open Forest at the time, some 67,000 acres (CoCo, 1984). By 1875, although 19,590 acres had been enclosed at some time since 1698, only 11,023 remained enclosed. Of this area, 1909 acres had been enclosed more than once. By 1877, 17,681 acres of "Open Wastes" were assumed to have been taken for the growth of timber at one time or another, with 11,023 acres enclosed within fences at that time (i.e., the 19,590 acres, minus 1,909 acres which had been enclosed more than once), (Pasmore, 1969:29).

The reaction of outsiders is thought to have been stimulated by additional interest in the New

Forest as a result of the construction of a railway line to the area in 1847, opening it up to recreation and tourism. Eventually, Parliament recognised the need to find a means of balancing the Crown's requirements for the land with those of the commoners and the increasingly vociferous third party: those people interested in preserving the Forest's natural and amenity values.

The resultant New Forest Act 1877 recognised the threats of inclosure to the Commoners' grazing rights, abolishing the disputed "rolling power" of the Crown, which had allowed extensive afforestation. In addition, the Act restricts the Crown's power to inclose (i) *only* land which had previously been used for growing timber; and (ii) up to a maximum of 16,000 acres at any one time of the 17, 681 acres which had been enclosed at various times under the 1698 and 1851 Acts (CoCo, 1984:11).[41] The 1851 Act had increased the minimum size of inclosures to 300 acres, to stop the practice of enclosing small areas of good land. However, the Act did not set a maximum size of inclosure and much larger inclosures have since resulted, which have acted as barriers to the movement of commoners' stock and inhibit access to the Open Forest for some holdings (CoCo, 1984:11).

The New Forest Act 1877 forms the basis for present day management of the Forest and any new inclosures are opened up for animals once they are established and a new area inclosed and planted within the original 17,681 acres. In addition to limiting the powers of the Crown in making inclosures, it re-established and reconstituted the ancient Court of Verderers to represent the commoners and protect their rights and, for the first time, made statutory provision for preserving the amenities of the Forest. It also released the commoners from any enforcement of the obsolete restrictions pertaining to deer preservation, such as winter heyning and the fence month.

The inclosed Crown land has continued to be used for timber production. The Forestry Commission, created in 1919, took over management of the Forest on the Crown's behalf in 1923, by virtue of the Forest (Transfer of Woods) Act 1923. At that time, only 403 additional acres had been enclosed subsequent to the 1877 Act. By 1935 the Forestry Commission had enclosed a further 5,070 acres, thus reaching the permitted maximum 16,000 acres (CHECK! =16496). Some further inclosures were established under the New Forest Act 1949 which are referred to the "Verderers' Inclosures" since the Forestry Commission were empowered to inclose a further 5,000 acres in addition to the approved 17,600 acres of 1877, but only with the consent of the Verderers. To date, the Court has approved 2,065 acres (CHECK). All Verderers' Inclosures differ from other inclosures in that they are enclosed for an agreed period of time and then revert back to Open Forest.

[41] The New Forest Act 1877, section 6, states that inclosure may take place, "provided the whole quantity os such lands under inclosurew does not exceed at any one time [6,475 hectares]*". The words "6,475 hectares" , a metric conversion of 16,000 acres, were substituted by Statutory Instrument 1979/836, sch. para. 4.

In 1946, the Minister for Agriculture appointed the New Forest Committee to investigate the administration and management of the Forest in the post-war period. The resultant 'Baker Report' was laid before Parliament in 1947: "it exceeded even the forthrightness of the report of 1789 in clarity, common sense and a clear perception of the relative importance of the interests involved" (Tubbs, 1968:87). When a new Bill was drafted, many of the Committee's recommendations were omitted. A Select Committee of the House of Lords heard petitions to the Bill in 1949, resulting in the New Forest Act 1949, which embodied most of the original Committee's recommendations. The New Forest Act of 1949 also embodied the constitution of the Court of Verderers and required the Forestry Commission to prepare a map showing the common lands. It revised the electoral register and adjusted administration of the Forest.

Administration and management of the Forest is currently governed by the New Forest Acts 1877, 1949 and 1964. The New Forest Act 1964 amended both the 1877 and 1949 Acts, extending the boundary of the Forest, which had remained virtually unchanged since the 12th Century, and included the adjacent commons. This gave more people the right to common. The Perambulation of the Forest and the A35 road were fenced and cattle-gridded under this Act, restricting, to a limited degree, stock movement. Conservation was also named as a major factor concerning the New Forest management. The Forestry Commission, as managers on behalf of the Crown, became responsible for timber production, assisting the commoners and the Verderers, for nature conservation, and for recreation (Forestry Commission, 1990). The 1964 Act allowed inclosure of Ancient and Ornamental Woodlands for regeneration. To date 1,000 acres have been inclosed for this purpose (CHECK).

It seems that throughout history, new demands on the use of the common lands in the New Forest have been accommodated by altering the legislative base for administration and management of the Forest. Often this has been to the detriment of the commoners and has, indeed, altered the extent of the land over which their rights exist, or the manner in which rights might be exercised. In Chapter Seven, the current institutional arrangement governing use and management of the common lands will be investigated at three levels: legislative, organisational and "operational. The analysis will question whether the current institutional arrangement is capable of responding to current and predicted future demands on the Forest *without* prejudicing the rights of the commoners.

5.2 CURRENT NATURE OF THE FOREST

5.2,1 The boundary and Pattern of Land Use

The 145 square miles which comprise the New Forest today are a complex mixture of

unenclosed ancient woodlands, timber inclosures, open grasslands, heather moorland, valley bogs, settlement and enclosed agricultural land. Stamp (1963:171) comments that "No area of common lands in the whole country surpasses in variety, interest and importance the large tracts associated with the New Forest." The main features of the Forest have remained since William I first imposed Forest Law. The current Perambulation of the New Forest was defined by the New Forest Act 1964. The total area within the Perambulation of the New Forest encompasses about 37,620 hectares. The area's boundaries are the Avon Valley (western boundary), Southampton Water (eastern boundary),the Solent coast (southern boundary) and the Wiltshire Downs (northern boundary) - see Figure 5.1.

Private land makes up about 28% of the total area of the New Forest, in form of settlements and agricultural land, including some private land with common rights attached to it. The rest of the land is owned by the Crown. The total area of Crown land which is subject to common rights is 25,700 hectares (63,504 acres). Of this, rights are currently exercisable over the unenclosed 18,600 hectares (45,960 acres) (Illingworth, 1991). The remaining 7,100 hectares (17,544 acres) may be enclosed under the New Forest Acts (Appendix I). A further 1,416 hectares (3,500 acres) of unenclosed private land with common rights attached which adjoin the Forest were included in the Perambulation when it was extended in 1964. This has resulted in a total of around 20,000 hectares (49,420 acres) of land in the New Forest Perambulation remaining 'Open Forest', unenclosed by hedge or fence and subject to common grazing rights. Figure 5.2 represents a breakdown of ownership of the New Forest. Figure 5.3 shows the pattern of land use.

Six categories of land are of significance to commoning and are identified by area in Figure 5.4:-

1. The "Open Forest" is the unenclosed land owned by the Crown, vested in the Ministry of Agriculture, Fisheries and Food and managed by one of its agencies, the Forestry Commission. The total area of Crown land which is *subject* to common rights is 25,700 hectares (Illingworth, 1991:58). However, substantial parts of this land may be enclosed (up to a total inclosed area of 16,000 acres) under the New Forest Acts, for various purposes (set out in Appendix I). At the end of 1990, the area of Crown land open to common grazing was 18,600 hectares. (MORE RECENT FIGS??) This land is subject to the rights of the commoners and the jurisdiction of the Court of Verderers. This category includes parts of the statutory inclosures when they are unenclosed and are, at that time, subject to common rights. It also includes the unenclosed ancient and ornamental woods which house commoner's animals and provide an important source of forage for pigs.

These areas of "Open Forest' include heath (dry, humid, and wet), gorse thicket, grassland (including re-seeded grassland), woodlands, valley mires, and hard surfaces. Unenclosed

woodlands comprise around 91% broadleaf (including beech, oak, birch, holly, alder, ash, hawthorn) and 9% Scots pine (Nature Conservancy Council, 1990).

Unenclosed areas, which form the New Forest 'commons', are open to grazing by livestock turned out under common rights and by feral deer. Along with providing an important grazing resource, these open areas are most important from an amenity perspective. Whilst horse riding and walking are popular pursuits in all open areas, the well-cropped grassland areas form an important resource for ball games and picnicking and even the concrete surfaces left from wartime installations are utilised for model aircraft flying. Perhaps more significant are the aesthetic benefits provided by the area: "The underlying shape of the land is much more apparent, there is a sense of space which belies actual distance and a patent lack of human interference which is rare in south-east England" (Illingworth, 1991:22).

2. "Statutory Inclosures" are land over which rights of common have been extinguished. There are a total of around 8,000 hectares (19,768 acres) of enclosed plantations of broadleaf and conifer trees in the Forest. Of these, currently 7,144 hectares (17,652 acres) are of statutory inclosures in the Forest, 836 hectares (2,066 acres) of which are "Verderers Inclosures", as described above. Inclosures are opened up for commoners' animals once established.

3. Other Crown Land. Throughout the Forest there are areas of land which are in the ownership of the Crown but which are neither Open Waste nor Statutory Inclosures. They comprise farms, cottages, woodlands and other properties. In total they cover around 1159 hectares (2,864 acres)(CHECK). They may be occupied by employees of the Forestry Commission or leased. Public access is permitted to some of the Crown freehold which is used for silvicultural purposes.

4. Private Lands. Most of the private lands in the Forest are enclosed and occupied in the same way as freehold land anywhere else in England. They include farmland and settlements: including smaller fields, surrounded by hedges in the north of the Forest and larger fields and generally a more managed landscape on the larger landed estates in the south of the Forest. The resident population of the New Forest is about 25,000 people and includes a three larger villages (Brockenhurst, Sway and Lyndhurst), several smaller villages (such as Burley, Beaulieu, and East Boldre) and scattered settlements. The larger villages have been designated by local planning authorities as the places where any housing and associated development will occur.

Private landowners and householders with land and property in and abutting the perambulation of the Forest are expected, by custom, to fence against animals lawfully depastured in the Forest. Hence, every private property in the Forest, whether it is a small cottage or an entire

farm, will guard against intrusion of the commoners' animals with fencing, hedges and cattle grids.

5. "Adjacent Commons". These comprise fourteen manorial commons within the boundaries of the New Forest. In addition to the rights claimed on New Forest Crown land, commoners with rights on adjacent commons may claim rights which differ from common to common. The only right which is registered on these commons is the right of pasture, which has been controlled by the Common Registration Act 1965 (see Chapter Two). Rights which might be claimed on these lands include:
- the right to dig gravel and sand for commoner's holding;
- the right to cut furze (gorse) and bracken for feed and bedding;
- the right to take dead wood for fuel; and
- the right to depasture pigs on the common at all seasons of the year.

The presence of these other commons impinges on the Crown common lands because of the right of vicinage, referred to in Chapter Two, in which an animals depastured on an unfenced common may wander onto adjoining common. (SO WHAT??)

6. "Manorial Commons". Within the 1801 Perambulation of the New Forest, there is land which is not within the ownership of the Crown, nor within the jurisdiction of the Verderers, but which is common land. For practical purposes, this land comprises mostly the waste at Minstead Manor in the centre of the Forest, near Lyndhurst. A peculiarity of Forest Law left the Manor partially exempt from the control of the Forest authorities which means that rights are claimed in this area which cannot be registered under any local or public Act of Parliament (CHECK). The Verderers have no powers within the confines of the Manor (comprising around 200 acres of land) and marking fees are not payable. (CHECK- does the system work as well and how??)

Study of commoners and common land will be focused on Crown land and those exercising rights over it. However, the use and management of other common land, mentioned above, will also be examined in respect of (a) the effect which it has on the Crown lands (and the institutions attached to the Crown lands) and (b) as a useful comparison of how adjacent commons might be managed differently.

5.2.2 Common Rights

It has been stressed that although the New Forest may comprise large areas of open space, which are generally accessible to all, *use* of the common land for extractive purposes (such as grazing) is strictly limited to those holding common rights.

Clarification of the presence of common rights is easily sought from the current 'Atlas'' of common rights. A "Register of the New Forest Claims", was produced by a Parliamentary Commission of 1855. This was updated in 1949 and 1964 (under the 1949 and 1964 New Forest Acts respectively) into the "New Forest Atlas of Common Rights". The rights were transcribed onto 1/2500 scale Ordnance Survey Maps for the production of the Atlas (which comprises seven volumes), together with the original tithe area boundaries, extracted from ecclesiastical records. The records, which have since been transferred to microfiche, are held at the Public Records Office at Queen's House, Lyndhurst and at the Office of the Clerk to the Verderers in Lymington. Inspection of the Verderer's copy may be made at a charge of £.... for people wishing to establish their rights.

Two other classes of person may depasture animals, apart from the commoners. First, Crown Tenants, are occupiers of land leased by the Crown within the New Forest. They do not have a legal right of common, but are permitted to depasture animals by virtue of the Crown's ownership of their holdings and the commons. They are subject to the same general rules and payments as the commoners. Second, a group known as 1879 Licensees are able to depasture animals. Following the Register of Claims in 1858, it was found that many of cottagers and small commoners had failed to register or establish a claim and would suffer considerable hardship if prevented from continuing to depasture stock. As a result, a short Act of Parliament was passed in 1879, allowing these people, at the discretion of the Verderers, to depasture animals; albeit at a higher rate of payment than that collected from the commoners. The number of existing Licensees has diminished to. . . . The privilege of turning out animals under this Act is restricted to persons occupying land in, or immediately adjacent to, the Forest (Pasmore,1969). (CHECK ACT & HOW DONE).

The Atlas of Rights carries details of the different types of rights attached to properties. It shows each tithe area number, below which the initial letter of the rights attaching to it is placed; see Figure 5.5 (P- pasture, M-mast, T-turbary, S-sheep, F-fuel, O-marl). The total area of land to which specified rights are attached is around 30,000 hectares (Illingworth, 1991:59). Only around one quarter of these are situated within the perambulation of the New Forest, the others are clustered around the boundary and generally lie within 10 miles of the Forest.

When a holding is subdivided by sale or letting, the rights are exercisable by the owner or occupier of each subdivision. The amalgamation of two holdings results in the new, single occupier enjoying rights previously enjoyed by two occupants. This continuous fragmentation and amalgamation of holdings means that it is very difficult to retain records of the number of commoners holding rights at any one time.

5.2.3 Physical Characteristics and Use of the Forest

Natural, physical restrictions in the New Forest area have always limited land use practices. However, it is man's use of the Forest which has shaped its current state and which continues to restrict the extent to which natural forces are able to exert themselves on the Forest.

The New Forest is a lowland area: rising from the sea to its highest point, about twenty miles inland, just over 400 feet above sea level (Figure 5.6). The lowland nature of the Forest means that stock-keeping is relatively straight forward and that the land is accessible for human use for recreation and amenity purposes without the expenditure of much effort.

The climate of the New Forest is mild: the annual average rainfall is 30-35 inches and normally well distributed throughout the year, with only a small proportion of the precipitation falling as snow. The daily maximum temperatures average 40 degrees Fahrenheit (..C). The climate of the New Forest allows animals to remain on the Forest throughout the year. Occasionally, severe winters (in terms of rainfall and temperature) endanger the health of animals and the stock need to be taken off the common. Generally, however, this applies to individual animals rather than a blanket removal of all stock. Chapter Seven explains the operational institutions which oversee animal welfare in the New Forest. Although the Forest is prone to water-logging, its mild climate and topography also encourages recreational use of the Forest throughout the year. The lack of any snow cover in the winter means that the Forest does not have to suffer the damage caused by the snow mobiles and cross-country skiers experienced in some American National Parks, for example. However, to some extent the potential damage from walkers and horse riders is greater because of the lack of protection which might have been afforded by the presence of a layer of snow and frozen ground.

The soil is generally poor, although evidence suggests that soil fertility has declined with man's use of the Forest and that during the Bronze Age it was capable of supporting arable cultivation (Tubbs, 1968:56). Tubbs provides a comprehensive explanation of how human impact on the New Forest and, in particular, removal of tree cover, would have resulted in a decline in the fertility and potential productivity of the area. The geology of the New Forest area is represented in Figure 5.7.

The vegetation of the Open Forest was surveyed and classified by the Nature Conservancy Council from 1988 to 1990. The classifications and respective areas are summarised in detail in Appendix II and illustrated in Figure 5.8. The five main vegetation types present include:

- Heathlands (dry, humid and wet);
- Gorse thickets;
- Grasslands (acid, neutral and reseeded);
- Valley mires;
- Woodlands (broadleaved and Scots pine).

The variety of habitat provided within the boundaries of the Forest can, in part, be attributed to the different stages of evolution of each area. Tubbs suggests three main evolutionary stages for the land (Figure 5.9) from woodland (stage 1), to hazel/grassland/grass-heather (stage 2), to heather (stage 3), with a possible intermediary stage between the last two, when grassland is dominated by bracken before being colonised by heather. The overall reduction in woodland area in the New Forest and formation of heathland can be confidently attributed to the grazing and browsing of deer and commonable stock, together with the practices of cutting timber and fern, associated with exercise of common rights, and the clearing of scrub and controlled burning to maintain grazing areas.

Within the unenclosed woodlands, changes in the species of trees present and the marked absence of ground flora also indicates the effect of grazing and browsing on the Forest. Unenclosed woodlands are largely of beech and oak, with an under storey of holly. In historic times, there has been an intrusion of beech into oak-dominated canopy and a gradual replacement of hazel by an under storey of holly. The increase in beech is probably due to its ability to regenerate and the removal of oak for shipbuilding timber in the eighteenth and nineteenth centuries. The decline in hazel in the Forest can be seen as the result of: (i) the general decalcification of the soils; (ii) the long continued browsing of hazel by deer and stock (holly being much more resistant to browsing pressure); and (iii) the deterioration in a system of coppicing employed in the woods until the sixteenth and seventeenth centuries which would have resulted in the protection of regenerating hazel (Tubbs, 1968).

Within this rich mosaic of landscapes, there are certain identifiable characteristics of the Open Forest which have a significant affect on the way in which the commons are used and their potential to bestow benefits on a variety of users. Subsequent sections of this chapter will investigate the use of the commons in terms of: exercise of common rights (section 5.3); wildlife (section 5.4); amenity (section 5.5); and forestry (section 5.6).

