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TENURE AND SUSTAINABLE USE

Based on presentations at the following Workshops:

Influence of Tenure and Access Rights on the Sustainability of Natural Resource Uses
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and

Tenure and Sustainable Use
Organised by the Centre for Development and the Environment, University of Oslo, Norway, (11-14 October, 1998) in collaboration with the Sustainable Use Initiative

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Foreword

Throughout 1995-96 several regional Sustainable Use Specialist Groups, using a standard analytical framework, undertook analyses of different resource use systems for the purpose of identifying factors that influenced the sustainability of resource use. These analyses identified 'tenure' has a common factor across regions in promoting increased sustainability of uses of wild renewable resources.

Nevertheless, it is said that the "devil is in the detail," and in this instance, while there was agreement that tenure was significant in promoting sustainability, the analyses also highlighted the variability in how tenure is understood and interpreted. For example, in different parts of the world different cultural groups within the same region (e.g., migratory pastoralists versus farmers) regard tenure differently. In some parts of the world 'tenure' refers exclusively to ownership of land, which may or may not include ownership of the resources on, or under, the surface of the land. In other parts of the world 'tenure' refers to rights of access to selected resources, such as fishing rights. In other regions the concept is linked to indigenous peoples' rights. In some regions the concept is highly controversial in the context of local political institutions, while in others, it is an integral part of national law and policies.

Given the high degree of variability surrounding the use and understanding of the word 'tenure', while recognizing its relative importance in promoting sustainability, IUCN's Sustainable Use Initiative adopted tenure as a priority in 1998. In doing so, we had two objectives: first, to add to the scholarship and understanding of the concept of tenure; and second, to communicate that scholarship to policy makers and decision makers in national, regional, and global fora.

In addressing these objectives, two events were planned around the tenure theme. First a workshop entitled *Influence of Tenure and Access Rights on the Sustainability of Natural Resource Uses* was organized at the 10th Global Biodiversity Forum (1-3 May, 1998) immediately prior to the 4th meeting of the Conference of the Parties to the Convention on Biological Diversity in Bratislava, Slovakia. At this workshop, regionally oriented overviews were presented for Africa, Asia, Europe, Latin America, and Pacific Islands. Subsequently, overviews were prepared for the North American and Arctic regions. These make upthe first half of this volume and provide further insights into our evolving understanding of tenure.

The report conveying the conclusions of the CBD workshop notes that: *"replacement of customary tenure systems with government management regimes has operated largely to the detriment of conservation of biological diversity*." It further notes that, based on the analyses of the regional overviews, *"...where well-defined tenure and access rights have been devolved to the local level (i.e., land-holders and communities that live with, know or use the resources), sustainability of resource use has been significantly enhanced."*

Specific policy-oriented recommendations of note that were transmitted to the Parties to the Convention on Biological Diversity urged them to:

a. consider tenure and access rights for incorporation into its thematic work plans;
b. explore collaborative mechanisms with other relevant international instruments to institutionalise and further strengthen tenure and access rights;
c. undertake studies, in collaboration with community and/or land-owner organisations, on the full spectrum of tenurial regimes to identify appropriate systems for application; and
d. review existing policies, legislation, and incentive schemes with a view to promoting appropriate tenurial systems.

Later in the year a second workshop, entitled *Tenure and Sustainable Use,* was organized by the Centre for Development and the Environment at the University of Oslo, in collaboration with the IUCN Sustainable Use Initiative. The intent of this workshop was to examine the concept of tenure from a number of thematic perspectives, such as property regimes,

tenure in forestry, tenure in fishing, market effects, and tenure and human rights. The papers presented at this workshop compose the second half of this volume and provide a montage of excellent case studies that augment and amplify the regional perspectives presented in the first workshop.

Key conclusions of the second workshop were:

a. tenure, *per se*, does not necessarily have a positive influence on sustainability. Rather, tenure can provide an incentive, which, in turn, can be used to promote sustainability and accountability of the users;
b. policies related to tenure at the local, national, or global levels will not operate in a vacuum. They should be compatible between levels and with other policy instruments at each level;
c. successful tenurial policies will support the diversity of cultures by promoting process rather than specific outcomes. Such processes should respect the need for multifunctional approaches that derive from needs and requirements defined at the local level; and
d. because the majority of the world's nations have ratified and are implementing the Convention on Biological Diversity it can serve as a medium to achieve common understanding of concepts, such as tenure.

Looking back on the process, organizing the two workshops where each took a different approach to the analysis of tenure has added substantially to the body of scholarship on tenure. This was possible because of the contributions and insights of some of the leading thinkers and researchers in this area as documented in the papers published in this volume. Of equal importance were the contributions of those who planned and organized the workshops: Peter Hislaire, Shafqat Hussain, and Hank Jenkins at the GBF in Bratislava, and Arne Kalland and Sabjorn Forberg at the Centre for Development and the Environment at the University of Oslo. To these and all the other people who have made this volume possible I want to extend our gratitude. Thank you. It is my sincerest hope that the approach taken, along with the quality of this publication, will serve as a model and quality standard for pursuing further aspects of sustainable use – thus conveying the highest compliment to those who made this volume possible.