5,3 COMMON LAND USE - EXERCISE OF COMMON RIGHTS

Few commoners rely entirely on the exercise of their common rights for their agricultural enterprises, but are likely to exercise their rights in conjunction with the agricultural use of other, private land and holdings. Land on the periphery of the New Forest and much of the enclosed land within the Forest comprises small holdings, most of which are under 50 acres, to which are attached the various common rights.

There are six different rights of common in the New Forest (pasture; sheep; mast; marl; turbary;

and estovers). A property listed in the Atlas may or may not have all six rights attached to it. The most important common right today is, undoubtedly, the right to pasture. The profitable management of New Forest holdings rests on the ability to use the common for grazing. The land economy of each holding varies, but the basic practice has been to use enclosed land for meadows for cutting hay and run the stock on the Forest until Forest food becomes short. The use of the Forest reduces the need for large capital outlay for the purchase of land and the annual expense of bought-in foodstuffs. Today, very few of the holdings support a commoner and his/her family without an additional income source (see Chapter Six).

5.3.1 The Use of Land for Grazing

The Common right of pasture provides the right to graze commonable animals on some 20,000 hectares of Open Forest and other common land. This extends to ponies, cattle, donkeys, mules, with limited rights for pigs, but with no rights for goats or sheep[42]. The majority of animals turned out for grazing comprise ponies and cattle.

It js important to appreciate that type of habitat in the Forest serves a unique, but complimentary role in the grazing and general living requirements of the commonable animals. The woods provide an abundance of shelter and herbage, particularly in the winter. The valleys provide water and the 'lawns', which lie within the flood plains of streams, are a popular gathering place for commonable stock. The lawns and re-seeded areas of the Forest are probably capable of providing the most grazing for animals. However, since the sward is so closely grazed, the grass is not allowed to make much new growth. Such areas are the most important areas, however, for providing mineral nutrients, which are largely lacking elsewhere (Tubbs, 1968). It is likely that the bulk of the ponies' food is purple moor grass from valley bottoms and acid grasslands. Gorse and holly are also eaten by the ponies in large quantities in winter.[43] Ivy and bilberry *(Vaccinium myrtillus)* occurring in the woodlands are also intensively browsed, as are hardwood trees and the saplings of some conifers.

5.3.1.1 New Forest ponies

In 1992, 3567 ponies were recorded as having been turned out onto the Forest commons.[44] The 'New Forest' pony is believed to be indigenous and to have its origins in the herds of wild horses which once roamed the area. The original New Forest ponies were only 11 or 12 hands, or stocky build and capable of over-wintering on the Forest without the need for a commoner's attention. However, in the 1870s, 1880s and early twentieth century, commoners were

[42] Some sheep are grazed on the Forest, bu by virtue of a separately defined right.

[43] the nutrient values of gorse have long been recognised and it was commonly crushed and fed as a fodder crop in the eighteenth and nineteeth centuries (Tubbs, 1968).

[44] 'recorded' in the sense that marking fees were paid for them. It has been suggetsed that there may be an additional 5 to 10% of animals depastured for which no fees have been paid (see Chapter Seven).

encouraged to 'improve' their stock by introducing Arab line to the Forest. This was probably augmented by the Victorian attraction to Arabs as riding horses (Tubbs,1968). Arab stallions were brought into the Forest by the Verderers to breed, resulting in a more slender and taller animal. Whilst the ponies which exist on the Forest today are considered to be good natured, sturdy and fairly hardy, they certainly have retained *some* of the temperamental strain associated with the Arab line and tend to reflect a loss of hardiness which renders them less capable of over-wintering.

In the late nineteenth century the ponies were used for light transport and colliery work. Sadly, they lost their appeal for such work after the Arab breeding. As the demand for pit ponies declined, only the better ponies were sold for riding purposes. There was some trade for light road purposes, but that too dried up with the advent of the motor car in the post World War I era. By the mid 1930s, most of the ponies were bought in large lots by dealers. During the second World War, there was some demand for horse meat and from 1942 to the present day there has been a steady demand for ponies for recreational riding purposes and for some meat.

There has been no introduced blood to the New Forest ponies for the last 60 years. The majority of the ponies on the Forest are registered as meeting bloodline and conformation requirements contained in the breed stud book. The mares and geldings which are not registered are those which are coloured, such as skewbald (see Appendix III), or are not of pure New Forest breeding. All of the stallions running on the Forest must be registered with the Breed Society.

The majority of mares remain on the Forest all the year round, although some are removed in the winter and early spring months when forage is short. The ponies live a semi-feral existence, usually remaining in groups of between one and six mares and their offspring. Around one hundred inspected and approved stallions run out on the Forest, some are turned out during the breeding season (May to August), others run out all year. The stallions are rotated around the Forest every fourth year to prevent inbreeding.

Although free to roam in any part of the open common land, the mares keep to a grazing territory (referred to as a "haunt" or "run"). Each territory will be capable of providing the essentials of food, water, shelter and shade: the size of the territory varies from one hundred to one thousand hectares, according to the availability of each. Within their own territory, the ponies will follow a daily circuit (with a few seasonal variations), moving around the grazing areas, to water, and on to shelter for the night. Whilst some groups remain in the woodland areas, others will spend a greater amount of time on roadside verges. Movement is not limited by physical barriers, but is deterred by inclement weather. Ponies tend not to move out of their group, so that pressure for grazing varies considerably around the Forest.

Ponies feed for up to 90% of each 24 hour period and consume weedy growth and browsed leaves as well as grass. Their large incisors enable them to crop closer to the ground than cattle. In this respect, they play an important role in keeping the grassland areas of the common as a well-cropped lawn, favoured by recreational visitors. As grass production declines in these areas (around the end of August), ponies feed on gorse, leaves (particularly holly) and twigs. Reserves of body fat used up over the autumn and winter months mean that growth of grass in early spring can be crucial to the ponies' well-being. The ponies are rounded-up in "drifts" for worming and removal from the Forest between August and November. Foals and yearlings may be taken onto owners' land to be reared for riding and showing. Alternatively, they are sold (particularly colt foals, with filly foals retained as breeding replacements), along with old mares at the auction sales held between August and November at Beaulieu Road. The New Forest Pony and Cattle Breeding Society also maintains a sales list.

5.3.1.2 cattle

Whilst cattle numbers have fluctuated over the years, the *type* of cattle depastured has also changed and is not reflected in the cattle numbers recorded each year. In the past, mainly dairy breeds were put out onto the common, providing milk for the commoners. However, two thirds of the cattle turned out today are suckler cows producing spring calves to be sold the following autumn. Young animals might also be put out onto the common to graze if their is sufficient market demand and good availability of grass. There has been some concern expressed that the cattle put out onto the Forest reflect the large scale 'ranching' employed by a relatively few number of commoners and a distinct trend away from small numbers of dairy herds turned out by a large number of commoners. Whilst the change in the type of cattle is not reflected in the statistics of animals depastured, the change in the number of cattle is quite apparent (Figure 5.10). The variation in the manner in which such cattle use the Forest may have a long term ecological effect on Forest habitat (CHECK WHETHER BEING MONITORED?).

Cattle are kept on the common as long as possible, in order to reserve enclosed land for the growing of hay and silage. The cattle may be fed supplementary forage during the winter months, usually by taking them off the common and feeding in the owner's yard or shed. The cattle, who are unable to crop as closely as the ponies, are generally in greater need of supplementary feeding over the winter. Grass makes up around 80% of their intake in the summer months and around two thirds in mid-winter. In the late summer and autumn months the cattle will eat considerable amounts of heather. Occasionally, hay will be taken to the common for the cattle. However, the possibility of another commoner's cattle free-riding on such feeding often deters this practice unless the difficulties of removing cattle for feeding render it essential.

The cattle also move in groups around the Forest, with bought in stores forming smaller and

more cohesive groups than those which are more established on the Forest. The cattle tend to spend more time on grassland than the ponies, avoiding the wet bogs. Illingworth (1991) reports that long established herds appear to adapt quite readily to changes in weather and availability of forage by changing their daily routine and ranging more widely. There is no Forest auction market for the cattle, which are sold in normal agricultural markets, mostly at Salisbury.

5.3.1.3 other grazing animals

Donkeys are also turned out onto the Forest. Mostly kept as pets, they are turned out in relatively small numbers (99 in 1993). The right to graze sheep is restricted to confined areas in Beaulieu, parts of the eastern parishes and at GodshilL It is likely that the right originates from a special concession to monastic property linked to Beaulieu Abbey (dissolved by Henry VIII). The 1858 census report recorded 438 sheep on the Forest. For many years no sheep were turned out, until 1989 when the rights were re-exercised (WHERE? and WHY?). The number of sheep currently turned out is recorded in Figure 5.10 (95 in 1993).

In addition, to ponies and cattle, wild deer graze and browse the Forest. However, unlike the ponies and cattle, they are often found in fenced inclosures and on enclosed private property. Fallow deer *(Dama damd)* are the most prominent in the Forest, with a herd of around 2,000. Red deer *(Cervus elapsus)* and roe deer *{Capreolus capreolus)* occur in smaller populations of around 300 head each. The red and fallow deer are thought to have grazed the area since Mediaeval times, with roe introduced in the nineteenth century. Sika deer *(Sika nippon)* were introduced by Lord Montagu to his private estate within the New Forest in the early twentieth century and subsequently escaped into the Forest. They are found in relatively small numbers today (around 30?). Fallow deer, the dominant species in the Forest, feed on similar plants to the ponies: grazing grass, herbs and broadleaved leaves from May to September and browsing bramble, wild rose, bilberry, holly, and the conifer foliage of inclosures (Illingworth, 1991). The competition that they provide for ponies means that their numbers must be controlled in order to protect common grazing. The current population is maintained relatively stable by a Forestry Commission management programme (CHECK NUMBERS).

5.3.1.4 improvement of grazing

The first deliberate attempt to improve grazing in the New Forest was made between 1941 and 1959. The New Forest Pastoral Development Scheme was established in 1940, under the auspices of the County War Agriculture Executive Committee. Any interference with the soil of the Crown land is, strictly speaking, illegal unless undertaken by agents to the Crown(see Chapter Seven). However, with the agreement of the Verderers, the Forestry Commission and the commoners, areas were ploughed with prairie busters, treated with 0.5 tons of lime per acre and a small dressing of phosphates and re-seeded with the barn sweeping from seed merchants. The re-seeded areas were not fenced and the establishment of new grass was poor. A

subsequent attempt to re-seed areas involved the fencing of an area for 3-4 years, followed by controlled grazing and then release to open grazing. Such practice was much more successful and between 1944 and 1952, 900 acres in 15 locations were treated in this way. The sites chosen were mostly in the southern half of the Forest, on the more fertile lands of loams and sands.

5.3.1.5 controlled burning

Heather is perpetuated on the Forest through controlled burning by the Forestry Commission on a 6-12 year rotation. The burning is generally encouraged by commoners, who believe that it provides improved, young vegetation for commonable stock, although whether whether burning in the Forest significantly benefits the commoners animals is debatable (Tubbs,1968:188). Burning is planned on a fragmentary basis to ensure that a wide variety of age classes of vegetation is maintained and that damage to wildlife and amenity value from burning is kept to a minimum. The burning does help to stop the colonisation of Scots Pine of self-seeded saplings, sprung from nearby plantations in the Statutory Inclosures.

The podzol soil profiles on the common land, with poor soil fertility, high acidity and humus and iron pans, means that it is liable to drought in the summer and water-logging after heavy rain. Indeed, a constant source of dispute between the commoners and the Forestry Commission, as managers of the Forest, is the extent to which bogy areas of land should be kept drained to improve grazing.

5.3.2 Common of Mast (Pannage)

Common of mast is is the only other right of economic importance in the New Forest today. It is the right to turn pigs out in the Pannage Season to feed on acorns and beech mast. The rights of pannage help to protect the health of cattle and ponies grazing, since green acorns are poisonous to them when consumed in large quantities.

Exercise of the right of pannage depends on the extent of acorns and mast each year. Figure 5.10 illustrates the amount of pigs turned out over the last... years. Whilst around 5,000 - 6,000 were turned out in the best mast years of the 19th Century, around 100 are currently turned out. Nowadays, pig numbers tend to vary annually, according to the market price for pigs in any given year.

5.3.3 Common of Marl, Turbary and Estovers

Common of Marl is the right to dig clay and was originally used to dress the acidic soil of a Commoner's holding. The right is found attached to land in the south of the Forest, but modern agricultural methods have rendered this right obsolete. The Register of Claims lists 23 Forest

pits from which clay may be dug, most of which can still be identified as overgrown hollows. The exercise of the right of marl had lapsed by the late nineteenth century (Trimmer, 1856; Spooner, 1871; and Williamson, 1861).

Common of Turbary gives the beneficiary the right to cut turf for fuel. In doing so, two turfs must be left for each one cut. Whilst at one time every cottage in the Forest depended on these rights, this right is exercised by only a few Commoners today (CHECK ANY??). It is apparent that during the late eighteenth century, when the government reported on the mis-management of the Forest (see earlier), the cutting of turf for sale was seen as an important economic benefit for many commoners (Tubbs, 1968:106).

Common of Estovers is the right to gather branch wood from felled trees found in the Forest. The importance of the rights to cut wood and peat for fuel declined as labour costs increased and as the Forest opened up to rail and road transport in the late nineteenth and early twentieth centuries. Pasmore (1969) records that it is a right which was always unpopular with the Office of Woods and, latterly, with the Forestry Commission and that, since 1854, most rights have been bought out. Nowadays, the Forestry Commission allocates one or two 'cords' (a stack measuring 4-ft. x 4-ft. x 8-ft.) of wood to land which has this right attached. The Commission cuts and stacks the wood for collection by the Commoners. Over the years these rights have diminished in number, with approximately eighty Commoners receiving allocations currently. The fuel must be burnt in the Commoner's house.

The cutting of 'fern', bracken for bedding, was a widespread custom in the New Forest. Several commoners tried to register it as a claim in 1670, but it was not recognised on the 1858 Register and bracken was subsequently sold to the commoners by the Office of Woods for a high price. Commoners bought it chiefly out of necessity and it was cut in large quantities until the 1930s, when straw replaced it as a bedding material. The cutting of gorse for fodder was also customary, although there are no rights for such practice. Gorse faggots or 'black sticks' were also cut for local pottery kilns (Gilpin, 1791) and for broom-making (Tubbs, 1968).

5.3.4 The Commoner's Economy

The overall effect of holding common rights in the New Forest in the late nineteenth and early twentieth centuries was one of reducing the need for capital expenditure on additional land; eliminating the costs of heating and cooking; reducing the costs of manuring the commoner's holding; reducing the cost of keeping stock in terms of feed expenditure; and increasing the commoner's opportunity to derive additional income from the sale of gorse, bracken, timber and peat. The commoner had two to three sources of income, each of which revolved around commoning, but were not totally dependent on common rights: their effect was to substantially increase the commoner's ability to support a family. It would be very difficult to calculate the

value of the commoner's rights at this time, although Eyre (1883) attempts to do so and estimates that the rights permit a commoner's holding to be compared fairly to that of a holding three times its size in an area of enclosed farming. Part of the commoner's ability to sustain a fair living was the cash flow of the commoning economy: cows brought in weekly income in the form of milk sales; pigs, quarterly income; and ponies, an annual income. Jebb (1907) identified three optimal holding sizes for a commoner:

- a cottage holding of 6 acres, which could be tended by a wife and children whilst the husband brought in income from external employment;
- a small holding of 12 acres which could be tended internally by a family without hired labour;
- a larger holding of 20 acres or more, a quarter of which could be put down to arable cultivation.

[DETAILS OF CURRENT SIZES OF HOLDINGS. MORE NEEDED HERE OR WATT UNTIL CHAPTER 6?]

5.4 WILDLIFE VALUE OF THE COMMONS

In addition to supporting a commoning economy, much of the common land in the New Forest holds important natural characteristics in terms of wildlife and habitat. The area covered by the total Perambulation contains the largest area of natural vegetation in southern England. The common land is of particular significance. The unenclosed pasture woodlands are unique in western Europe and rare in Britain, where 90% of ancient forests have been destroyed, leaving this type of surviving element in scattered areas of the south and in the Scottish Highlands. The lowland heath of the Forest is also important to Britain's resource stock. Seventy five per cent of lowland heath (which is distinct, in ecological terms from upland heath) have been destroyed in Britain in the last two hundred years with a higher percentage destroyed in Europe.

Whilst important ecological sites and corridors are identified in Figure 5.11 (CHECK NCC), it is probably the diversity of habitat which makes the New Forest so important: the habitats of heathland, valley mire and ancient pasture woodland do not occur anywhere else in Britain in such a scale or combination. Outside the Forest Perambulation, 'wastelands' have been progressively enclosed and the land improved for more intensive agricultural production and woodlands have been intensively managed for game and timber.

The varied landscape of the New Forest supports significant populations of wildlife. On the whole, the status of Royal Forest conferred on the Forest in the name of the preservation of deer and the later pieces of legislation to protect the Forest in its natural state has offered an umbrella protection to all wildlife in the Forest and helped to conserve many species:

> "It is, indeed, virtually the only large area of lowland Britain where drastic change has

*n taken place and, moreover, it receives statutory protection against change in the future" Tubbs, 1968:207).

there have been some casualties, however. In the nineteenth century the Forest incurred a loss of some species of fauna from collectors of eggs, skins and animals, encouraged by the assistance from Forest keepers, who were glad of the additional income. However, the appointment of a new Deputy Surveyor in 1880, however, heralded a new era in the conservation of wildlife in the Forest. The Hon. Gerald Lascelles introduced a conservation policy to the Forest in an attempt to halt the destruction of species: reportedly, he "ingrained a tradition of conservation among the Forest keepers which has remained strong to this day" (Tubbs, 1968:199).

There are various reasons why the history of the New Forest has helped to conserve its wildlife value (Tubbs, 1968). First, the sheer size of the area means that it provides an important tract of land, which is capable of supporting a large number of species: there has been much written about the relationship between size of a habitat and the number of species it can support (for example, Newmark, 1987). Second, the unenclosed woodlands of the New Forest work on a natural rotation, providing a wide range of age classes and the retention of mature, over-mature and decaying trees. Such a rotation is not normally permitted in a commercial plantation and thus woodlands of this nature are limited in distribution in lowland Britain. Third, the widest range of animal species tends to occur on habitat boundaries. The mosaic of habitats provided by the New Forest is, therefore, ideal for supporting large populations of a variety of species. Fourth, since the Crown lands of the New Forest were never used for large scale game *rearing*, predatory birds were, to a large extent, left alone, free from the persecution they endured on private estates. Currently, the Forest supports a large and varied population of predatory birds, whilst the rest of lowland Britain (including the countryside around the Forest) has seen a considerable decline on such populations. Five species of predatory birds breed in large numbers in the Forest: the Sparrowhawk *(Accipiter nisus),* Buzzard *(Buteo buteo)*\ Kestrel *(Falco tinnunculus)',* Hobby *(Falco subbuteo)',* and Tawny owl *(Strix aluco).* In addition, there is a scattered population of Barn owls (Tyto alba) and the Forest provides a wintering ground for several hen harriers *{Circus cyaneus),* 2-3 peregrines *(Falco peregrinus),* merlins *(Falco collumbarius)* and red-footed Falcons *(Falco vespertinus).* Fifth, and finally, the Forest has suffered little effect from the toxic insecticides or stream pollution commonly associated with domestic and industrial waste and with intensive agricultural practice. Studies of sparrowhawks (Accipiter nisus), buzzards (Buteo buteo) and kestrels (Falco tinnunculus) in the New Forest have revealed the presence of only very small amounts of organo-chlorine pesticide residues when compared to studies of predaory birds in other areas (Tubbs, 1968).

Evidence of the diversity of habitat in the New Forest is provided by the presence of twelve 'indicator' species of birds, reptiles and insects listed by Tubbs (1968), with their respective

habitats (see Figure 5.12). The Forest's diversity is also reflected in the number and abundance of vertebrate species. The Forest contains the 27 species of English land mammal (with the exception of the red squirrel *(Sciurus vulgarus)* which was driven out by the introduction of the exotic grey squirrel *(Sciurus carolinensis)* in the 1930s); nearly half of all the insect species native to Britain; 11 of the 13 species of native bats; 5 of the 6 species of indigenous amphibians.[45] It is an equally important site for birds, such as the Dartford Warbler, Woodlark and Stonechat and 98 species of bird are known to breed in the Forest regularly.

Overall, the New Forest contains nearly fifty nationally or internationally rare species (Illingworth, 1991:23). The ecological importance of the Forest was recognised in 1971, when it was designated a Site of Special Scientific Interest (SSSI), under the Wildlife and Countryside Act 1981 by the Nature Conservancy Council (DETAILS). Part of the Forest is also an Area of Outstanding Natural Beauty. The Forest has also been recognised nationally, with its designation as both a Ramsar Site (Wetlands of International Importance) and as a Special Protection Area (EC Directive on the Conservation of Wild Birds, 1979). In 1992, the Government announced its intention to give the New Forest national park equivalent status. The implications of national park status are discussed in Chapters Seven and Eight. (DETAIL).

5.5 AMENITY USE OF THE FOREST

5.5.1 Open Access to the Commons

Despite having a clear structure of property rights which restricts use of the common land for grazing and other extractive purposes, the New Forest commons remain largely an open-access resource for many amenity and recreational users. However, it is not just accessibility which draws outside visitors to the Forest and encourages residents to walk the open areas. The very practice of commoning, and in particular, depasturing animals is now rare in lowland England. In total, common cover only 4 per cent of the land of England and Wales and in the southern, lowland areas of England commons tend to be widely dispersed and comprise less than 25 acres (Shoard, 1989:410). The New Forest, therefore, is fairly unique in that it presents such a large area of common land in the south east. This, coupled with the increase in the proportion of population in south east England living and working in urban areas (FIGS,) means that "for many people their most memorable experience of the New Forest is the opportunity to see free ranging ponies, cattle and pigs" (Land Use Consultants, 1991:7).

The New Forest perambulation was fenced in the mid 1960s together with major roads in the New Forest. The extent of the fencing is shown in Figure 5.7. The A31 was fenced in 1964; the A35 in 1967 and the A337 in 1974 (CoCo, 1984:10). Cattle grids span roads into the

[45] The natterjack toad is not present, but there are plans to reintroduce it from a captive breeding programme.

Forest to prevent animals straying out of the Perambulation. Whilst the fencing and grids serve the purpose to keep the animals in the Forest area, none of the access points into the Forest are controlled in terms of limiting vehicular access. Pedestrian and horse access is even more unlimited through a network of paths with styles and/or gates and easily climbed fences. Within the Forest boundary, access is denied for commonable stock to enclosed areas (enclosed plantations and private property). In addition, the town of Lyndhurst is fenced within the Forest boundary to prevent stock from gaining access to this busy traffic junction of the Forest.

Once within the Forest boundary, access is easily gained by car to most areas of the Forest by public roads. Access on foot or by bicycle or horse is amply provided for to the commons ('Open Forest') and enclosed woodlands by gravel tracks and a network of footpaths and bridleways (see Figure 5.13). In addition, most of the heathland and unenclosed woodland of the commons is very penetrable by nature because of the close cropping of grazing animals and because of the abundance of tracks (both animal and human trodden) which are a key element in the Forest's evolution and link the enclosed landscapes with adjoining common land.

Erosion of grazing land by uncontrolled vehicular access and camping increased to serious proportions in the 1960s. In 1966 roughly 300,00 camping permits were issued by the Forestry Commission and a Working Party was established to review the need for development of recreational facilities in the Forest. Its report in 1971 (Conservation of the New Forest - Final Recommendations" Author??), recommended the construction of car parks and camp sites for visitors and the closing of the remainder of the Forest to motor vehicles. The fact that the Forest is covered in a network of public highways effectively meant that vehicles would be confined to highways, rather than being allowed to drive indiscriminately onto open forest and over grazing areas. Implementation of the recommendations has been carried out by the Forestry Commission. Plans of the car parks and camp grounds were published for consultation and for approval or rejection by the Verderers under section 6 of the New Forest Act 1964 (CHECK?). During this time, the Verderers heard presentments from local interest groups which might oppose a particular siting of car park of campsite.

Unrestrained camping on the Open Forest was prohibited after the 1971 season closed and since then all camping and caravaning has been restricted to defined sites. Pasmore (1977:249) comments on the effect that the restriction of camping has had on the Open Forest: "To those who have watched its progress, who saw the defiled and won state of the Forest before work commenced, and who now see the gradual restoration of so many of those areas, it has seemed one of the most fundamental changes in the Forest this century." Vehicular access is now limited to roads and specified tracks (see Chapter Seven for details). Nevertheless, camp sites and car parks are generally sited in the Open Forest, causing many commoners to argue that increased visitor numbers will pose a threat to grazing land and that a percentage of campsite revenues should be allocated directly for funding management of the Open Forest.

The A31, which dissects the Forest and was a single, unmade track in 1928, was widened into a dual carriageway in 1960. The improved A31 now provides rapid access to the Forest from London (via the M3 and and M27) and from south coast towns (via the M27). Figure 5.14 shows how the surrounding conurbations of Bournemouth/Christchurch and Southampton have increased in size since 1909. This has two major consequences. First, the Forest is now accessible for a larger number of people for day trips and longer stays. Second, the accessibility of the Forest through a road and rail network with mainline to both London and other nearby southern towns (most noticeably Bournemouth, Southampton and Winchester) has increased its appeal to commuters, weekenders and retired people. The ability to live in the Forest, but to derive an income well outside its boundaries has resulted in an influx of higher salaried groups, thus increasing the demand for and price of residential property. As a consequence, the New Forest suffers the problem of most rural areas, where local lower-income earners are displaced as property ownership is beyond their means and less rented accommodation is available.

[MUCH MORE DETAIL HERE ON AMENITY USES]

i.e.

5.5.2 Horse-riding

Big pressures form horse riding over common land. Study currently taking place to assess the damage. Code of conduct introduced by Forestry Commission; Telephone hotline to call for news of poor tracks, etc; Proposals to introduce a licence and charging system= strong opposition from local horse-riders, now formed into the collective "New Forest Equestrian Association" (900 members); formation of the organisation has, to a large extent, facilitated the introduction of restrictive measures for the Forestry Commission, because now they area n identifiable, cohesive group!

5.5.3 Mountain Biking

Faced similar complaints a few years ago. Formed a New Forest Mountain Bike Association to negotiate with Forestry Commission. Agreed to a ban from all but made-up Forest tracks. Still frequent riders over common lands.

5.5.4 Walking

From residents within & nearby the Forest (mostly casual dog walking rather than trekking).

Increasing popularity. Mostly confined to small groups and individuals.

5.5.6 Other Recreational Pursuits

Great use of the Forest just for picnicking; strolling and sitting. Many visitors don't venture far from their cars. Quite a few don't venture out of their cars! Increase in car use becoming a real problem, particularly at peak times (e.g. Sunday afternoons in Summer), in terms of congestion of roads, but also animal accidents.

5.5 FORESTRY ENTERPRISES IN THE NEW FOREST

Given the significance of the New Forest landscape for recreation and amenity, commercial timber production is subject to special rules (see Chapter Seven). However, timber production in the Forest remains an important industry and use of Crown lands. The New Forest is the second largest producer of home grown timber in the south of England: nearly 40,000 cubic metres are produced from Crown Inclosures each year. Most of this timber is processed in local sawmills.

The Crown woodlands are managed in a way which reflects the importance of timber production, but which recognises the high amenity and wildlife value of the woodlands. Some 40 per cent of the Crown's woodlands consist of native broadleaves. The existing proportion of broadleaf and coniferous trees is maintained. In general, the Statutory Inclosures, which derive from earlier Forest statues, contain are more diverse in species and age than the Verderers' Inclosures, which were planted on poor soils in the 1950s to screen industrial areas of the Forest and, as such, comprise quicker growing conifers. Some conifers are left beyond economic felling age to enhance the diversity and appearance of the Forest. The conifers are thinned every five years and produce over 34,000 cubic metres of softwood annually. The broadleafs are thinned selectively at ten year intervals and produce about 4,000 cubic metres of hardwood annually. The main commercial outputs are:- saw logs (60%); pulpwood (25%); post and rails, telephone poles, and fuelwood (15%) (Nelson, 1992).

Figure 5.15 gives details of the different forest stands, by species, within the Statutory and Verderers' Inclosures.

[MORE DETAIL HERE & PROBLEMS]

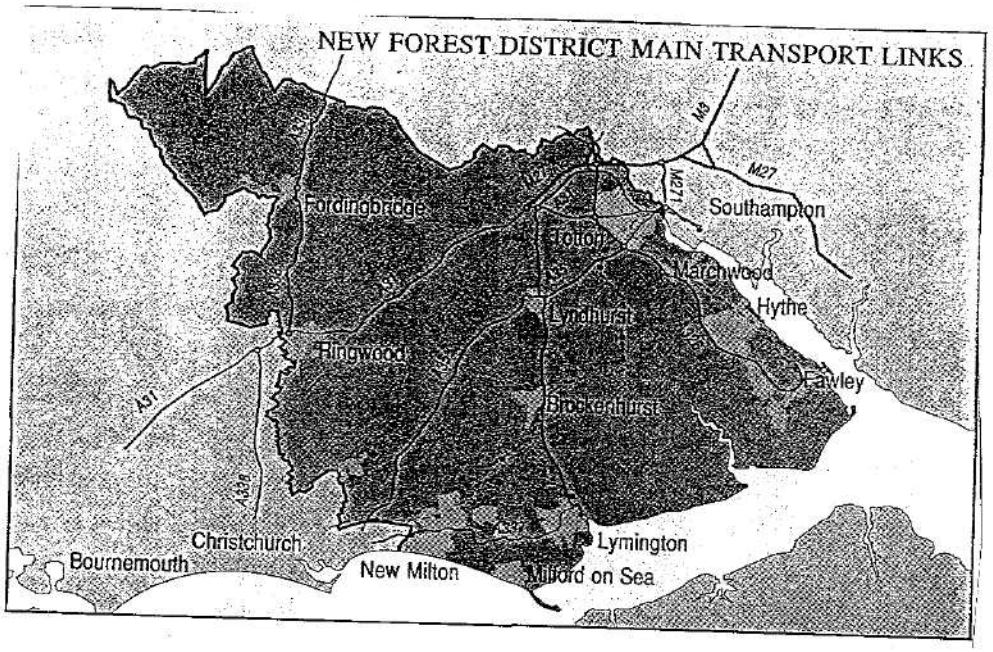
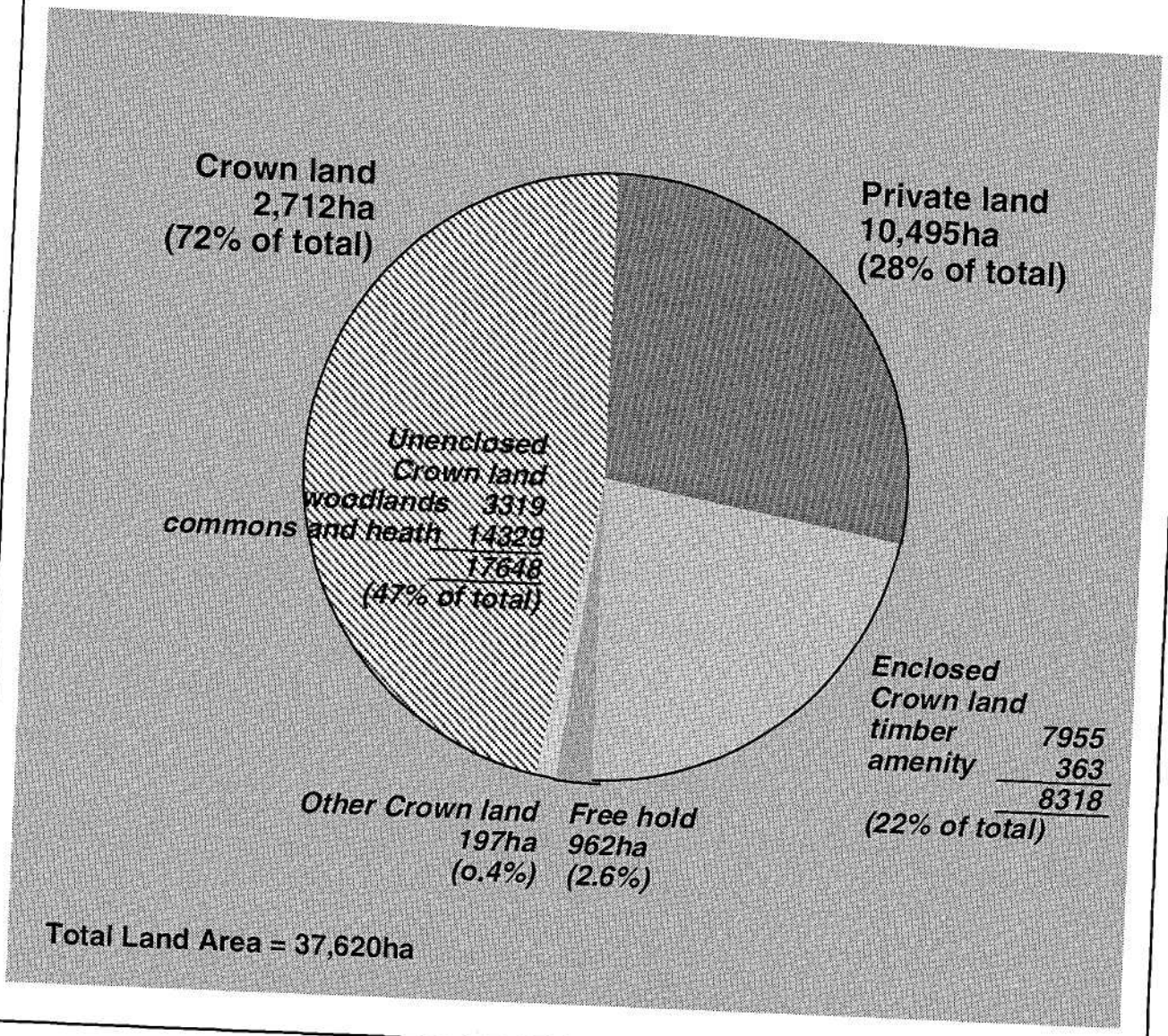


Figure 5.1 The New Forest - Location

Figure 5.3 5·2

Total Land Ownership Within the New Forest Perambulation



Source: Adapted from Kiff (1973)

NEW FOREST HERITAGE AREA

Figure 5.3 Pattern of Land Use.

~~FIGURE 2~~ HISTORICAL DISTRIBUTION OF UNENCLOSED LAND AND LAND WITH GRAZING RIGHTS

Unenclosed Heathland and Wood Pasture (1790).

Land with Rights to graze the Forest and/or adjacent Commons.

~~Proposed Heritage Area boundary~~

SCALE 1 2 3 4 5 Km

N

To be re-drawn.