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Introduction and Welcome

Peter Hislaire

First of all, may I extend to all of you, on behalf of the co-organisers of this workshop — ZERO, the Regional Environment Organisation, and the IUCN Sustainable Use Specialist Groups — a warm welcome. It is the wish of the organisers that we should, over the next three days, discuss and debate the relationship between tenure over renewable natural resources and the sustainability of the uses of these resources. In so doing, however, the co-organisers are asking us an additional question: Does this issue belong on the agenda of the Conference of the Parties to the Convention on Biological Diversity? If so, what arguments would we, the participants in the Global Biodiversity Forum, use to convince the Parties that tenure, because of its relationship to sustainability, should be a priority for attention, in the context of the CBD process, in the coming years.

I should start by saying a few words about the Sustainable Use Initiative. This IUCN initiative is based upon a recognition by the IUCN membership that the uses of wild living renewable natural resources should be sustainable — lest they disappear — and that management of uses should be accountable to both present and future generations.

The SUI recognises that non-sustainable use is prevalent and that destruction of species and ecosystems is proceeding at an alarming rate. It recognises that this trend is due to a complex web of inter-acting factors, but singles out the agricultural needs of growing human populations as the most significant amongst these.

The SUI's approach to developing an understanding of the factors determining the sustainability of uses is inter-disciplinary and decentralised. Through regional Sustainable Use Specialist Groups, the SUI provides an institutional and conceptual framework within which our knowledge of the social and biological factors that affect sustainability can be appreciated.

The SUI network, many members of which are present here, is well linked to conservation action in all parts of the world. Its thinking has been largely conditioned by the experience gained in working with rural communities, supporting initiatives to strengthen their capacity to husband resources available to them. This experience has led to the identification of three core operational concepts — decentralisation, devolution, and delegation — for both the functioning of the network and for the promotion of sustainable use.

Decentralisation

Recognising that uses of renewable natural resources are, to a large extent, driven by the satisfaction of basic human needs — food, shelter, health — either through direct consumption or through the marketing of products, the network is organised into 15 regional groupings. This reflects the understanding that the manner in which resources are used and managed is conditioned by local circumstances. Techniques, or approaches, for enhancing the sustainability of use need to be developed in such a way that they are adapted to the biological, ecological, managerial, and technological context surrounding the resource.

Devolution

Devolution reflects a belief that the custodians of a resource, if directly dependant upon the resource, or set of resources,

for their livelihood, will manage the resource in such a manner that it will continue to thrive. The formal responsibility for resource management should therefore be devolved to the custodians of the resource.

DELEGATION

The SUI, while it has a global Steering Committee, is not attempting to define a core 'sustainability' concept that could be globally applicable. Each regional grouping has its own agenda, its own constituency, its own 'models'.

The two statements just made, on decentralisation and devolution, are rather sweeping. They by no means represent a consensus, either within the conservation or sustainable development constituencies, nor within the national or sub-national political authorities with whom we work.

While the debate is still ongoing, there is one element around which a consensus seems to have emerged: there is no definition for 'sustainability' that can be standardised for global application.

This implies that the SUI is not looking for prescriptions. It is rather a process, or a loose institutional context, within which diverse experiences can co-exist, knowledge can be shared, and understanding developed. Principles can then emerge, such as the key roles that adaptive management, adequate monitoring, and involvement of people living with the resource play in the context of sustainable use.

Why then organise a workshop on tenure and sustainability at the Global Biodiversity Forum?

The fact that this workshop has been organised at all reflects two assumptions that, although they may be stating the obvious, merit being stated explicitly at the outset as they form the crux of why we are here together.

The first is that tenure — the way in which people hold, or do not hold, individually or collectively, exclusive rights to land and all or a part of the resources above or below its surface — is one of the principal factors determining the evolution of the landscape, the way in which resources are managed and used, and the manner in which the fruits of such use are distributed.

The second assumption is that the CBD, enshrining as it does, and for the first time, the international community's 'concern' for the maintenance of biological diversity — life on earth — should, in the light of the first assumption, devote its attention specifically to defining international norms for tenure that will enhance, rather than counter, biodiversity conservation.

Both these assumptions, self-evident as they may appear to us, are open to questioning.

Tenure does not operate in a vacuum. The word 'tenure', which will be used repeatedly throughout this workshop, dissimulates a myriad of differences in meaning, emphasis, and interpretation when applied to a given social, economic, political, and ecological setting. It is inextricably bound with related concepts, such as property, access, usufruct, tenancy, and public and private domains, definitions of which are themselves conditioned by the social, economic, political, ecological, and spiritual environment within which tenure operates. Is there a hierarchy of causality amongst these factors? Can tenure be singled out for specific attention without the benefit of a specific context within which to measure its portent?

The second assumption — that the CBD process will grapple with tenure insofar as a lack of security of access to resources is detrimental to conservation of biodiversity — is equally tenuous. The Convention contains no language thatcan be construed as indicating a willingness of the parties to go any further in defining exclusive rights beyond the language of Article 3, which vests in States, and only States, the 'right to exploit their own resources'. The concept of tenure, subsuming both rights and obligations, and attached to space, whether land, territory, or resources within a given area, implies the potential for exclusion of others. This is a state of affairs the world's landless know well, but which the world's powerful are less likely to countenance.

Our challenge over the next few days is to articulate arguments, relative both to the nature and importance of the relationship between tenure and sustainable uses of natural resources, and to the relevance of this relationship to the CBD, which can mark a useful and, hopefully, significant step in the process of building a world where human life can be accommodated with adequate access to food, shelter, health, and the pursuit of happiness.