FORDINGBRIDGE
RINGWOOD
CHRISTCHURCH
NEW MILTON
LYMINGTON
FAWLEY
BLACKFIELD

LAND USE CONSULTANTS
JUNE 1991

Figure 5.4

Breakdown of Land - New Forest

	Acres	Ha
Private freehold lands	26000	10522
Open forest (Crown)	45722	18503
• Enclosable		
Crown freehold woodland	1158	469
Crown leasehold woodland	489	198
Inclosures under 1877 Act	17653	7144
V's Inclosures Under 1949 Act	2065	836
• Vegetation (NCC)		
Valley bogs, wet heath	7000	2833
Calluna heathland	14600	5909
Agrostis Imolinia heath with bracken, gorse and scrub	13250	5362
Forest lawn	800	324
Ancient and ornamental woods	8349	3379
Self sown pine	1723	697

Source: Co Co 1984 Report, P.8

Figure 5.5 Atlas of Common Rights - the New Forest

To be drawn

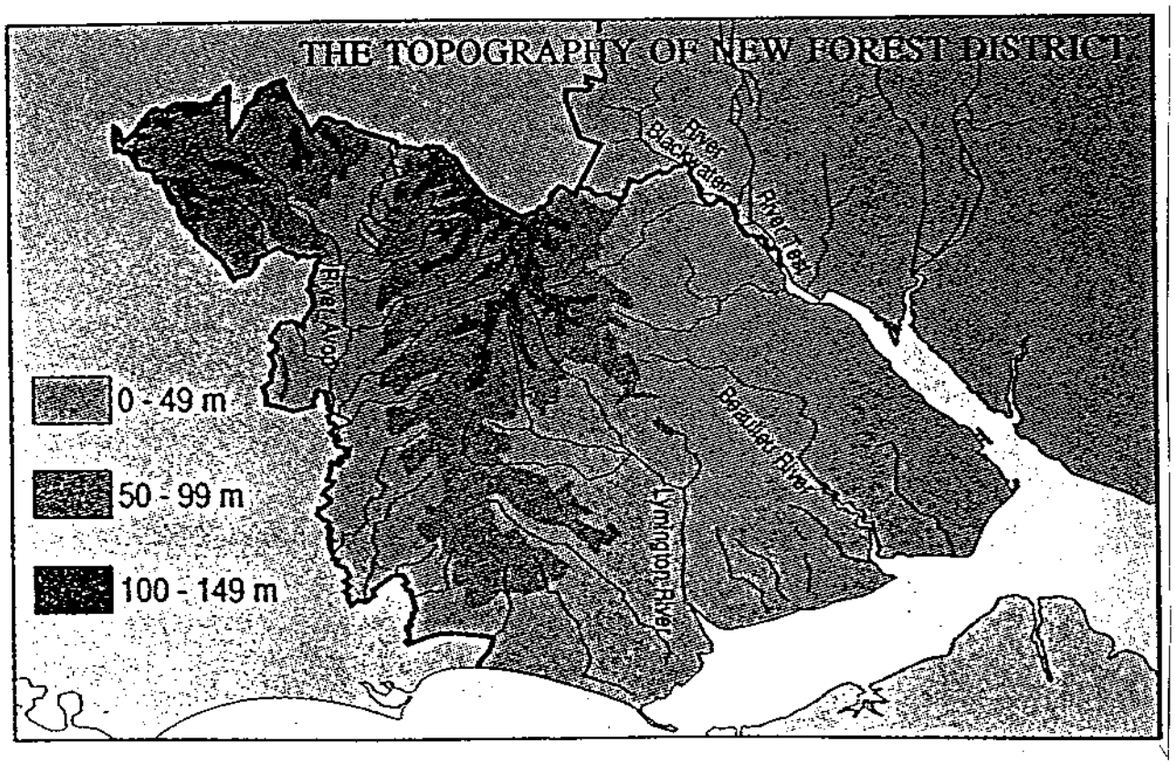


Figure 5.6 Topography of the New Forest

To be re-drawn

NEW FOREST HERITAGE AREA

FIGURE 1 AREA OF SEARCH

Figure 5.7 Geology of the New Forest

'Large Bounds' Perambulation (13th century)

Approximate extent of land with Forest Grazing Rights

Proposed Heritage Area boundary

GEOLOGY

Sands & clays (Tertiary)

Chalk (Cretaceous)

Plateau gravels

River terrace & alluvium

SCALE 1 2 3 4 5 Km

N

To be re-drawn.

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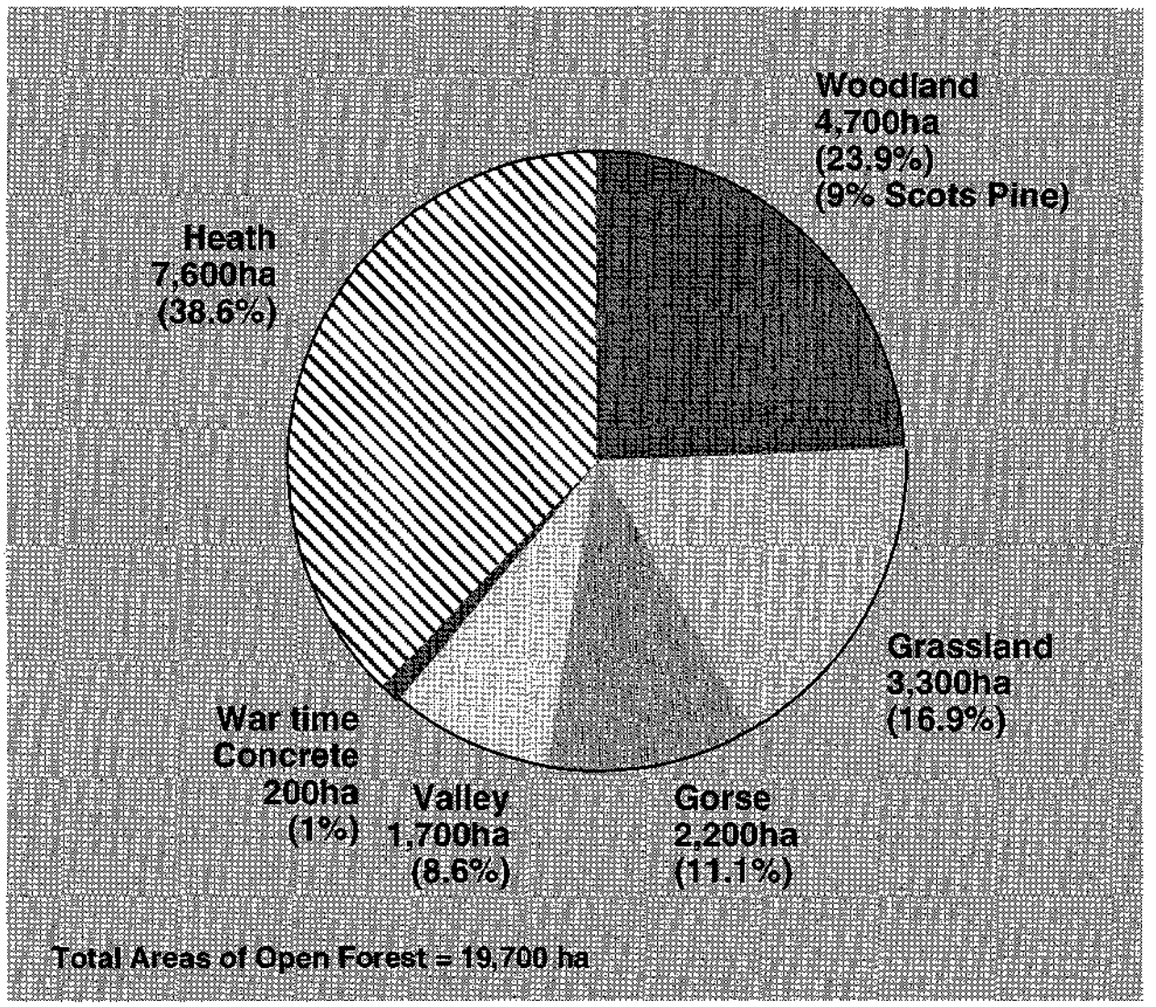
Figure 5.6 5.8

Classification of Habitat of the 'Open Forest' - The New Forest



Source: Nature Conservancy Council

Figure 5.9 Deterioration of Soil in the New Forest

To be drawn

Figure 5.10 Animals Depastured 1900s-1993 - the New Forest

To be drawn

NEW FOREST HERITAGE AREA

~~FIGURE 3~~ Figure 5.11 **IMPORTANT ECOLOGICAL SITES AND CORRIDORS**

- Forest Core (landscape Type 1)
- Woodland
- Heathland
- Meadowland
- Marshland
- Ecological corridors between the Forest core and adjoining land
- Proposed Heritage Area boundary

SCALE 1 2 3 4 5 Km N

FORDINGBRIDGE
TOTTON
HYTHE
FAWLEY
RINGWOOD
BLACKFIELD
SWAY
BRANSGORE
CHRISTCHURCH
LYMINGTON
NEW MILTON

To be re-drawn.

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Figure 5.12 'Indicator' Species - the New Forest (Tubbs, 1968),

To be drawn

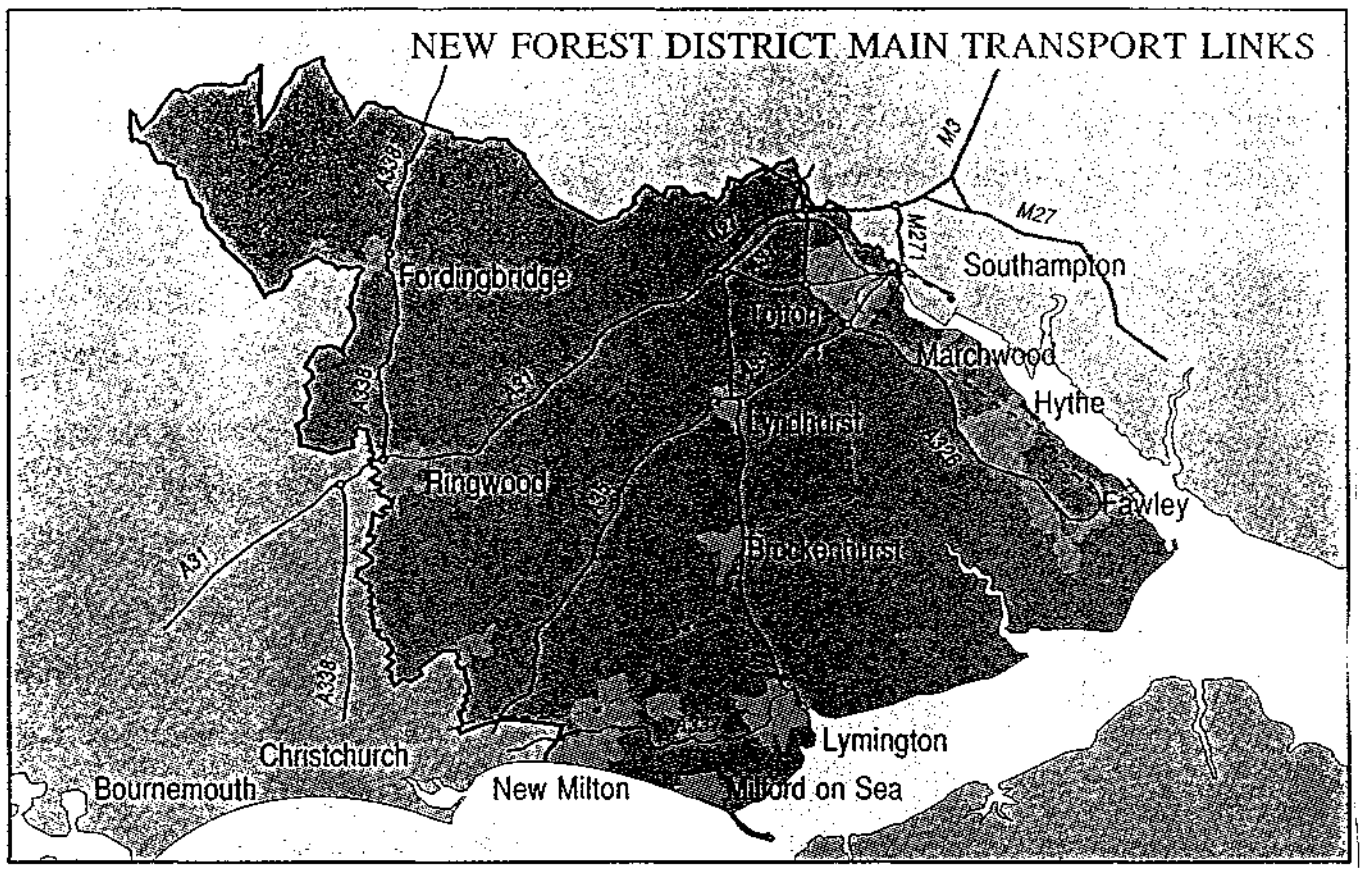


Figure 5.13 Open Access in the New Forest

To be re-drawn showing all footpaths, tracks and bridleways.

Figure 5.14 (to be re-drawn)

~~Fig 2~~. South West Hampshire, showing principal built-up areas in 1909 (above) & 1980 (below)

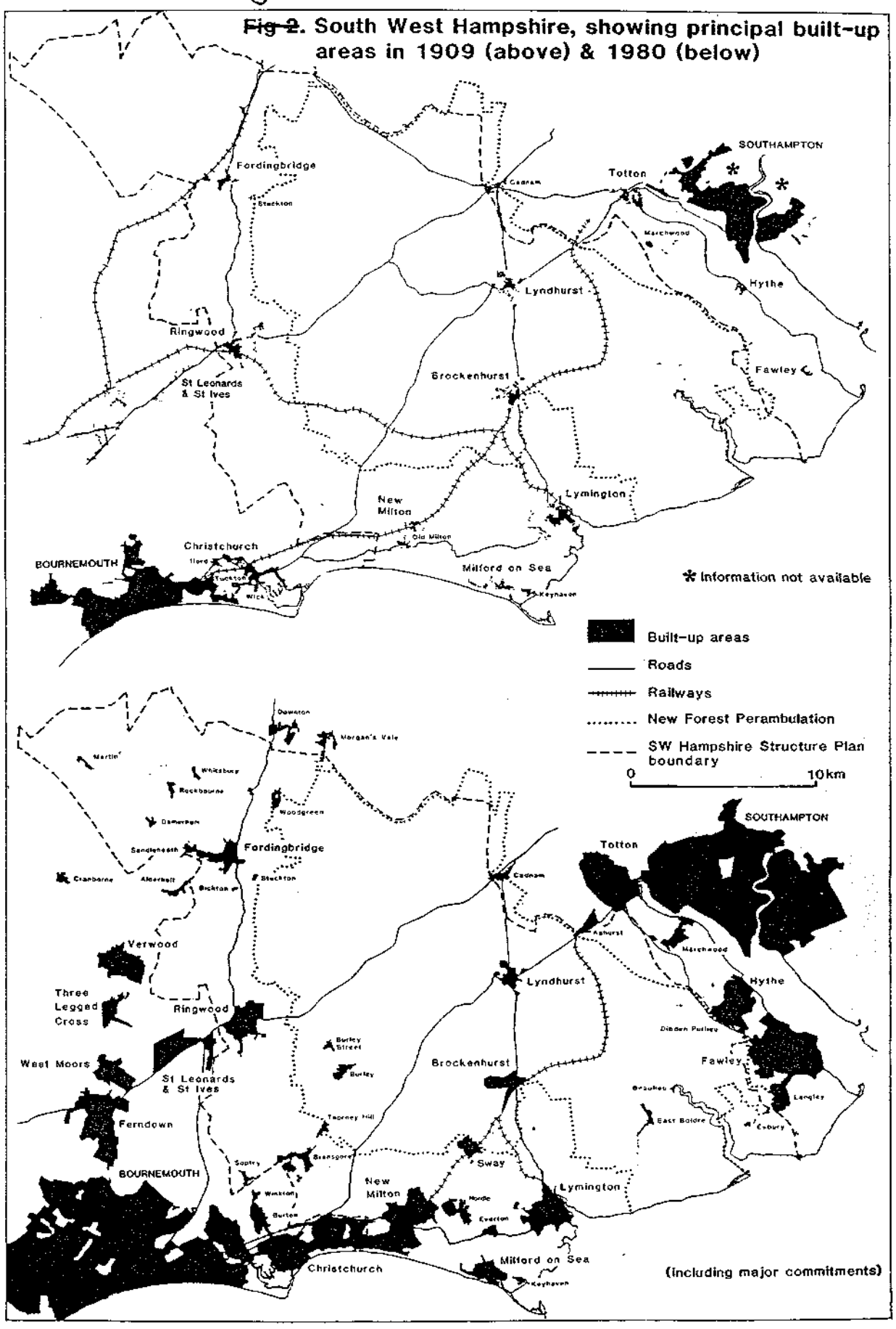


Figure 5 5.15

Forest Types - Inclosed Woodlands of the New Forest

	Acres	Ha
Conifer stands	11392	4610
Pure broad-leaved stands	5817	2354
Broad-leaved - conifer mixes with less than 75% conifers	1932	782
Potential broad-leaf crops (broad-leaf trees with conifers	783	317
Scrub classification	440	178
Other	996	403

Source: Forestry Commission

CHAPTER SIX:
ANALYSIS OF THE NEW FOREST:
Social Characteristics of the Community

6.0 INTRODUCTION

This chapter examines the socail characteristics of the two main groups of the New Forest common lands: commoners (section 6.1); and amenity users (section 6.2).

6.1 THE COMMONERS

6.1.1 Introduction

There have been two recent surveys about the nature of New Forest Commoners, one in 1984 and the other in 1991. The first was conducted by the Countryside Commission in 1984 and the more recent study, based on census data, was conducted by Jo Ivey in 1991 (Dept. Sociology, University of Southampton).

6.1.2 Distribution, Number and Characteristics of Commoners

Kenchington (1942), estimates that the total number of people holding common rights is around 1300 and this figure is generally used today (CoCo, 1984:14 and Illingworth, 1991:60). The 1858 Register approved 900 claims which, since many landowners of large holdings submitted block claims, are estimated to represent 1300-2000 commoners. The rights themselves are definitive, in that they are attached to property. The number of commoners can, therefore, increase or decrease through fragmentation or consolidation of holdings. After 1858, a number of larger holdings were subdivided.

Of the 1300 estimated commoners, approximately 500 are actual or potential practising commoners, with around 250 people turning out animals *every* year (Illingworth,1991). The numbers of practising commoners are recorded in Table 6.1. The current distribution of properties with common rights attached is provided in Figure 6.1 Forest rights extend northward into Wiltshire, westward across the Avon valley into Dorset, and eastward throughout the Waterside area along Southampton Water (Land Use Consultants, 1991).

Sixty per cent of practising commoners were brought up within 9 miles of their current address,

and a further 12 per cent between 10 and 19 miles (Countryside Commission, 1984).

6.1.2.1 Establishment of Commoners

The more recent study of commoners (Ivey, 1991), examined the length of time commoners have lived in the New Forest. It showed that 66 per cent of commoners have lived in the New Forest for over 40 years, 18 per cent for between 20 and 40 years, and only 6 per cent had lived in the Forest for less than 10 years. It also found that 33 per cent of commoners had practised commoning all their life, 20 per cent for more than 20 years and 20 per cent for between 11 and 20 years. This information is represented in Figure 6.2.

The combined surveys show that nearly three quarters of all active commoners might be regarded as 'long-term' commoners. Of the other quarter, there are a significant number of people who start to practice commoning, but give up after a year or two (WHY??). The Illingworth report suggests that "newcomers to the Forest and to commoning tend to be more easily discouraged (e.g. by the loss of a pony in a road accident) and are less likely to turn-out animals for more than one year or two." (Illingworth, 1991:61).

6.1.2.2 Age Profile

Certainly, commoning is a family tradition, with one quarter of active commoners taking up commoning before the age of 15 (Countryside Commission, 1984). Nearly half of commoners have parents or relatives who practice commoning and over 40 per cent of commoning families include children who turn out animals in their own right (Ivey, 1991:). However, whilst 50 per cent of all children in commoning families are active commoners in their own right, younger commoners are certainly in the minority. The age structure of commoners is shown in Table 6.2. The 30 - 50 year age group and the 50 -70 year age group collectively make up 81 per cent of all commoners. A further 11 per cent are aged 70 years or over, but only 8 per cent of commoners are under 30 years of age (Ivey, 1991:).

6.1.2.3 Occupation

Commoning is almost exclusively a part-time occupation. Some 90 per cent of commoners farm no more than 8 hectares (20 acres) and over 80 per cent turn out 20 animals or less. The study by Ivey provided information on commoners' full-time work. This is presented in Figure 6.3

6.1.3 Social Characteristics of Commoning

According to the Illingworth report (1991:60), commoners form " a distinct and cohesive community.... founded on a shared interest rather than place of residence." It claims that commoners cooperate, provide mutual support for one another and share knowledge and experience. Whilst the report attributes this to the "social life" of the commoners, it is clear that

what is really referred to are the institutions surrounding commoning at the operational level: "the drifts, pony auctions, markets and village pubs where they meet."

Practising commoners are widely distributed around the Forest. The numbers of stock turned out in the north, south and west of the Forest have not varied much in the last decade, but range from . . . . to . . . . . (CHECK FIGS) animals in each sector. This suggests that the requirements for additional land should have remained fairly constant. Land Use Consultants (1991:17) report that the distribution of commoners and stock between the core area of the Forest and the periphery has changed over the last decade. Data from 1972 to 1988 show that whilst 61 per cent of stock were turned out from holdings with addresses in the core of the Forest, this had declined to 49 per cent in 1988. This might be explained by the increasing number of purchases of common property by non-practising commoners in the core of the Forest during this period. (MORE DATA).

Information about the type of holdings occupied by commoners is provided by the Countryside Commission report of 1984, and presented in Figure 6.2 A significant proportion of the land is held on seasonal licence or informal permission. Not all land is held in contiguous parcels: often commoners will occupy land in two or more separate parcels, some miles apart (see also Figures 6.3 and 6.4).

[MUCH MORE INFO NEEDED HERE].

6.1.3 Limitations of Commoners Information

The data regarding commoners in the New Forest, provided by the two most recent surveys, is useful in its provision of factual information concerning the nature and extent of commoning. However, little information is provided on the perceptions of commoners with regard to the institutions which currently govern the use and management of common land.

[SURVEY NEEDED OF WHAT COMMONERS THINK OF CURRENT MANAGEMENT INSTITUTIONS?? QUESTIONNAIRE OR STRUCTURED INTERVIEW OF SAMPLE? SUSPECT MORE OBTAINED FROM INTERVIEWS BECAUSE COMMONERS DON'T LIKE FORM-FILLING.]

6.2 RECREATIONAL USERS

Information regarding recreational users of the New Forest common lands must be extracted from information regarding visitors to the New Forest District. To date, no surveys have been conducted which have tried to establish the numbers of users of common land alone, nor of their characteristics.

In 1991, a major survey of tourism activity in the New Forest was commissioned by the New Forest District Council, the Southern Tourist Board and New Forest Tourism and conducted by Ecotec Research Consulting Ltd. The objective of the study was "to determine the number of and characteristics of visitors to the New Forest". A broad definition of Visitor' was adopted for the purposes of the study: including both those visitors who were *staying* in the New Forest District (as defined by the District Council boundary- see Figure 6.5) and day visitors. For day visitors, a distinction was drawn between
- 'local recreational users' (those people living within the New Forest District boundary, using the Heritage Area as a recreational resource); and
- 'other day visitors' (who were on a day trip from their home or from accommodation located outside of the New Forest District Area).

The study involved a range of fieldwork, including:- face-to-face interviews; self-complete card-surveys; and analysis of primary and secondary source data regarding, such as overnight occupancy rates. The study applied both the findings of the fieldwork and secondary source data to generate estimates of the scale and impact of visitor activity.

6.2.1 Number of Recreational Users

The results were published by Ecotec in 1992. The survey suggests that some 7.1 million days are spent in the New Forest District annually by visitors and local recreational users. These days are accounted for:-
- overnight stay visitors in serviced accommodation - 0.5 million days;
- overnight stay visitors in self-serviced accommodation - 2.25 million days;
- day visitors - 2.2 million days;
- local recreational users - 2.2 million days. (Figure 6.6)

The survey suggests that 81% of all visitors spend some time on the Open Forest during their stay: 10% spending a whole day; 28%, half a day; and 42%, less than half a day.

The accommodation type for overnight visitors to the Forest is shown in Figure 6.7. Camping

and caravaning sites, which are mainly open from March to October, provide 80% of the bedspaces in the New Forest. It is estimated that the Forestry Commission managed Crown sites account for (OBTAIN GUESSTIMATE?) . . . per cent of the total camping and caravaning bed spaces.

6.2.2 Expenditure of Visitors

Visitor expenditure to the New Forest District is significant (Figure 6.8). In all, it is estimated that visitors to the New Forest and local recreational users spend £66 million annually in the local economy. However, whilst overnight visitors account for only 39 per cent of the 7.1 million day visits to the Forest, their spending (£47 million) accounts for 71 per cent of the total spend.

There is, not surprisingly, a clear seasonal element to overnight stays in the New Forest: much of the accommodation stock is only open on a seasonal basis. Occupancy rates are generally highest between May and September. The the majority of 'core users' of the Forest, who visit the New Forest on a regular basis throughout the year, are local recreational users.

The survey suggests that the majority of all visitors to the New Forest District are adults. The fieldwork indicated that higher proportions of local recreational users were retired compared with other user groups. (CHECK - More significant than local census data?). The vast majority of all visitors are in the socioeconomic categories A, B, Cl and C2. Only a very small proportion of visitors are from overseas.

Visitors to the New Forest participate in a range of activities during their stay/visit. The main focus, however, is on countryside pursuits. Some 56 per cent of all visitors said that they were walking/rambling during their visit; 19 per cent were picnicing; and 3 per cent were participating in horseriding. These figures tend to confirm the figures of 81 per cent of all visitors spending some time on the Open Forest.

6.2.3 Limitations of Recreational User Information

The Tourism study provides some useful information to this research in that it provides detailed information concerning the total number of visitors to the Forest; the expenditure of those visitors and the activities which they participate in during their stay. It is particularly useful in its provision of information concerning the ratio of overnight visitors to day visitors and in its confirmation of the large percentage of bedspaces in the New Forest which are provided by campsites.

However, there are several features of the survey which are worthy of attention for the purposes

District area, which is slightly more extensive than the land within the Heritage Area Boundary. Second, is important to note that the survey does not concentrate its enquiry on the use of common land in the New Forest: information is sought on all types of activities enjoyed within the New Forest District, but concentrates on eliciting information on the number of visitor to:-
(i) Tourist Information Centres;
(ii) Major Visitor attractions (including large enterprises, such as the National Motor Museum at Beaulieu or smaller enterprises, such as Calshot Craft Centre);
(iii) Car parks in the New Forest District.
Only one question, in the face to face survey of visitors, seeks information concerning use of the Open Forest. It questions "About how long are you spending in the open forest itself?". Data is sought in three groups of responses:- all day; half a day; less than half a day; and, no time at all. The results of the responses are broken down into day visitors, overnight visitors and local recreational users. The results are illustrated in Figure 6.8. Other than the amount of time spent on the commons ('Open Forest'), it is difficult to elicit information from the survey results concerning, for example, the activities pursued during that time, or the attitudes of visitors to the Open Forest.

Third, whilst information is provided on visitors, this tends to concentrate on factual information which will build up a 'visitor profile'. The categories of information which are used in order to do so are:-
(i) the visitor's area of origin;
(ii) mode of travel;
(iii) length of stay;
(iv) type of accommodation;
(v) first time/repeat visit;
(vi) seasonality of visits;
(vii) work status;
(viii) occupation;
(ix) size of group; and
(x) age composition of group.

Only one question posed to visitors attempts to provide information concerning the visitor's experience of, attitude to or behaviour in the New Forest: Question B5 (for overnight stay visitors only) questions "How important were the following features of the New Forest in your decision to stay here?". Visitors were not asked to rank the features, but to measure the importance of each under the Likert-type categories of "Important"; "Not very important"; and "Unsure". As a consequence, it is difficult to measure the relative importance of each specified feature. The eight features identified in the survey are:-
"The Forest itself; Plant and animal life; The towns/villages; Visitor attractions; Local history; Proximity to coasts/beaches; Lots of things to do; A good base for touring." Results are shown

in Figure 6.9. Since this question was posed only to overnight visitors, the results tend to reflect the choice of the New Forest as a holiday destination, rather than provide information concerning the value of the Open Forest to visitors. Clearly this is appropriate for the requirements of the survey, which was to provide information for the planning of tourism in the New Forest District. In fulfilling this requirement, however, it does not necessarily provide the type of information required for this type of research.

A second extensive visitor survey is planned for the Summer of 1994. The "All Parks Survey" is a national survey of all national parks in England and Wales. In 1991 the National Parks Review Panel concluded that there was "a dearth of reliable, comparative and up-to-date information about the number and characteristics of visitors to the National Parks in England and Wales" (Countryside Commission, 1994). The Panel recommended that information should be acquired through systematic surveys. The National Park Authorities, together with the Broads Authority and the New Forest Committee (see Chapter Seven) and a range of national countryside, tourism and economic development agencies, responded by agreeing to support and fund a visitor survey which will be carried out in all twelve Parks in 1994, including the New Forest Heritage Area.

Results of the All Parks Survey will not be available until 1995. However, inspection of the final draft of the survey brief allows forecasting of the *type* of data which will be collected and analysed.

The survey is designed to sample a cross-section of visitors to the New Forest. Contact with visitors will be made by two main survey methods: a partial roadside cordon survey; and site surveys at ten locations within each Park. In the New Forest, it has been agreed that the locations used for the Ecotec Tourism survey will be used for the All Parks Survey, allowing comparison and cross-analysis of data (Climpson, pers. com., 1994). Additional information will be provided by desk-based surveys of public transport provision and private coaches. Both roadside and site surveys will involve face-to-face interviews and self-completion questionnaires.

The information obtained will be used for policy-making and management decision-making purposes and will provide a baseline for future monitoring. Clearly specified objectives have been established for the national survey:-

"The main objectives of the survey will be to obtain comparable information for all the Parks which will include:-

* estimates of the total number of *visit* to the Parks and the number of visits by key sub-groups (e.g. holiday and day trip visitors);
* origin of visitors;
* socio-demographic characteristics of visitors;

* the nature of recreational visits to the Parks, including activities undertaken;
* the distribution of different types of visitors and activities across the Parks;
* visitors' views about key services and facilities; and
* estimates of visitor expenditure in the National Parks." (CoCo, 1994).

With respect to these objectives, it is possible to anticipate the type of additional information that the All Parks Survey conducted in the New Forest will provide, over and above that provided by the Ecotec Tourism Survey. In addition, the draft survey questionnaires for both self-completion and face-to-face interviews have been inspected and are attached in Appendix ....).

In general, the All Parks Survey concentrates more on use of the Open Forest and enclosed lands and less on general tourists attractions than the Tourism Survey. The face-to-face visitor questionnaire of the All Parks Survey comprises forty six questions in total. "Holiday Visitors" are asked to respond to Questions 1 to 23 and questions 41 to 46 (29 questions in total); "Day Trip Visitors" are asked to respond to Question 1, and Questions 24 to 46 (23 questions in total). Visitors on business, at a conference, conducting domestic or personal business or in the New Forest for some other reason are recorded, but not interviewed.

Questions 2 to 23, which are designed specifically for holiday visitors, seek information concerning the origin of visitors; location in which they are staying; length of stay; mode of travel; areas visited; type of accommodation; frequency of visits to the New Forest; use of maps and sources information; and "type" of holiday undertaken in the New Forest by choosing one of eleven descriptive statements).

Questions 24 to 40, which are designed specifically for day trip visitors to the New Forest, seek information regarding the visitors' location of residence; mode of travel to the Forest; length of visit; areas visited (stated areas and villages); time spent in each location; frequency of visits to the Forest; use of maps and sources of information; and the "main purpose" of the visitor's trip (by choosing one of fourteen descriptive statements).

Questions 41 to 46, which are designed for both holiday visitors and day trip visitors, generally requests information regarding the people travelling in the interviewee's group, in terms of age, gender , the relationship of members of the group, etc. The only odd question in this section is Question 42, which questions whether they interviewee is, or has ever been, a member of the National Trust. This might be explained by the presence of the National Trust on the All Parks Survey Steering Group.

The self-completion questionnaire poses twelve questions in all, concerning:-
Question 1 - the type of visitor (day, overnight, business, etc.);
Question 2 - knowledge of actually being in the New Forest;

Question 3 - the reason for choosing the New Forest for a visit;
Question 4 - use of woodlands and , in particular, Forestry Commission/Enterprise woodlands;
Question 5 - the facilities and services used (such as picnic sites/information centres;
Question 8 - activities participated in during the visit;
Question 9 - the location of places visited whilst in the New Forest (sixteen specified areas/villages);
Question 10 - the use of Forestry Commission gravelled car parks.

In addition, the survey elicits information, through Question 6, on the importance of certain features of the New Forest. Similar to the Ecotec Survey, it asks for Likert-type responses in grades of "Very important"; "Important"; and "Not important". However, this Survey covers a broader range of features which are related to the common land than the Ecotec survey and in this respect should provide some interesting information regarding the values people place on particular features of the New Forest.

Question 7, 11 and 12 elicit responses which will provide information on the type and quality of management of recreational areas in the New Forest. Question 7 requests a simple "yes" or "no" in response to the question "Did any of the following things spoil your enjoyment?". A total of twelve characteristics are listed:
- "Traffic congestion/delays on roads outside the Forest;
- Traffic congestion/delays on roads in the Forest;
- Damage and erosion of footpaths;
- Litter; Too many people;
- Public facilities (e.g. toilets) dirty/inadequate;
- Not enough sign posts;
- Too touristy/commercial;
- Not enough to see and do;
- Too expensive;
- Noisy recreational activities;
- Bus/train cancelled or delayed." (CoCo, 1994).

Question 11 elicits Likert-type responses of "Important/Very important/Not important" to the question "How important do you think it is that the New Forest is managed: (a) to protect landscape; (b) to protect wildlife; (c) to provide public access and recreation; (d) as a "working forest"?" Similar to the Tourism Survey, respondents are requested to respond to each objective of management and not required to prioritise management objectives. It is possible therefore, for respondents to state that management for all listed objectives is "Very Important". Finally, Questions 12 requires a simple "yes/no" response to the question "Do you think that there should be more facilities for public access and recreation in the New Forest?".

Unfortunately, because the Survey is not specific to the New Forest, but has been designed as a

national survey of National Parks, there are few questions on the self-completion questionnaire which elicit information specific to the New Forest and the way it is managed. For example, on the self-completion questionnaire, Question 6 refers to the importance of features on the "Park", but does not refer to any features which are a particular characteristic of the New Forest, such as the roaming animals or Open Forest. Similarly, none the three questions which elicit information regarding the visitors' perceptions of management of the New Forest (Questions 7,11 and 12, referred to above) make any special reference to features of management which are specific to the New Forest. An amendment has been suggested for Question 3, "Why did you choose to visit this area today/on your holiday, rather than anywhere else?", to include as one possible response, "To come and see the ponies". This is a small attempt on the part of the New Forest Committee to elicit information specific to the New Forest and its commons.

6.3 THE REQUIREMENT OF FURTHER INFORMATION

Analysis of the information provided by the two recent surveys of commoners suggested that further information might be obtained, regarding the attitudes of commoners to the institutions governing the use and management of common land in the New Forest. In addition, it was considered that the information provided by the Tourism Survey and the information which might be provided by the All Parks Survey would prove insufficient data for the analysis of recreational users of the common lands of the New Forest for the purposes of this research.

Accordingly, two further surveys were conducted to elicit further information from:
(i) commoners in the New Forest; and
(ii) recreational user of common lands in the New Forest.

6.3.1 Survey of Commoners

[NEEDED? WHAT TYPE?]

6.3.2 Recreational Users Survey

A visitor survey was conducted to elicit information specifically concerning:
(i) the values recreational users place on specific features of those lands; and
(ii) visitors' awareness of the institutions which govern the ownership, use and management of common lands in the New Forest.

The information will be used to test the correlation between the extent of visitors' awareness of the common lands and the value which they place on particular features of the common lands. The survey was not designed to provide detailed information about all types of visitors, nor all periods of the year, nor the use of particular locations within the New Forest. It was been designed instead to provide a small insight into the awareness of visitors of the ownership, use and management of common land and to test the hypothesis that the value recreational users place on the common land is not affected by their perceptions of use and management of the land.

6.3.2.1 Survey Method

The survey was designed to sample a cross-section of visitors to the common lands. Contact with visitors was made by three main survey methods :-

* a site survey at the New Forest Visitor Centre and Tourist Information Centre, Lyndhurst:
* a site survey of at 3 locations on New Forest common land: and
* a survey of participants of a 'New Forest Experience[5] visit.

The two site surveys were carried out at each location on two separate occasions. There were two shifts on each day and each shift was two hours long. Two interviewers were used at each location. Face-to-face interviews were used in each survey. Interviews were conducted on a *next-to-pass* basis in order to maximise the number of interviews obtained during each shift. A minimum of 20 interviews were attempted per interviewer, per two hour shift. A total sample of 320 users were interviewed on the site surveys.

The questionnaires contain Likert-type cognitive and attitude statements related to both issues specific to the use and management of the New Forest common lands. In addition, the questionnares contained questions designed to elicit situational information about the respondent's own use of the common land. Copies of the questionnaires used in the site surveys are attached in Appendix .... The questionnaires were tested in a pilot survey in .... 1994.

Self-completion questionnaires were handed to all participants in the 'New Forest Experience' . A copy of the questionnaire is attached in Appendix .... A total of questionnaires were distributed on occasions. The questionnaire, which is similar to those used in the two site surveys, was developed specifically to test the increase in awareness of the use and management of common land obtained by attending the 'New Forest Experience'. Information was also sought on the extent to which the newly acquired awareness affected recreational users' perceptions regarding the value of special features of the New Forest common lands.