I came to conservation from an academic background in history, and by way of an early career in humanitarian assistance and development co-operation. Before the term 'sustainable development' came into the language, we were speaking of local solutions, durable solutions.

Inherent in these notions was the idea that human development was an incremental process, that it needed to be self-driven, and that improvements in the quality of life of the poor and the marginalised needed to be built, first and foremost,

on knowledge, wherewithal, and technologies that could be mastered by these communities.

Such notions though quickly came up against the realities of power politics, global and local, and it was difficult to find angles which could be used to enhance local initiative without at the same time putting communities in jeopardy. Between the mid-1970s and mid-1980s, particularly in Latin America and Africa, many rural communities paid a high price for engaging in self-promotion activities.

Enormous changes have taken place since the mid-1980s. I shall not review the myriad of events and shifts in perception that account for these changes. One capital change, or innovation, that I will mention, however, has been the emerging understanding that the future depends upon our ability to husband a finite set of natural resources, renewable or not.

This new understanding has given the management of natural resources a universal dimension thattranscends local or national interests. The preamble to the CBD certainly reflects this. Added to this is the track record of conservation and sustainable development projects that have mushroomed in the past decade and a half. This track record, while uneven, does seem to indicate that when natural resources are managed by users dependant upon the resource for their livelihood, such resources will tend to be husbanded with care, and with a view to maintaining long-term productivity.

From this new situation has thus emerged, it seems to me, a powerful new argument for securing, for the disenfranchised, security of tenure over their environment: an interest greater than provincial interests. The CBD recognises that biodiversity conservation is a 'common concern' of humanity. The maintenance of biodiversity, and the use of biodiversity for human development, for this generation and the coming generations, is best served when custodianship of this biodiversity is vested in those who live with, depend upon, and know the power of the resource.

I mentioned earlier the capital contribution of conservation and sustainable development projects in demonstrating the wisdom of vesting resource management in user groups. While we should take comfort in the fact that this has been achieved, we must equally remain aware that the costs and benefits of conservation still tend to be very unevenly distributed. On the basis of my experience in Africa and Asia, I would say that the benefits tend to accrue externally, while the costs, most often in terms of denying rights of access, are paid locally.

Access to natural resources has been, and will continue to be into the next century, a key determinant in human relations. History, ancient and contemporary, is fraught with examples of bloody conflicts having as their source competition for access to resources, as it is fraught with approaches that constrain and codify acceptable behaviour for the benefit of communities large and small.

The Convention on Biological Diversity can be seen as one such effort. Its purpose is to foster the emergence of conditions and practices conducive to the sustainable use of biological diversity.

The Convention defines sustainable use as:

> *"...the use of the components of biological diversity in a way and at a rate that does not lead to long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations."*

This is a tall, and inter-generational, order, which fits nicely with the objectives of the SUI.

Competition for access to resources, whether at the local or global levels, promises to exacerbate the disparity between the powerful and the weak, the rich and the poor, those who prosper and those who are condemned to precarious lives. The Convention, though some may be disappointed not so much by what it says as what it doesn't say, represents an historic commitment on the part of the nations of the world. It is a commitment to conserve biological diversity, and to use it sustainably. The nations of the world are a formidable ally for such a disparate group as that brought together by the SUI. Can a disparate group be an ally for the nations of the world?

Maybe.

How do we get started?

First of all by being aware of the scope of what we are talking about. Here, we are talking to the 'nations of the world'. The issue of tenure strikes at the heart of much of what 'the nations of the world' hold most precious — their capacity to sustain themselves.

Tenure, and the implicit right to exclude others from the benefits of that over which tenure is held, has implications for power structures — whether trans-national, national, or local. Ultimately the world's wealth is derived from natural re-

sources — living and inert — and a systematic application of tenure to these resources, whether through an anchoring in land, specific resources above or below the land, or to the concept of territory emerging through reflections within and amongst indigenous groups, promises to alter the present, all too prevalent patterns of 'open' or 'arbitrary' access to the sources of this wealth.

Recent history, during and after the colonial period, has, broadly speaking, seen a transfer of tenure rights from communities to private and State interests, at least formally. This has led to the disenfranchisement of large parts of humanity, given that most States, assuming that the will to create better and more just societies is their main *raison d'etre*, have simply not been able to create the kind of sophisticated administration that 'benefit sharing' would require at the national scale.

While tenure reform — that is to say, a sharing of exclusion rights between nation States and subsidiary institutions or groupings, and between private and public interests — may be acceptable in principle to many, the difficulty is in defining how this reform can be organised and implemented.

Examples of the benefits of devolution of control over access and management of natural resources abound, though it must be recognised that more often than not such devolution has taken place in areas, and with resources, that do not threaten power structures. Indeed, much of what has been successful has owed its success to the fact that local power structures were integral parts of the experiment.

In many parts of the world, where States have, for various reasons, been unable to extend their influence, 'traditional' systems of resource access allocation have continued to function and to adapt to changing circumstances.

Surely though there is something to learn from this experience. Surely also, there are forms of tenure, and tenure recognition, that do not require unattainable levels of legislative and administrative sophistication to operate. Maybe we can demonstrate this. Maybe humanity doesn't need to be enfranchised all at once, from the top down, but step by step, starting with defacto and effective relationships to land and resources and then building a web of tenure secure areas that can act as anchors upon which more difficult ships can be moored.