The data from all three surveys was analysed using a combination of standard statistical techniques and neural networks to identify relationships between the two different data sets of

"awareness" variables and "value" variables. Standard statistical analysis (such as cluster analysis) will not necessarily reveal the complex relationships between the two sets of variables (in particular, it may be inadequate in identifying multi-variate relationships). Therefore, neural networks was employed to provide contrasting and, possibly more informative analysis of results.

Results

Table 6.1 Practising Commoners - the New Forest

To be drawn

NEW FOREST HERITAGE AREA

Figure 1

~~FIGURE 2~~ HISTORICAL DISTRIBUTION OF UNENCLOSED LAND AND LAND WITH GRAZING RIGHTS

Unenclosed Heathland and Wood Pasture (1790).

Land with Rights to graze the Forest and/or adjacent Commons.

Proposed Heritage Area boundary

SCALE 1 2 3 4 5 Km

N

Take redrawn.

RINGWOOD

FORDINGBRIDGE

ROMSEY

TOTTON

NETLEY

HYTHE

FAWLEY

BLACKFIELD

BRANSGORE

CHRISTCHURCH

LYMINGTON

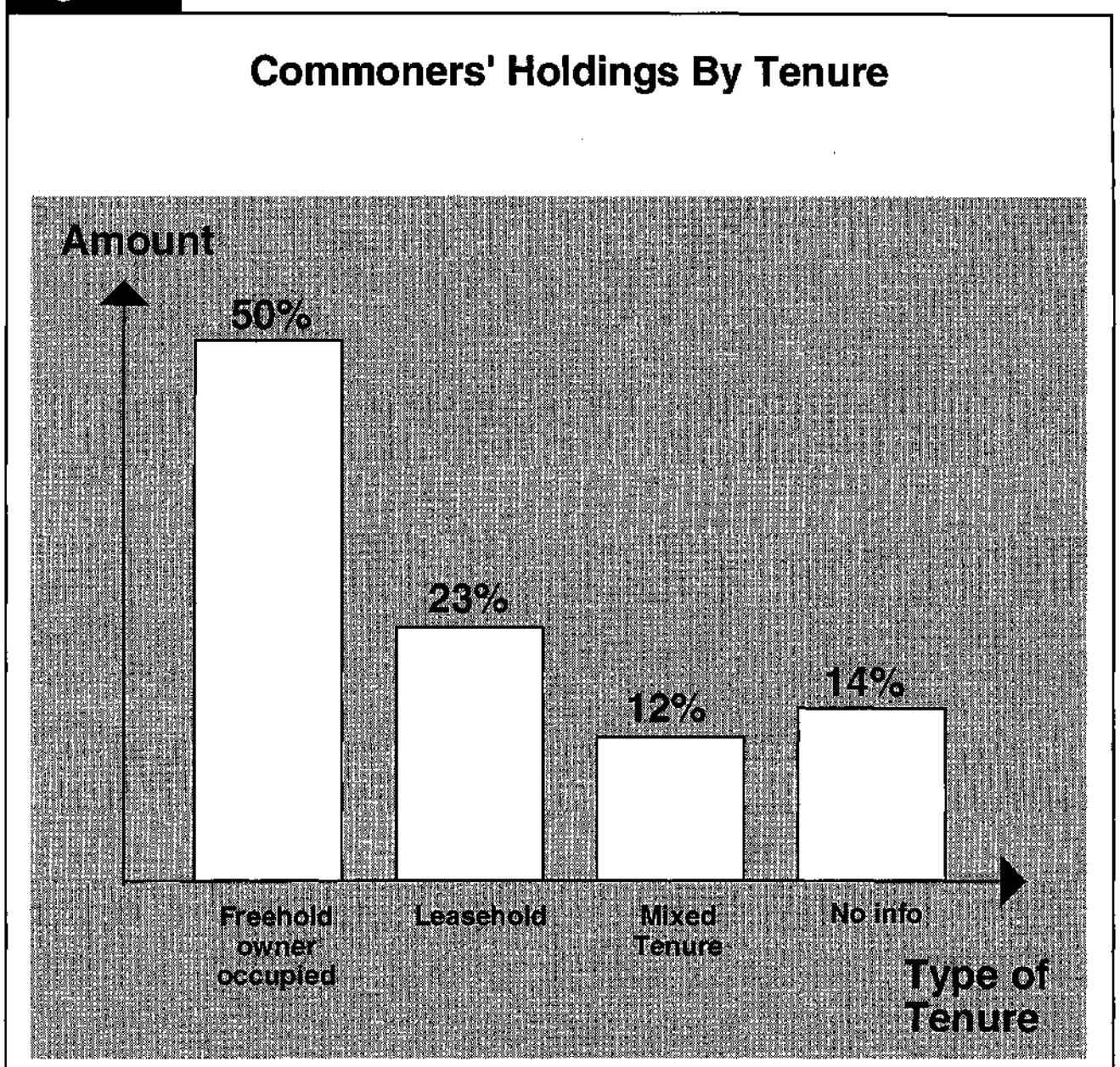
NEW MILTON

LAND USE CONSULTANTS
JUNE 1991

Figure 6.1 Distribution of Properties with Common Rights - the New Forest

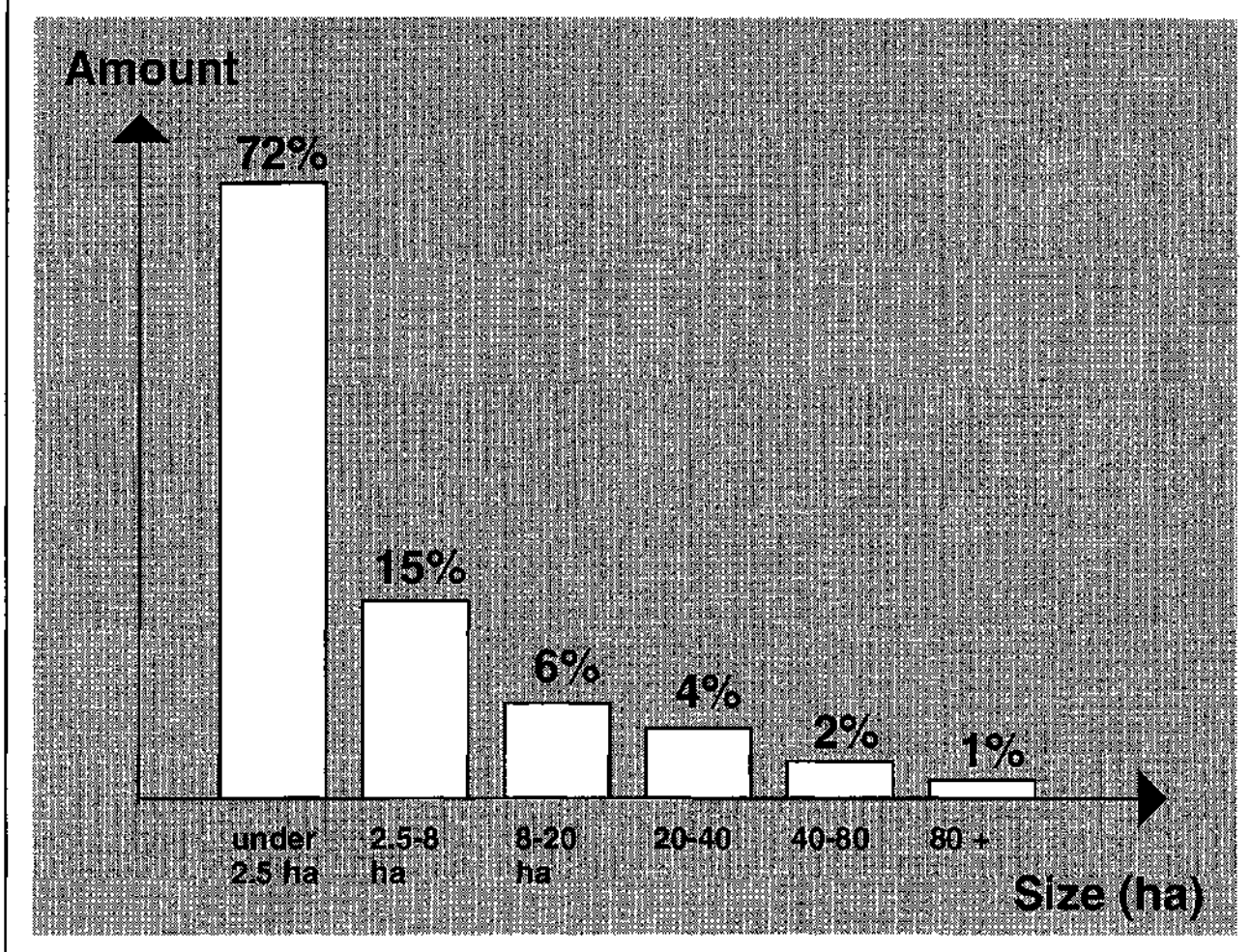
To be drawn

Figure 6 6.2



Source:

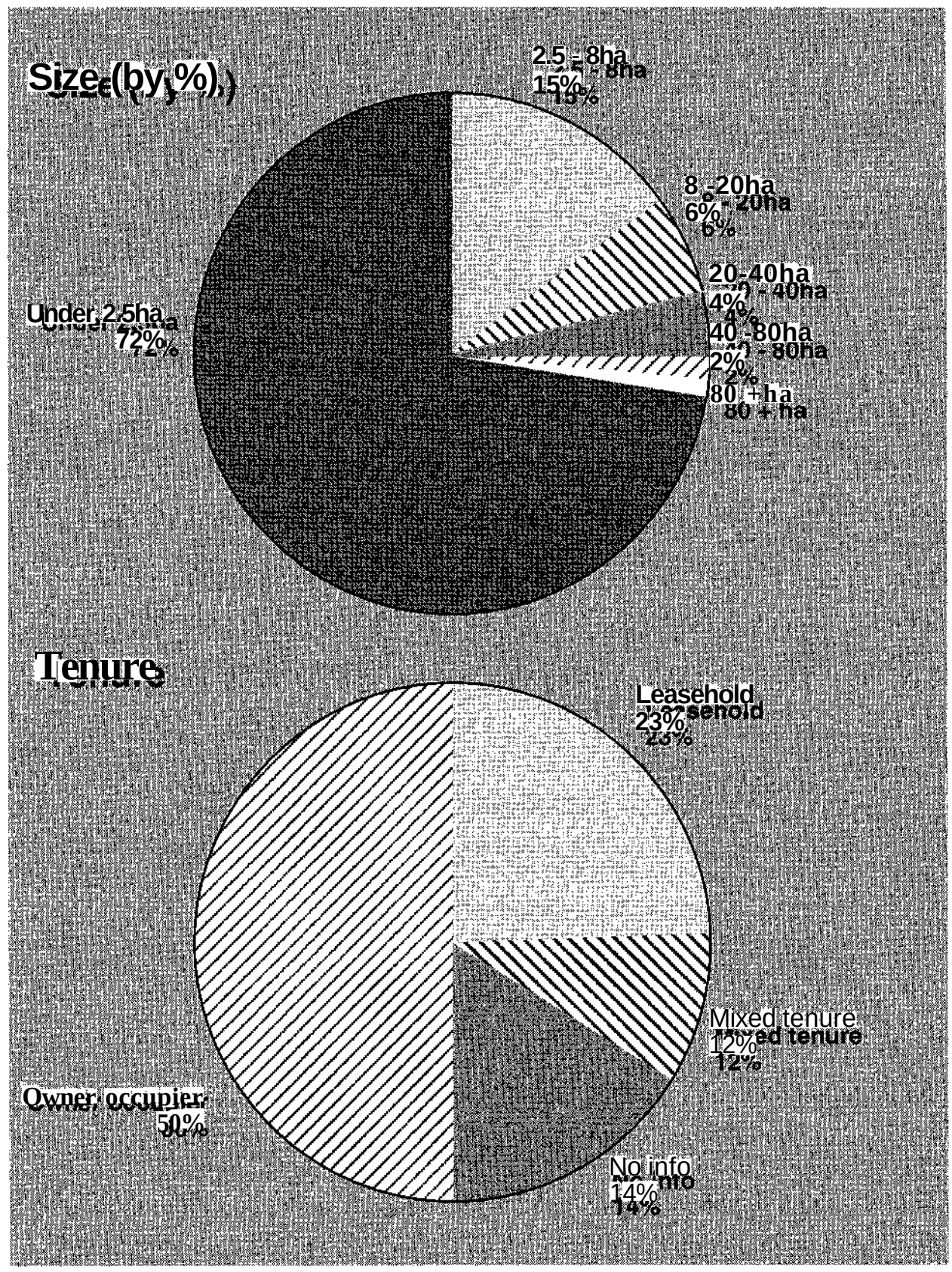
Figure 6 6.3



Source:

Figure 6 6.4

Commoners' Holdings, by Size and Tenure



Source: Kitt?

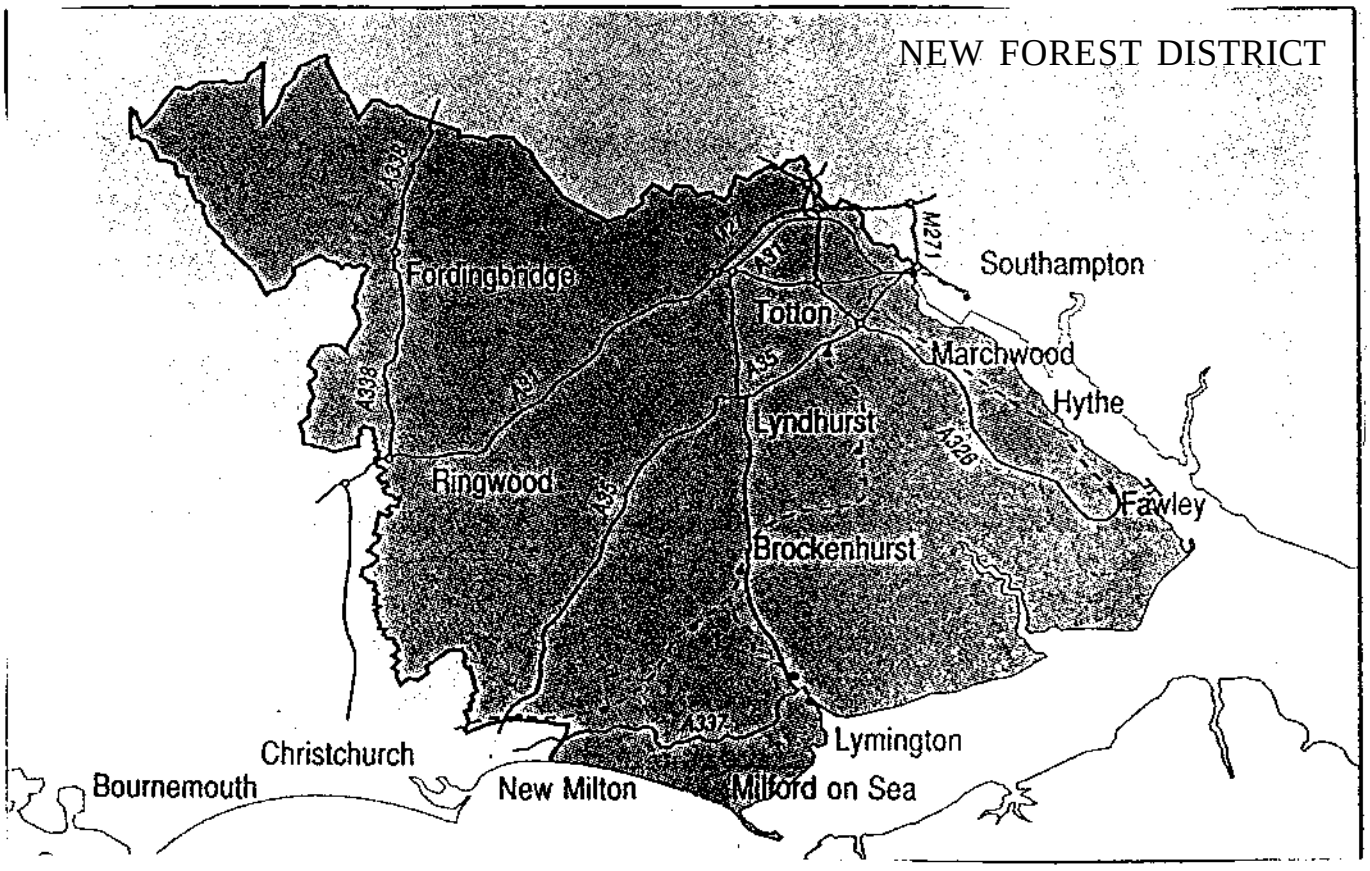


Figure 6.5 New Forest *District* (Extent of Tourism Survey, 1992)

To be drawn

Figure 6.6 Breakdown of Visitor Numbers - the New Forest 1992

To be drawn

Figure 6.7 Breakdown of Overnight Accommodation - the New Forest 1992:

To be drawn

CHAPTER SEVEN:
ANALYSIS OF THE NEW FOREST
- Institutional Arrangements

7.0 INTRODUCTION

7.1 THE OPERATIONAL LEVEL - The Commoners

The New Forest has a long history of collective action with respect to the organisation of common rights and rules governing the exercise of those rights. According to the framework developed in Chapter Four, operational rules might be separated into four categories :-

7.1.1 Boundary Rules

Boundary rules limit the number of individuals entitled to extract resource units from the common. In the New Forest, such rules comprise registers of commoners, as described in Chapter Five. However, whilst the register of common rights establishes areas of land with common rights attached, it does not specify the number of people occupying that land who might exercise common rights. Thus, an entire family may turn animals out onto the common: each individual family member turning out his or her own animals. In addition, the register lists properties with common rights, but not all occupiers of those properties will subsequently exercise rights. In the New Forest, it is believed that areas of land in the neighbouring cities of Bournemouth (east of the Forest) and Southampton (west of the Forest), which have historically held common rights, may continue to do so today, despite the fact that high-rise apartment blocks have now been built on those areas of land. Consequently, occupiers of the apartment blocks may well be able to claim common rights to the New Forest.

The result of the widely defined boundary rules of the New Forest is a lack of precise information concerning individuals who hold common rights. The inability to clearly define individual holders of common rights results in a greater emphasis being placed on identifying those individuals who exercise common rights on a regular basis. Thus the collective term 'commoners' more readily identifies practising commoners rather than those with a legal right to practice commoning.

For those who wish to exercise their common rights, there are clearly defined boundary rules. All animals depastured in the Forest are subject to the byelaws made by the Court of Verderers and an annual payment is made to the Court in respect of each animal.[46] On receipt of this "marking fee", the Agister clips the animal's tail. Four different patterns of clipping indicate the district in which the owner of the animal lives and not the district in which the animal is running (Figure 7.1). Each of the four districts of the Forest has its own full-time Agister. In addition, there is a Head Agister and four voluntary Agisters, who assist in the Agister's work. One of the numerous bylaws covering the exercise of the right of pasture also requires that stock are branded with the owner's initials or other mark. A complete register of brands is kept by the Court of Verderers: some 700 (CHECK) brands are registered currently (Pasmore, 1969:11).

7.1.2 Allocation Rules

The lack of clear definition of the number of commoners capable of exercising common rights means that allocation rules, which prescribe the procedure for limiting the amount of use units individuals can withdraw from the common, must remain flexible and able to adapt to changing demands on the common. This is achieved by the presence of a governing body at the organisational level, which continuously alters the exact specification of operational rules in order to suit changing circumstances (see section 6.2). For example, while the type of animals which may graze the common are clearly specified in the commoners' rights, the time that they are allowed to remain on the common may vary according to physical condition of the common and the animals.

In most years, the animals may remain on the common all year. Since the Deer Removal Act of 1877, the removal of animals from the common for Winter Heyning and the Fence Month has not applied. As acknowledgement, the Verderers pay the Crown the sum of £1 in return for the right for the commoners to keep their stock out throughout the year. The further rule of Levancy and Couchancy (see Chapter Two), which operated on most English commons at one time and required that a commoner should depasture no more stock than his/her holding could support during the winter, has also been superseded by statutory powers.

However, animals must be taken off the common at the Agister's direction: for example, if it is found to be unfit or under nourished. The owner's brand makes identification of a particular animal's owner possible. Thus, the marking fees are not payment for turning out the commoner's stock, but is a payment to the Court of Verderers for the services of the Agisters

[46] 1994 fees:- £16 per head for ponies and donkeys, subjec to £3 discount for early payment; £16 per head for cattle, reduced to a net payment of £4 per head after allowing for a cattle premium subsidy (see on), provided that the commoner complies with the conditions and byelaws.

and as a contribution towards the costs of administration.[47] Agisters play an important role in guarding and managing the commoners' stock whilst it is out on the common. As such, payment of marking fees represent a good measure of the extent to which some commoners may be "free-riding." Figure 7.2 compares the number of marking fees collected over the last.... years with the number of animals turned out (OBTAIN FIGS IF AVAILABLE).

Rights of pannage are governed by an allocation rule set down in the New Forest Act 1964, which allows the season to be set annually by the Forestry Commission after consultation with the Verderers. The season was originally fixed by Forest Law from 25th September to 22nd November each year. In 1964 more than 70 animals died with over 100 dying in 1968 because the fixed nature of the season was inappropriate for the year's fall of acorns and mast, leaving many unconsumed at the end of the season. The season now varies from year to year for a suitable term of not less than sixty days. The start of Pannage season is announced in the Verderers' Court.

As with other animals, a payment must be made for pigs turned out and each pig must carry a Verderers ear tag and be properly ringed. Forest dues are still collected by the Crown in respect of pannage: currently £1 per pig. Pasmore (1969:12) comments "In order to comply with this strange survival, a keeper might drive to a remote corner of the Forest; solemnly witness the marking of one old sow with two small piglets; receive eight pence into the pocket of his uniform; and return in his Land-Rover having consume three times the fee in petrol!"

7.1.3 Input Rules

Input rules specify the amount of labour and other resources which each commoner must contribute to the management of the common. Input by commoners in the New Forest is made both formally and informally. Formal input is contributed through the payment of marking fees, which cover the costs of management of the commoners' animals. Maintenance of the actual Forest land is undertaken by the Forestry Commission as agents to the owner, the Crown (see section 6.2). The commoners do not contribute to the cost of this maintenance, which is funded through public revenue from central government.

Informal contribution to the operation of the commons and the organisation of grazing animals are made by practising commoners. In particular, commoners participate collectively in "drifts". These are the means by which commoners' animals are rounded up from the common for identification, sale, or removal to their owners' holdings. Drifts are organised under the supervision of Forest Agisters. They were originally required by Forest Law in order to identify and remove animals which had no right to be turned out onto the common, or belonged

[47] A nominal payment known as "Forest Dues" used to be collected by the Crown as payment for the commoniong rights. These are now only colected where the sum invovled is substantial enough to warrant the adminstration of the dues (Pasmore, 1969:11).

to persons with no common rights and to ascertain whether the numbers of animals turned out exceeded the limits prescribed by Forest Law. Drifts are still carried out under the authority of an Act of Henry VIII, although this has been amended and confirmed by subsequent legislation (Pasmore, 1969).

The drifts are used today to capture animals for marking. Pasmore (1969) comments that the high attendance of commoners at drifts may be attributable to the opportunity they provide for individual commoners wishing to catch foals. The Illingworth Report, however, recognises the social importance that drifts may hold amongst commoners, acting as a pillar which sustains the practice of commoning (Illingworth, 1991:60). The drifts commence in the middle of the summer (when the foals are old enough to gallop with the mares) and continue into the Autumn, when "colt-hunting" begins in time for the Beaulieu Road sales. The Agister usually arranges a meeting place and area to be drifted about a week in advance of the drift. Local commoners are notified and attend on horseback, on foot or in cars. The meeting place is normally one of the static pounds of the Forest (there are 17 in all CHECK): post and rail enclosures measuring about 30 feet by 15 feet, which are placed in areas where the animals may be more easily driven in from grazing areas. Many pounds contain a "crush" where a sick animal may be held separately which medicine is administered. The Agister plans the direction from which animals are to be approached; how riders are to be distributed and at what speed the drift is to be conducted. The number of riders involved is usually between six and a dozen (Pasmore, 1969:25) and extensive knowledge of the terrain by the riders is vital if a substantial amount of the animals are to be captured. As many as three runs might be made in one day, depending upon the amount of animals caught. Hearsay suggest that around 25% of the poniesescape being caught in the drifts. (CHECK SUCCESS OF CURRENT DRIFTS).

Colt hunting is the method employed by commoners when they wish to catch an individual pony or mare or foal. There are usually around four riders. Since most ponies remain in the same district for most of their lives and most keep to the same 'run' in that district, it is easier for the commoners to locate the selected pony. The pony id then rounded up by the riders. Occasionally a "ring rope" is employed: the commoners' version of a lasso.

With the exception of the holders of turbary rights, the commoners have no right to touch the soil of the Forest or carry out any maintenance works within the Forest: the Forestry Commission alone hold the right to touch the soil of the Forest and any timber which grows upon it. Under section 13 of the 1949 Act, the Forestry Commission has the duty of securing the regeneration of the unenclosed woodlands which form part of the Open Forest (the 'Ancient and Ornamental' woodlands). Working plans must be approved by the Verderers, no enclosure must exceed 20 acres in size and any enclosures made to secure regeneration must be thrown open when oput of danger from damage by stock. Section 10 of the 1964 Act provides for the Verderers to authorize the Commission to enclose areas of a similar size for the creation of new

'ornamental' woodlands (ANY DONE??).

7.1.4 Penalty Rules

Penalty rules specify the penalties for breach of common rules. In the New Forest these are specified by byelaws and enforced by the Court of Verderers (DETAIL - NOT ENFORCED FOR OVER 10 YEARS).

In addition, peer pressure form commoners helps not only in the effective enforcement of common rules but also in prevention of breach of rules. For example, the Commoners Defence Association publishes reminders of the welfare standards of ponies approved in 1980. In its annual report of 1991, it published four photographs of the four different grades of welfare of ponies (varying from a well-nourished Grade I pony to an under nourished Grade IV, with skeleton visible), reminding its members of the point at which under-nourished ponies must be removed from the common.

7.2 THE OPERATIONAL LEVEL - Forestry

7.3 THE OPERATIONAL LEVEL - Amenity Use

7.4 THE COLLECTIVE ACTION LEVEL

7.4.1 The Court of Verderers

7.4.1.1. Structure

Management of the commoners' rights is vested in the 'Court of Verderers', which was formally re-established for the purpose in 1877, and reconstituted in 1949. The Court of Verderers is the last remnant of the old form of Forest government covered by Forest Law. Whilst the terms of reference of the Verderers have been greatly modified since Forest Law, its authority is based on a mixture of ancient and modern statutory powers. In this respect, it appears to have truly "evolved" over time to suit the contemporary demands of the Forest and its users.

When the Court was reconstituted in 1877, it was for the purpose administration of common rights, rather than as for historic function of preserving the Crown's interests. The Court currently comprises ten Verderers:-
- the "Official Verderer" appointed by the Crown.

- Four Verderers appointed by :
    1. the Ministry of Agriculture, Fisheries and Food;
    2. the Forestry Commission;
    3. the Countryside Commission; and
    4. Hampshire County Council;

- Five Verderers five elected by secret ballot by the Commoners, to serve for a period of 6 years. To be eligible for election, candidates must own at least one acre of land (0.4 hectares) with common rights attached to it.[48]

Officers appointed by the Court include:
- The Clerk to the Verderers
- The Steward of the Court
- The Senior Agister
- Three Agisters
- Five commoners who act a part-time, voluntary Agisters (WHY? WHAT INCENTIVE?)

The five elected Verderers are chosen from commoners whose names appear in the Forest's own electoral register. Elections take place every three years, with two Verderers being elected at one

[48] Section 1 of the New Forest Act 1949. Prior to 1949 the property qualification for election to the Verderers' Court was 75 acres with rights of common. The 1949 Act widened the number of potential candidates by reducing the qualifying occupation to one acre of land to which common of pasture is attached. (WHY? - see CoCo, 1984:3)

time and three at the next. The office of Verderers is unpaid, with only a small expense allowance made. (WHY do they do it? incentives? what sort of people?)

7.4.1.2. Functions

The powers and duties of the Verderers are laid down in the six New Forest Acts passed between 1877 and 1970. The Court meets at the Verderers' Hall, a court room located in Queen's House, the principal building owned by the Crown in the New Forest. The building has been altered many times since its original construction in around 1297, but remains an appropriate setting for this ancient Court. Meetings are currently held at 10.00 a.m. on the third Monday of alternate months.(CHECK - DOES THIS DISSUADE PEOPLE FROM STANDING FOR ELECTION??) After the public session is completed, the Court continues in private for the remainder of the day, to (DO WHAT?). On Court days, the Agisters dress in green livery, with black leather gaiters and gold buttons bearing the Crown and a Stirrup symbol of the New Forest. The Senior Agister acts as the Crier to open the Court, standing in the old oak dock:-

"Oyez, Oyez, Oyez. All manner of persons who have any presentment to make or matter or thing to do at this Court of Verderers, let them come forward and they shall be heard. God save the Queen." It is a spectacle worthy of tourist interest, although not publicised as such, but the Court often attracts several local people who have no business with the Court, other than to enjoy partaking in an ancient tradition.

The "presentment" refers to occasions upon which Forest officers would present offences before the former Court of Attachment. Today, it refers to any Forestry Commission officer (usually the Deputy Surveyor), local authority representative, commoner, or other person wishing to make a statement or complaint in public on matters affecting the Forest. Although this is often claimed as a right, Pasmore (1969:16) reports that there is no foundation for this and that Verderers are only legally obliged to receive presentments from Forest officers and various other officials prescribed in recent statutes.

The Court normally opens business by recording the number of animals killed and injured on the roads of the New Forest since the last sitting. This is followed by an announcement of any decisions on presentments made to the last Court. In fact, such decisions will have been notified to the persons concerned soon after the last Court and may have been published in the local press. However, public announcement of the decisions affords an opportunity for further, related presentments to be made. New presentments are made before any other business concludes the session.

In the past, presentments were made from the floor of the Court and placed a demand on the presenter of merely speaking clearly and loudly. Today, presentments are made from the dock and it has become custom to provide written or typed copies of each presentment; one for the

Court's Clerk for inclusion in the minutes and for review by the Verderers in the closed Court session, and one for the local press. It is probably not surprising, therefore, that few presentments are now made by individuals in their own right; the majority being made by representatives of the numerous interest groups. Presentments might involve a whole range of proposals and complaints relating to anything affecting the Open Forest and Inclosures. Presentments made by the Deputy Surveyor, may seek agreement under section 6 of the 1964 Act to develop campsites in the Forest. Those from the County Surveyor may seek agreement under the 1949 Act for land to be taken for a road construction. (CHECK). Presentments from commoners, usually made on their behalf by the Commoners Defence Association Chairman, may include requests for grazing management works to be carried out in specifically identified areas of the Forest (Most often, the contentious clearing of open ditches, but also weed control, fence and gate repairs, etc.), or may include complaints about the behaviour of other commoners violating the operational rules of commoning laid down by the Verderers own byelaws. Decisions on most presentments will be delayed until after the next Court, in order to allow the further presentments to be made by commoners and other interested parties concerning the proposals.

Apart from the presence of the Verderers, Agisters, and Clerk, typically the Court attracts around 40-50 members of the public, depending on the time of the year. No records have been kept of public attendance, but Pasmore, writing in 1976, comments that the public seating in the Court is usually full, but that "as recently as the early 1960s, it was common for the only members of the public in attendance on Court days to be the secretary and chairman of the Commoners' Defence Association, and perhaps two or three others with some special reason for attending (Pasmore, 1979:256). Certainly the Court remains full at most sittings and various interviewed sources report that it has done so since the 1970s (CHECK????).

The Court has two specific functions today. The first is as administrator matters concerning the commoners. The second is as a judicial body with powers to try offences against its own byelaws made under the six New Forest Acts of 1877 to 1970 (listed in Appendix ..) and the Forestry Commission's byelaws made under the Forestry Act 1967 (and others?). The judicial function is carried out by a judicial committee of the Court of Verderers, referred to as the Court of Swainmote. Section 8 of the New Forest Act 1949 provides the constitution for the Court of Swainmote. The Court of Swainmote is made up of the Official Verderer and four members of the Verderer's Court, three of which must be from members elected by commoners. The proceedings of the Court of Swainmote must, in accordance with the Regulations of the Verderers relating to the Court (as provided for in s.24 of the New Forest Act 1877), be in accordance with the proceedings of a magistrate's court.

The Court's administrative function includes the formulation of the many byelaws which govern the exercise of common rights in the New Forest. These are, essentially, the "collective action"

rules of Ostrom (1990), Oakerson (1992) and others, referred to in Chapter Four. The judicial side of the Court is then responsible for the enforcement of such laws. It is interesting to note the structure of this judicial court, which is heavily weighted toward commoners (at least three of the five members), indicates the extent to which the commoners are involved in the adjudication of breaches of common land byelaws. The Court of Swainmote last met in 1979. Various reasons have been given for its abandonment in 1979, including a lack of demand for its services, confusion over its jurisdiction and a series of challenges: "These include, reputedly, the appearance of a goat dressed to resemble the Official Verderer and an allegation that the prosecuting solicitor had given advice to the defence in the same case" (The Independent, 12/11/93:29). There have been calls to open the Court of Swainmote once more. In particular, commoners believe that continual offenders of the commoner's operational rules of practice on the common should be prosecuted (Tim Moore, Con Panel, 12/5/94). Swainmote Verderer Anthony Pasmore comments, "There are people who make fools out of the Verderers' rulings over their animals: they would not be able to do that if they were dealt with by the Swainmote and could be fined." Since the Court sits under the rules of proceedings covering magistrates courts in England, all Verderers sitting on the Court of Swainmote would have to be under 60 years in age. Five Swainmote Verderers were appointed by the Lord Chancellor in 1993 (CHECK) and local byelaws have been amended to make the Court's jurisdiction clearer (inc. NEW LEVELS OF FINES??).

7.4.1.3 The Verderers Byelaws

Section 25 of the New Forest Act 1877 provides for the Verderers, at any Court of Swainmote where not less than five of the Verderers are present, to make, alter, add or repeal byelaws. According to the 1877 Act, byelaws can be made for four purposes:

(i) the prevention and spread of contagious or infectious disease in the Forest;
(ii) the conditions under which bulls or stallions may be allowed onto the Forest;
(iii) the removal of animals not belonging to commoners from the Forest;
(iv) the imposition of fines on persons breaking the byelaws.

By 1949, the Verderers had learned from their previous seventy or so years of managing stock on the Forest and had ensured that the scope for creating byelaws was sufficiently wide to cover other eventualities. Section 9 of the New Forest Act 1949 extended the purposes for which byelaws can be made to include:

(a) general measures for maintaining the health of animals;
(b) fixing the number and type of animals depastured by specifying a limit;
(c) specifying that non-commoners' animals (i.e. those on a Verderers' licence) are subject to the same marking and control rules;
(d) varying the payments under schedule 2 of the 1877 Act for marking and pannage.
(e) removal of animals because of their behaviour;
(f) provisions for securing the ringing of pigs.

The 1949 Act also included, in Section 9(5), the condition that the making, alteration or repeal of byelaws must now be confirmed by order of the Minister of Agriculture in order to have effect (CHECK PURPOSE?? MORE GOVT. CONTROL??).

Violation of Verderers byelaws can result in a fine, not exceeding ten pounds. The maximum limit of two pounds set by the 1877 Act, was repealed by Section 12 of the 1964 Act to increase the limit to ten pounds. (DETAIL HERE ON LACK OF ENFORCEMENT).

The byelaws make particular reference to the health and welfare of the commonable animals. (MUCH MORE HERE)

In addition to directly managing the commoners' animals, the Court of Verderers makes decisions over the management of the common itself where proposals may affect exercise of the commoners' rights. Proposals for new roads; telephone and electricity lines; car parks, camping sites, playing fields and other recreational facilities; exchanges of common land for land which will then become subject to common rights; timber inclosures; and many other matters are considered by the Verderers. The need to be familiar with the New Forest Acts (ten major Acts of Parliament and some ... Acts in all) and the bylaws and various customs stemming from the traditional Forest Law, coupled with the need to have an intimate of the Forest itself, renders the task of the Verderer quite complex. In addition, the commoners expect the Verderers to be familiar with the practical, everyday problems of the Forest, first hand. Pasmore (1969:17) comments "In the commoners' eyes a Verderer should ride regularly in the Forest in order hat he may comprehend the fundamental problems of forest farming. Someone who has fallen through a broken bridge or become bogged in a badly maintained track feels much more strongly about such matters than his office-bound colleagues."