A third way in which we can help is by analysing some of the more recent trends in access norms and standards. Market-based systems, for example, undoubtedly have their merits in that they redistribute land to buyers with the capacity and willingness to use the land for the benefit, through the market place, of the wider community. Are these goals, however, compatible with the CBD obligation to cater, in managing biodiversity, to the aspirations of future generations? If not, how can market-based systems be modulated to ensure that the integrity of ecological processes is maintained over a time frame beyond the ken of market systems?

We are going to hear a number of presentations over the next three days. We shall also, I trust, have ample time for debate. I should point out that the initiators of this workshop — the SUI and ZERO — are not looking for any specific outcome from this particular event.

We have five 'regional overviews', a number of case studies, and one intervention on the effects of internationalisation on the sustainability of wildlife uses.

The regional overviews do not emanate from the SUI, nor do they claim to represent any sort of consensus at a regional level. Rather, the intention is that the papers should bring forward issues emerging from the regions, and that the identification of issues and their scoping should be completed during the not insubstantial time devoted in this workshop to discussion.

What will happen after the workshop?

This will depend upon what happens during the workshop.

If we are able, in the course of the next few days, to articulate why the CBD should address tenure as an issue, we may wish to make a short statement to that effect that could, in an appropriate manner, be brought to the attention of the Parties.

We may on the other hand prefer to defer this step, finding other avenues to promote the emergence of an understanding of tenure amongst our governments, and the role that it plays in determining the future use of natural resources.

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Section One

Section One: Influence of Tenure and Access Rights on the Sustainability of Natural Resource Uses

Agricultural Use of Natural Resources in Europe

Riccardo Simoncini[1]

The agricultural use of natural resources in Europe is very diverse. It is therefore rather risky to make too many generalisations in describing European agriculture. Nevertheless there is an advantage in focusing on essentials when analysing current trends towards sustainability in agricultural land use. A common characteristic of European agriculture has been the historical concern related to food security. As a result of a 40 year process, it can be said that the goal of food security has been achieved throughout the region, meeting the demand of a total population of some 680 million. This paper starts with a socio-economic description of the primary sector in three sub-regions — Western Europe, Central and Eastern European Countries (CEECs), and the Commonwealth of Independent States (CIS) — particularly concentrating on agricultural land reforms. The paper then focuses on the principal reforming tools: market-based mechanisms and the definition of property rights. The paper concludes by examining the supply of environmental public goods (such as conservation of biodiversity and landscapes) by farmers.

Introduction

The agricultural use of natural resources in Europe is very diverse. The reason for this is that very different ecological, historical, social, institutional, and economic features have strongly influenced landscapes, biodiversity, cultivation practices, production and productivity, rural communities, farmers' skills and knowledge, land tenure, the size of farms, and infrastructures.

It is therefore rather risky to make too many generalisations in describing European agriculture. Nevertheless there is an advantage in focusing on essentials when analysing current trends towards sustainability in agricultural land use.

To reach a meaningful representative synthesis of European agriculture at a highly aggregate level, it is convenient to group those countries that show more similarities in issues related to land tenure and access rights, given their social, institutional, economic, historical, and geographical features.

Following this reasoning the European Continent can be divided into three main sub-regions:

1. Western Europe, mainly coincident with the European Union (EU);
2. Central and Eastern European Countries (CEECs) including Poland, Hungary, Slovenia, Slovakia, Czech Republic, Romania, Bulgaria, Albania, Yugoslavia, Croatia, and the Baltic States — Estonia, Lithuania, and Latvia; and
3. Commonwealth of Independent States (CIS) referring to European countries of the former Soviet Union.

Furthermore, to describe European agriculture schematically, an experimental Matrix (see Tables 1, 2, & 3 in Annex 1) has been adopted (proposed by the author and adapted for this work) and endorsed by the ESUSG/AWG members as a suitable analytical methodology for comparing different studies and research, and for the drawing out of conclusions about the sustainability of agriculture.

The Analytical Matrix sets out on the horizontal axis the

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three main factors concerning sustainability: the ecological, the economic and the social/institutional. On the vertical axis, the focus is on different hierarchical levels of analysis:

- field/ farm
- ecosystem/local
- national/sub-regional
- regional/global

Each box resulting from the interaction of the different factors and levels has been organised in terms of objectives or goals to be achieved by agriculture, the policies thathave been designed to reach the objectives, and the results achieved. The main purpose of the Matrix is to study the different aspects of agricultural sustainability without losing touch with the complexity and interdisciplinary nature of the subject (i.e., a holistic approach). This approach consists in an ongoing process of analysis and as such it should not be considered complete or exhaustive.

Before analysing the agriculture of the three sub-regions, some general observations can be made.

Firstly, a common characteristic of European agriculture has been the historical concern related to food security. The failures to satisfy the nutritional needs of their populations during World War II and its aftermath strongly motivated European states to enhance food production. As a result of a 40-year process, it can be said that the goal of food security has been achieved throughout the region, meeting the demand of a total population of some 680 million.

This success has not been achieved without costs. Highly productive industrialised agricultural systems account for much of the biodiversity loss in Europe, as a result of excessive use of chemical inputs — which have caused contamination of soil and ground water and eutrophication of water bodies — and from monocultural and mechanised cultivation practises and irrigation schemes, which have led to conversion and fragmentation of natural habitats (e.g., wetlands, ponds, hedgerows, etc.).

The European Environmental Agency (EEA, 1995) points out that: "*Natural vegetation in Europe, once consisting predominantly of woodlands, had been greatly modified as a result of agricultural activities*". Considering that human activities have altered almost every site in Europe below 2,000 metres (EEA, 1995), it becomes strategically important that conservation of biodiversity and landscapes in Europe be achieved also through agricultural use of natural resources, which alone cover more than 50 per cent of total land area in the region.

Secondly, another general observation is that it is a time of reforms in agriculture all over the Old Continent. While the causes and problems that underline the need for changes in the primary sector are different in the three European sub-regions, the policies proposed to reform agriculture, at least apparently, are the same: privatisation and further liberalisation of market forces.

This paper starts with a socio-economic description of the primary sector in the three sub-regions — particularly concentrating on agricultural land reforms. These reforms are changing land tenurial systems in CEECs and CIS countries and affecting quality and quantity of production in the European region as a whole. The paper then focuses on the principal reforming tools: market-based mechanisms and the definition of property rights. The paper concludes by examining the supply of environmental public goods (such as conservation of biodiversity and landscapes) by farmers.

SUB-REGIONAL AGRICULTURE OVERVIEW (HIGHLY AGGREGATE LEVEL)

AGRICULTURE IN WESTERN EUROPEAN COUNTRIES

The shortcomings of food supply experienced during and shortly after World War II convinced western countries to give strong support to production of food and agricultural incomes through many policies ranging from economic incentives and guaranteed price support, to research and extension, technological outcomes (e.g., chemical inputs), and trade policies. In this vein, the principle of Common Agricultural Policies (CAPs) (including that of increase production) was established in Article 39 of the Treaty of Rome of 1957. The demand of a growing population for food security and cheap prices led to a process of industrialisation of agriculture (i.e., intensive agriculture) in order to increase production.

There are few doubts that industrialised agriculture has been successful in its objective of producing increases in average yields and efficiency in using capital and labour inputs in production (high productivity). However, there have been numerous side effects resulting from such agricultural practices. The undesired impacts of industrialised agriculture vary from one area to another, both in intensity and effect, but some generalised results throughout western countries have been:

- a shift from multicultural to monocultural agriculture; from the early 1980s a rise in agricultural production with no corresponding increase in consumption leading to great structural surpluses;
- strong governmental intervention in agricultural markets in order to guarantee economic returns to farmers and stabilise agricultural prices;
- a number of environmental problems such as pollution of surface and ground water with agricul-

tural chemicals and sediment, decline in soil quality and fertility caused by soil erosion (e.g., southern Europe), landscape changes, increased resistance of pests to insecticides, loss of biodiversity, detrimental effects of agricultural chemicals on food quality, hazards to human and animal health from pesticides and food additives (e.g., BSE crisis); and

- a decrease in the number of farms, particularly family-run farms, and the disappearance of localised and direct market systems on one side, and an increase in the dimensions and in the concentration of farm ownership, agrifood processing industries, and retailing services on the other.

The realisation of the scale and complexity of these structural problems, the costs of governmental intervention (e.g., surpluses management) in agriculture as a proportion of the EU financial budget (in 1995 agriculture accounted for 61 per cent of total EU expenditure; (Hertel, Brockmeier, and Swaminathan, 1996), the growing demand for food quality, and the environmental concerns of European consumers led European politicians and decision makers to reform the CAP in 1992. This package of reforms shifted the CAP from price to direct income support policies, de-coupling production from subsidies and introducing agro-environmental regulations (e.g., EU Reg. 2078/92, Reg. 2080/92 and set-aside programmes). In general the CAP tried to favour quality instead of quantity in agricultural production.

After six years there are now other pressures to further reform EU agriculture coming mainly from outside its boundaries. The last round of GATT/WTO talks made recommendations strongly in favour of liberalising trade in the agricultural sector of western Europe, as other partners in the world have been asked to dismantle their traditional protection of domestic agriculture, which is based mainly on import tariffs and export subsidies.

The EU's enlargement to include CEECs, envisaged for the next decade, would require changes to CAP. In the future, given CEECs' favourable natural resource endowment and its presently unexpressed potential (i.e., production efficiency), CEECs' agriculture could have some undoubted comparative advantages over the EU's economy, and it is likely that production will again increase. As a consequence trade policies, compensation payments to farmers, and supply management will have to be adapted to the new situation in order to cope with EU's budget constraints (Tangerman, 1996).

Within the EU's boundaries, the CAP Reform is seen as necessary to promote sustainability (e.g., conservation of natural resources, biodiversity, and cultural identity) and subsidiarity in rural development (i.e., decentralisation at a local level within a coherent European framework) (Cork Declaration, 1996).

Having already pointed out the high degree of diversity in European agriculture, it may be useful to explain that private ownership of the land is a common feature in western countries by and large. In some cases, forms of tenancy and management by co-operatives (often supplying rural services related to production) are present, but owner occupation is consistent throughout the region (Peters, 1995). Farms are usually of small or medium size with respect to the Economic Dimension Unit (27 per cent very small, 60 per cent from small to medium size, 10 per cent large, and 3 per cent very large; European Commission, 1995a). In 1989 in the 12 member EU, 49.3 per cent of total farms had an agricultural area of less than 5 ha, while only 7.5 per cent of total farms had more than 50 ha of arable land (European Commission, 1995a). By contrast enterprises in upstream and downstream related sectors (i.e., agricultural inputs suppliers and processing food and distribution industries) are often large, few in numbers, and concentrated in joint stock companies (Peters, 1995).