7.4.1.4 Verderers Income

The majority of the Verderers' income comprises marking fees, paid wither directly by the commoners or by English Heritage as part of the Pony and Cattle Premium Schemes (see on). Figure 7.3 presents a breakdown of the Verderers' income for 1990 (UPDATE). In addition to marking fees, income is received from the Forestry Commission as compensation (for example, in respect of land enclosed under the 1949 Act for timber growing) and government grant. (ANNUAL ACCOUNTS)

Since its re-instatement, the Verderers' Court has been financially fairly fragile. In 1973 the Court's existence was seriously challenged when, after spending a great deal of money on grazing improvements and extra staff, the Verderers received temporary financial support fro the Countryside Commission. The Forestry Commission did not have the statutory authority to support the Court and in its search for a more secure source of income, the Verderers approached the County Council. Discussions concerning financial support lead to the

preparation of a new Parliamentary Bill, which would: consolidate the New Forest's unique legislation; provide financial support for the Verderers out of the County rates bill (local land tax); and reconstitute the Verderers Court. The reconstituted Court would contain twelve Verderers in all:-

- four Verderers elected by commoners (a reduction of one on present constitution);
- three County Council Verderers (an addition of two on present constitution);
- one Verderer appointed by the Rural District Council (an addition of one on present constitution);
- one Verderer appointed by the Minister of Agriculture (a reduction of one on present constitution);
- one Verderer appointed by the Secretary of State for the Department of the Environment (equivalent to today's Countryside Commission appointee);
- the Official Verderer; and
- one Verderer appointed by all other members of the Court (an addition of one on present constitution).

In essence, the proposals would reconstitute the Court to include two additional Verderers in total, but would change the structure of the Court to include of two additional County Council members, one additional District Council member and one other member to be appointed amongst the Verderers, by reducing the commoners' elected Verderers by one and the Minister of Agriculture's appointees to one. The effect would have been to ensure that a majority of eight to four against elected representatives of the commoners could be achieved. In addition to the increased representation of the local authorities on the Court, the County Council would also have had financial control over the Court, which one would expect to influence the decisions made by its appointees concerning spending in the Forest.

The proposed Bill invited fierce opposition from interest groups within the Forest. People were very suspicious of the motives of the County Council, preferring to trust the Forestry Commission management which, although they has often opposed in the past, represented a lesser threat in terms of development of the Forest. Whereas the Forestry Commission may have had its sights on developing the Forest for recreational use, its brief was unlikely to become any more sophisticated. The same was not felt about the County Council: "the Forest had learned to live with the Crown, and was terrified of the intrusion of this new and more powerful interloper." (Pasmore, 1977).

At the same time as publishing the Bill, the County Council applied for planning permission to construct a bypass for the town of Lyndhurst. The proposed route was considered to be potentially very damaging to the Forest and the proposal was used by the Bill's opponents to support their claim that increased local authority representation on the Court would ensure passing of the bypass plans. Many interest groups came out against the Bill and the commoners

lobbied their elected Verderers to prevent the Bill proceeding. In May 1973, the Commoners Defence Association called a special public meeting and passed a resolution to reject the Bill with its proposed constitution. At the same time, the commoners offered to accept a voluntary surcharge on their marking fees in order to allow the Verderers the time to seek financial support elsewhere. As a result, the Verderers Court passed a resolution that unless Hampshire County Council would accept the maintenance of the Court's existing constitution, the Verderers would withdraw from further negotiations. The Council subsequently withdrew its New Forest Bill 1973. Eventually, the Forestry Commission agreed to support the Verderers Court (CHECK DETAILS- HAS IT DESTROYED COURT'S INDEPENDENCE??)

7.4.1.5 Court of Swainmote

Under Section 8 of the New Forest Act 1949, the Court of Swainmote comprises the Official Verderer and four other Verderers appointed by the Lord Chancellor, of whom three must be elected Verderers.

(INCREASING SUPPORT FROM CURRENT VERDERERS AND COMMONERS TO REINSTATE IT AND IMPOSE FINES FOR VIOLATION OF VERDEREERS BYELAWS - DEBATE CURRENTLY TAKING PLACE)

The powers of the Verderers to consider offences against their own byelaws were extended in 1927 to cover the Forestry Commission's byelaws also. For a time, (DATES??), the judicial committee of the Verderers (the Court of Swainmote) considered numerous Commission prosecutions. From the late 1970s, however, the Court was confined to hearing offences against its own byelaws. (WHY NOW NOT AT ALL??)

7.4.2 Forestry Commission Management of the Forest

The Forestry Commission, in consultation with the Verderers, has the statutory duty to manage the common land on behalf of the Crown and has managed the Forest since 1924. The Deputy Surveyor administers the Forest, with the assistance of (CHECK):

- two District Officers (controlling the Statutory Inclosures);
- an Estate Officer, for land agency;
- an Executive Officer and clerical staff for the administrative staff.

Some 200 forest workers are employed for the silvicultural work and 17 Keepers. The New Forest Keepers are responsible for deer control; supervision of controlled burning of the open Forest; supervision of the New Forest Bye-Laws; and control of campers and other visitors. Most of the Keepers are sworn in as Special Constable of the Police Force (CHECK **WHY).**

The Forestry Commission, as agents to the owner of the Forest, are responsible for the granting of wayleaves and easements for pipelines, access paths and tracks to private residences, car parks and recreation grounds, golf courses, etc. In most cases, such permissions are not granted without consultation with the Verderers (CHECK - CAN'T BE GRANTED W/O

PERMISSION??).

The Commission has the responsibility of taking the commoners' interest into account. This might include the maintenance of culverts, bridges, ditches and drainage and weed control to keep the common land "sufficiently clear of coarse herbage, scrub and self-sown trees" (section 11, 1949 Act). The Commission also holds responsibility for the conservation of the Ancient and Ornamental woodlands and has agreed a "Minute of Intent" (CHECK) with English Nature which recognises the New Forest as a National Nature Reserve and Site of Special Interest. The Forestry Commission are also responsible for managing campsites in the New Forest, which, together with vehicular access, have been strictly controlled since 1971.

Any proposed operations are discussed by the Open Forest Advisory Committee. Three separate working groups report to this Committee, each responsible for a different aspect of common maintenance:-
- Ancient and Ornamental woodlands;
- Open Forest drainage; and
- the management and control of gorse, bracken, scrub, etc.

Each working group is made up of experienced representative of the Forestry Commission, the Verderers, English Heritage, the commoners, the MAFF and other individuals (WHO??).

The annual cost of work carried out by the Forestry Commission on the Open Forest is in the region of £220,000 (which includes administrative expenses) (Illingworth 1991:70). Of this, over £120,000 is incurred on the cutting, burning and swiping of vegetation; £30,000 on maintaining access; £20,000 on the removal of poisonous ragwort; over £10,000 on the removal of seedling pine; and £10,000 on bracken control. Maintenance of the Inclosure fences and gates costs the Forestry Commission a further £90,000 per annum. An annual contribution of £10,000 is made towards the Verderers' administration expenses.

THE NET COST TO THE FC FOR MANAGING THE FOREST IS £1.3M (SUBSIDISED BY TREASURY - CHECK)

7.4.2.1 Forestry Commission Byelaws

The Forestry Commission Byelaws are intended for the regulation of the reasonable use of the Forest by the public and for securing the preservation of its timber, flora and fauna. (DETAIL OF CURRENT BYELAWS HERE). Violation of Forestry Commission byelaws can result in a fine, not exceeding ten pounds. The maximum limit of five pounds set by section 2(4) of the Forestry Act 1927, was repealed by section 13 of the New Forest 1964 Act to increase the limit to ten pounds. Offences against the Forestry Commission byelaws are heard in the magistrates court (WHERE?). The Forestry Commission estimates that it prosecutes around (CHECK) cases a year.

7.4.3 Wildlife Management of the Commons

In an agreement signed in 1959, the Forestry Commission formally recognised the important nature reserve status of the New Forest and arrangements were made for safegaurding areas of special importance (Tubbs, 1968: 97). English Nature (formerly the Nature Conservancy Council) provides advice on any management activities which might affect the ecology and wildlife of the Forest. It conducts research on the Forest to meet the needs of this advisory capacity. The whole of the New Forest was designated a Site of Special Scientific Interest in (WHEN & SO WHAT?). English Nature are consulted over matters such as heather burning, drainage proposals and the management of unenclosed woodlands. (MORE DETAIL HERE - ESPECIALLY ITS SHAKEY RELATIONSHIP WITH THE FORESTRY COMMISSION AND INABILITY TO COOPERATE WITH EACH OTHER).

7.4.4 The New Forest Committee

(INFO HERE ON ESTAB OF THE COMMITTEE & WHY).

7.4.5 The New Forest Consultative Panel

The New Forest Consultative Panel was formed in 1970 as a response to the controversy prevailing at that time concerning the Forestry Commission's felling of hardwoods in the Forest. At the time, several interest groups expressed a desire to see the old Advisory Committee re-established. It had, after all, been successful in settling a similar dispute forty years earlier. Establishment of the New Forest Consultative Panel which was initially opposed by the Forestry Commission, was eventually strongly supported. The Panel's aim was "to serve as a sounding board for local public opinion on the factors which need to be taken into account in their *(FC* management of the Forest" (Pasmore, 1977:248)(CHECK terms of ref?).

The Panel has around 40 members (CHECK), the majority of which are parish council representatives from Forest parishes, the rest of its members are made up from various local interest groups and local branches of national interest groups. A full list of the membership of the Panel is contained in Appendix ?? At its establishment, various interest groups, such as the New Forest Association, Council for the Protection of Rural England (local branch) and Hampshire Field Club, refused to appoint representatives, claiming that the purpose of the Forestry Commission in establishing the Panel was to divide and weaken their influence over the management of the Forest. All such groups eventually recognised the need to be represented if the Panel were to go ahead. In 1977, Pasmore (1977:246) referred to it as " a vast unwieldy panel representing a miscellaneous collection of local authorities, amenity societies and others" and predicted that it would be allowed to "fade away". The Panel, which has been sitting for almost twenty five years now seems unlikely to fade away in the immediate future. Interest groups are still be added to the Panel, the most recent being the local branch of the 'Friends of

the Earth', which has been represented on the Panel since....??? It is questionable, however whether, with its large membership, the Panel is capable of contributing sound debate to the issue of Forest management to, indeed, whether its views will ever be taken into account by the Forest managers, the Forestry Commission. However, as separate interest groups are at last becoming aware of the impact on the Forest of so many different groups with so many different demands, it seems that they are showing increasing willingness to use the Panel as forum to *debate* the management of the Forest amongst themselves, rather than merely a vehicle for declaring their own group's views. Forestry Commission recreation and amenity lands manager, Roger Brake, commented on a recent Panel meeting in which he declared the Forestry Commission's proposals to install electric hook-ups in one of the open forest campsites(12 May 1994), "That its the first time I have heard the members of the Panel actually *debate* an issue." (Brake, pers. com., 16/5/94). The Court of Verderers, which at first was opposed to its formation, is not represented on the Panel. To some extent, the Panel duplicates the role of the Verderers' Court sessions, by providing a public forum in which management of the Forest is discussed. Nevertheless, the Panel does seem to provide a forum in which the interests of the commoners do not dominate the discussion so obviously and might, therefore, be argued as a valuable opportunity in which other interested parties can make their views about the Forest's management known. The commoners, represented by the Commoners' Defence Association, are more likely to continue to use the Verderers' Court as their main forum, using representation on the Panel only as a means of defending any rights and reputation which are brought into discussion at the Panel by other interest groups. (CHECK TIM MOORE'S OPINION ON THIS?).

The Panel, like the Court of Verderers, spends alot of its time discussing issues concerning recreational use and development of the Forest. However, unlike the Court, the Panel's recommendations have no executive effect, and are merely reported back to the Forestry Commission as a summary of the views expressed by members. (CHECK WHAT FC DO WITH VIEWS?? ANYTHING??). In contrast, the Court of Verderers' holds an absolute power of veto over proposals to develop the Forest for recreational use, including those put forward by the Forestry Commission, managers of the Forest. For example, a recent controversy has involved the Forestry Commission's proposal to install electric hook-up points in some of its campsites. By virtue of section 6 of the New Forest Act 1964, the Forestry Commission must apply for the Verderers' agreement to such a development before it might take place. (DETAIL HERE & DATES). The same is not true for recreational development which takes place within the statutory inclosures managed by the Forestry Commission. (REPTILLORY CASE HERE).

7.5 THE CONSTITUTIONAL LEVEL - ALL USERS

RESEARCHED - TO BE WRITTEN UP

7.5 THE EXTERNAL MANAGEMENT ENVIRONMENT

TO BE WRITTEN UP

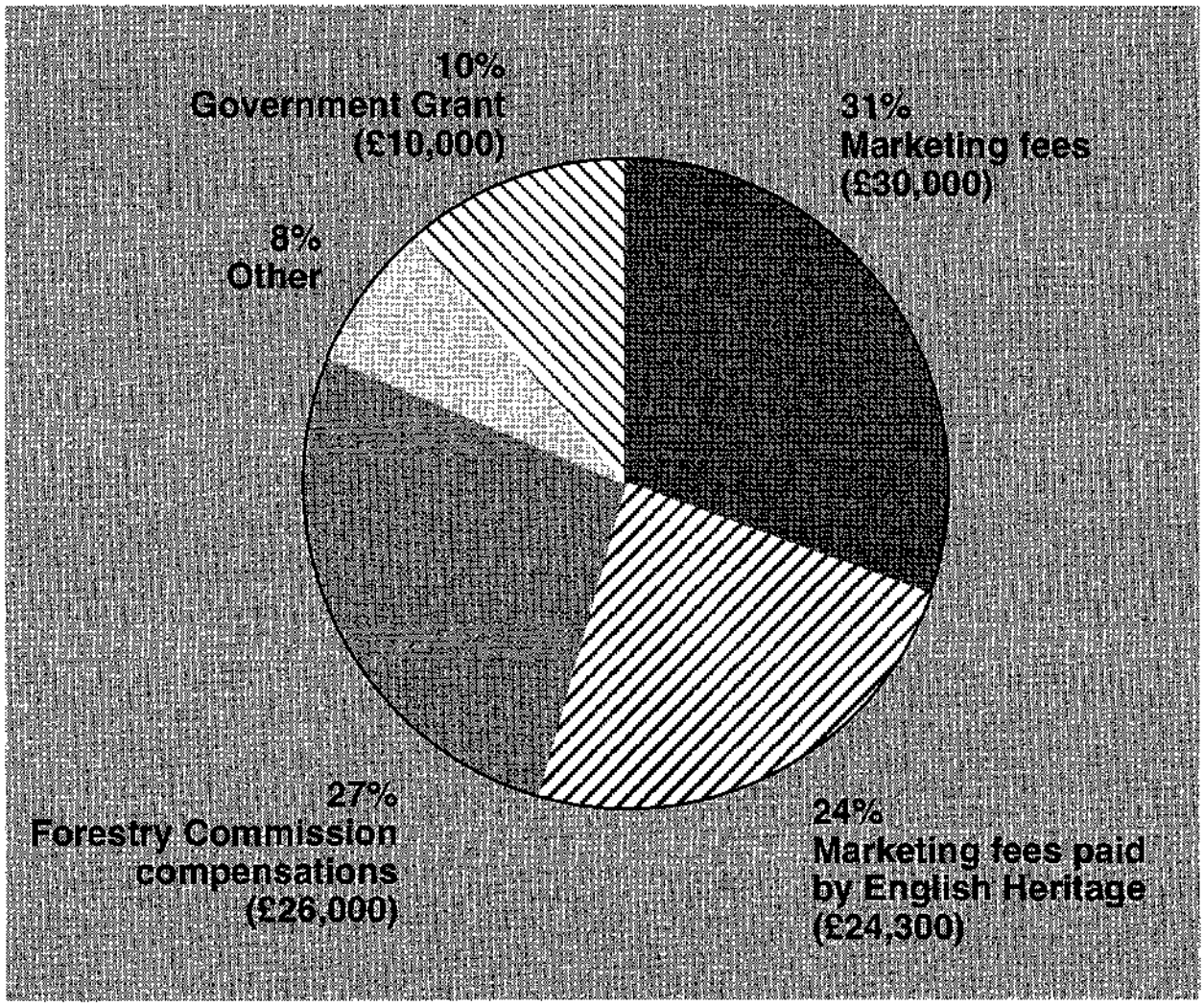
Figure 7.1 New Forest Common Land - Agisters' Districts To be drawn

Figure 7.2 New Forest Common Land - Payment of Marking Fees

To be drawn

Figure 7.1 - 7.3

Verderers' Income Sources 1990



Source:

CHAPTER EIGHT:
SYNTHESIS: THREATS TO & PROBLEMS IN THE NEW FOREST

ANALYSIS TO BE COMPLETED AND WRITTEN UP

SOME IDEAS ALREADY:-

Old Threats

- Forest Laws (harsh hunting laws, etc.)
- Timber Inclosures - loss of grazing.
- Change to conifer plantations: even if opened up later, not much ground flora for grazing.

Contemporary Threat

- Economics of commoning - very little financial gain from commoning.
- Lack of land for back-up grazing/holding of stock
- Public pressures on grazing land, erosion, etc.
- Need for Forestry Commission to derive income in this Govt's 'market economy' = increasing pressure to upgrade and extend campsites/ charge for parking/ etc.
- Houses bought by incomers with no interest in commoning - commoners move to cheaper housing outside the Forest.
- traffic pressure- push for road upgrading, etc.
- animal road accidents (around 400 per annum, c.250 fatal)
- female commoners carry out a lot of day to day caring of stock: less time now with increased working women.
- pollution from nearby industry (cite case of Cadmium poisoning)
- increased interest in welfare of stock from non-commoners: I As for commoning not working? (lots of reports in 1993/94 winter of very poor stock *still* on the Forest).
- Nature conservation/management of land conflicts

HOW DOES EACH PROBLEM RELATE TO THE IAs?

CAN IMPROVEMENTS TO THE IAs BE MADE?

CHAPTER NINE:
DEVELOPMENT OF THE ANALYTICAL FRAMEWORK

- The model
- The need for flexibility
- The importance of the physical and social characteristics of the common
- The evolution and development of institutions
- The ability of institutions to adapt
- Address hypotheses

CHAPTER TEN:

CONCLUSIONS - The Management of Common Land in England

- The Potential and Limitations of Self-governing Organisations
- Effective Partnerships
- Where does this go for NF? Commons? Modelling??

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