This status quo is squeezing the contractual power of small and medium farms between the upstream and downstream industries. The result is often a heavy use of mechanical and chemical inputs to produce an agricultural output that is standardised in taste, quality, nutritional value, etc., for commercial purposes.

This situation has fitted in well with the need (and probably it is also a result of) increased production over the past decades, and has therefore been favoured by western agricultural policies that strongly influenced markets with production incentives.

According to Peters (1995), the above situation would justify a characterisation of western agricultural economy as *a "conditional free market to the price intervention at the farm gate level*".

AGRICULTURE IN CENTRAL AND EASTERN EUROPEAN COUNTRIES (CEECS)

Since the late 1980s the CEECs have, after almost 50 years of centrally planned economies, been witnessing a transition to a market-based economy.

This phase of transition is occurring at differing speeds within the sub-region. While most of the countries that are members of the Central European Free Trade Agreement (CEFTA) (this is the case for Poland, Hungary, Czech Republic, and Slovenia, less for Slovakia Republic) have been making significant steps towards reforms, other countries such as Albania, Bulgaria, and Romania in southeastern Europe have faced more difficulties in changing their economies, particularly because of macroeconomic problems (de-

creased GDP, high inflation rates, unstable interest rates) (Csaki and Lerman, 1996).

Throughout CEECs, agriculture, obviously affected by the wider macroeconomic environment, is facing a process of reform, touching upon ownership of assets and privatisation of land, land price definition, decollectivisation of large state farms, and creation of agricultural markets and institutions.

Taken at a sub-regional aggregate level, the agricultural sector represents a wider share of CEECs' economies (7.8 per cent of GDP) than it does in the economy of the EU (around 2.5 per cent of GDP). Agricultural employment in CEECs is about 26.7 per cent of total employment compared to the EU's share of 5.7 per cent; agricultural land use in CEECs covers more than 50 per cent of total land, about one fifth more than in EU (European Commission, 1995b).

Furthermore, the average consumer's expenditure on food represents a greater share of the total consumers' expenditure in CEECs than in the EU, therefore, food prices have a relatively more important political role in the CEECs than in the EU (Tangermann, 1996).

Another common feature throughout the sub-region, with few exceptions (e.g., Hungary, Slovakia, and Croatia), is the decline in agricultural production by about 4.6 per cent in 1996, returning close to the levels of 1994 (FAO, 1997a). This declining trend in production has accompanied the economic transition since 1989, and in some cases with sharp falls, such as in Bulgaria, where total crop and livestock production in 1996 was down to only about half of the 1989 level (FAO, 1997a).

If the shortfall in 1996 throughout the sub-region can be partially attributed to adverse weather, the declining trend of the previous years of transition can be attributed, according to Tangermann (1996), to different causes. Firstly, the financial constraints and reductions in subsidies, resulting from expenditure cuts in the agrifood sectors, affected the use of industrial inputs, particularly fertilisers and pesticides. Price structures have also played an important role in declining output. This decline in production resulted also in lower pressure on the environment. In CEECs the use of pesticide and fertilisers was historically relatively lower than in EU and this fact meant that farmland was generally rich in flora and fauna. In some cases, however, severe localised contamination problems arose from bad application and storage practices, excessive intensification and specialisation in crop production, and livestock concentration. Organic farming practices are almost non-existent in CEECs and they can be found only in some countries. Hungary, for instance, had 100 farms covering 3500 ha; in the former Czechoslovakia there were about 130 organic farms covering about 15,000 ha (EEA, 1995).

Secondly, the rapid structural changes in progress as a result of decollectivisation and privatisation policies are running into many difficulties. In order to reform the agricultural sector towards a more market-based agricultural economy, CEECs have to address a number of issues, including: changes in wider macro-economic policies; significant progress in land privatisation; and agricultural markets creation (including land, input supplies, rural services and infrastructures, distribution and financial systems). The privatisation process can be seen as a first step in the direction of agricultural market creation, but the allocation of formerly collectivised land also involves issues related to distribution and social equity, to cultural and historical aspects, and to production organisation and efficiency. Csaki and Lerman (1996) and Trivelli (1997), amongst others, point out that generally agricultural production in centrally planned economies was organised in large mechanised collective units, the overriding priority being to increase agricultural output without much regard to either quality or efficiency; operating, as Csaki and Lerman put it, "*under the philosophy of low food prices and low wages*".

As a matter of fact, the transition to a market-based economy is pushing the agricultural sector towards competitiveness, efficiency, entrepreneurial skills, and a free market mentality while, concurrently, the decollectivisation process, reducing the size of farms, is pointing out the urgent need for farm restructuring, technological catch-up, rural credit and services, etc. From the above it follows that decollectivisation and privatisation are strongly related to issues of efficiency and organisation of production.

Besides these difficulties, in many CEECs property rights over the land have not yet been completely transferred. In some cases this is a result of practical and bureaucratic consideration. Examples are: difficulties in land registration and privatisation processes; differences between legal and physical restitution, etc. In other cases political and social motivations are at issue. Examples include: smoothing out the farms' decollectivisation processes, restrictions on transactions to avoid drastic changes in the allocation of land, prohibitions on the ownership of land by foreigners because of fear of speculation, determination of permitted land uses, etc. (Swinnen, 1996; Trivelli, 1997).

Swinnen (1997) points out that in general, as a preference rule, collective farmland has been restored to ex-owners in cases when it was expropriated by reforms that followed the end of World War II. This restitution has involved an important part of agricultural land and it has been relatively easy to accomplish, given that in CEECs (with the exception of Albania) most of the land has not been completely nationalised, being formally in possession of owners who joined in collective farms. Deviations from this normative restitution rule have been made, according to Csaki and Lerman (1996), through allocation of land to farm workers

on the basis of social equity and justice, following the principle that landless farmers have made a worthwhile contribution to the national food security in the past.

Differences are also observable in the privatisation of farms assets other than land (i.e., infrastructure and machines). In fact agricultural equipment has been distributed through purchasing vouchers (Swinnen, 1996).

All the aforementioned problems seriously impair the creation of a functioning land market. As a consequence, land prices in CEECs are not the result of the market forces of supply and demand, but on the contrary they are administratively defined by governments. The general rule in establishing land prices is predominately based on land productivity (i.e., land valued as a productive factor and not as a multifunctional natural resource), even if different approaches may be taken by different countries. In the Czech and Slovak Republics, for instance, land characteristics, such as climate and precipitation, soil condition and thickness, and slope and stone contents (Trivelli, 1997) have a role in the definition of land prices. In Poland, Hungary, and Slovenia, location and/or irrigation features are considered in price formation (FAO, 1997b).

Considering the above, together with the high transaction costs in CEECs' land markets and historical and cultural issues (i.e., 50 years of centrally planned economy culture), it comes as no surprise that farmers' confidence has to face a high degree of uncertainty, which in turn reduces the attractiveness of private farming, putting at risk the whole agricultural reform.

The third cause of reduced agricultural output in CEECs consists of declining domestic demand due mainly to producers' and consumers' higher food prices, declining per capita income, availability of more non-food goods for purchase, and the reduction in trade relationships with other countries that were members of the former Soviet Union. Taken all together, these factors do not help the transition toward a market-based economy either.

During recent years the agricultural trade balance, as well as the overall trade balances of CEECs, has turned into deficit. Among the causes that led to a decline in exports were reduced agricultural output, the economic slowdown in western Europe, and a growing import market for high-quality, high-value food products for the minority of affluent consumers in CEECs. Thus governments of the sub-region find themselves caught between the internal pressure for protection of domestic producers on one side, and the commitments to international agreements requiring further trade liberalisation (e.g., WTO, CEFTA) on the other. Of particular significance here is the preparation by certain CEECs to become part of an enlarged EU that is looking toward the East.

Finally, it is worth noting that the decline in food production has forced some countries of southeastern Europe to increase food imports to ensure food security and in some cases to resort to food aid (e.g., Bulgaria in 1991, 1993, 1994, and 1997 and Albania in 1997) (FAO, 1997a).

AGRICULTURE IN EUROPEAN COUNTRIES OF THE COMMONWEALTH OF INDEPENDENT STATES (CIS)

Agriculture in European countries of the Commonwealth of Independent States (Armenia, Georgia, Russian Federation, Moldova, Ukraine, Belarus, Kazakhstan) produces a relatively greater share of GDP than the rest of the European Continent; examples are Ukraine with over 20 per cent of GDP in 1993 (Lerman et al., 1995), and the Russian Federation with 22 per cent of GDP in 1990 (FAO, 1997a).

The reform of the primary sector in CIS countries is part of a wider, very difficult transition from the centrally planned to the market-based economy, which is reflected in macroeconomics problems such as high inflation rates, budget imbalances, and unfavourable balance of payments.

The slow pace of the reform process in agriculture is therefore a direct consequence of the overall macroeconomic situation. There is widespread agreement amongst economists that to achieve agricultural reform major changes within the primary sector are needed both in institutional aspects and trade policies. Institutional aspects needing consideration include: privatisation; land reform; market creation; access rights to rural credit and services; price liberalisation; changes in size; and the management and organisation of farm production (Csaki and Lermann, 1996; FAO, 1997a; Peters, 1995).

The general productive unit model in the sub-region is that of state-owned (*Soukoz*) or collective (*Kolkoz*) which are large mechanised farms, employing hundreds of workers and cultivating thousands of hectares (Lerman et al., 1995). Besides these big commercial units there are the quasi-private household plots yielding produce for domestic consumption.

One of the first actions undertaken by CIS governments was the transfer of ownership from state to collective farms. Individual ownership was subsequently created by distributing paper certificates (land shares), which at the end of the process should allow the allocation of land to individual shareholders. The distribution of land is granted not just to workers but also to local teachers, doctors, and employees of rural services. It is worth noting that the link between rural communities and local, state, or collective farms was a strong one that went well beyond the mere production of outputs and included, most notably, the provision of social services. (Csaki and Lerman, 1996).

Following this general rule (which was favoured to a large extent by the CIS) in Russia, from 1991 to early 1993, 46 per cent of agricultural land was transferred from state to collective ownership, while 80 per cent of collective and state farms were reorganised as shareholding structures (Brooks and Lerman, 1995). Private farms, which numbered about 280,000 in 1994, have been declining in number since then. In 1996 they accounted for just 6 per cent of total agricultural land (FAO, 1997a). In Ukraine in 1994 more than 60 per cent of land was transferred from state to collective ownership, while the 30,000 private farms accounted for less than 2 per cent of agricultural land (Lerman et al., 1995). Csaki and Lerman (1996) point out slightly different estimates: "*In Russia, Ukraine and Moldova, individual land ownership is around 10 to 15 per cent*".

The difficulties in the privatisation process consist in passing from collective to individual ownership, and are mainly related to social and economic aspects. Amongst the latter it is worth highlighting the presence in the agricultural sector of monopoly operators in the upstream supply of agricultural inputs and in downstream food processing and commercial distribution.

The price liberalisation process, which has touched food prices more slowly than those of other commodities (Csaki and Johnson, cited in Peters, 1995), has been accompanied by a decrease in subsidies both in quantity (e.g., in Russia from equaling 10 per cent of GDP in 1990 to just 4 per cent in 1996) and in quality (e.g., reduced direct subsidies for inputs and increased indirect subsidies such as tax exemptions and writing-off of debts to the state) (FAO, 1997a). The consequences at the farm gate have been higher production costs reflected in reduced purchase of inputs (i.e., machinery, fertilisers, pesticides, and fuel) and agricultural output. Interestingly enough, still according to FAO (1997a), in Russia decreases in crop yields have been in a much lower percentage bracket than declining inputs use. This fact could be interpreted as a more productive use by farmers of their limited resources. Moreover, with a decreasing demand for foods with a high income elasticity (i.e., a change in consumer's income will result in a large change in the demand for a given good) such as meat, due mainly to reductions in consumers' real incomes, the production mix of farms has also moved from livestock to crops (basic staples such as potatoes) (FAO, 1997a).

It is probable that, from an environmental point of view, this shift towards less intensive agriculture could produce lower impacts. Problems such as soil and water contamination coming from livestock concentrations and the use of chemicals would lessen.

On the side of distribution and agrifood processing industries, farms usually continue to use traditional state channels to sell their products through the procurement system. The absence of a robust alternative form of distribution, beyond that of local markets, does little to support the emergence of private farming.

These structural problems create a far more favourable economic environment for large scale farms than for new smaller private ones. In CIS socio-cultural issues resulting from 70 years of centrally planned economy had a profound impact on farmers' mentality and behaviour. It is clear that they cannot be asked to achieve an 'entrepreneurial mentality' almost overnight. It is therefore easy to understand why private farmers reorganise into co-operatives, collections of farms, or close joint stock associations (Csaki and Johnson, 1995). Moreover, even if many countries amongst European CIS do recognise private ownership, still according to Csaki and Lermann (1996), owners' rights are seriously circumscribed in respect of land transfer, always subjected to a long moratorium and restrictions on the alienation of land that sometimes can be sold only to local residents or farms or through the mediation of the state.

Private ownership is also conditional on the cultivation of land following good farming practices, while the maximum size of a private farm permitted in Russia, Ukraine, and Moldova is up to 50-100 ha. In Belarus and Kazakhstan only house plots of 1 ha may be under private ownership (Brooks and Lerman, 1995; Csaki and Lerman, 1996).

Given the difficulties related to private ownership, farmers in Ukraine have generally retained their land in the traditional tenurial forms of usership (*pol'zoveniye*) or possession (*vladeniye*). Lerman et al. (1995) explain that: *"usership is less secure of the two forms, as possession is usually inheritable, although neither form allows transfer of use rights*".

In Russia most of the new private farms are held in individual ownership. Other, tenurial forms, such as lifetime possession and lease, can also be found (Brook and Lerman, 1995). According to Csaki and Lerman (1996) and Csaki and Johnson (1995) the emergence of new private farms has been lower than expected because of the macroeconomic problems faced by CIS. Farmers display an understandable lack of confidence when faced with the prospect of abandoning the reassuring umbrella of social services offered by collective farms and entering into private farming with all its uncertainties and risks (i.e., legal uncertainty, difficulties in inputs, supplies, and rural credit). The fact that many private farmers tend to reorganise in relatively large units can probably be explained by the above, together with the convenience of retaining the same organisation of production as the large collective farms, and the resistance to the decollectivisation process exerted by collective farm managers who still have a certain local authority.

THE CONSERVATION OF BIODIVERSITY AND LANDSCAPES AND THE MARKET MECHANISM

From this overview of European agriculture, besides the common feature indicated at the beginning of this paper, a vision of markets and of privatisation processes as the principal tools for reforming the agricultural sector and addressing the socio-economic difficulties in implementing it, has emerged in the three sub-regions analysed.

While in the case of EU countries the 'reform via market mechanism' should consist 'just' of dismantling the heavy intervention of governments in price formation and in production and trade subsidies, in CEECs and CIS countries a complete transition to a market-based economy can be achieved only with a redefinition of land ownership. This difference between EU and CEEC/CIS (which holds for agricultural and land markets) tends to disappear if the growing concerns for the environmental performance of agriculture are allowed to fill in the overall picture. This would place the EU in a similar position to that of the other two sub-regions: namely, creating a brand new market for environmental goods and services.

Over many centuries agriculture has exercised an immense impact throughout Europe in changing, shaping, and adapting the environment. These impacts have been so intense and widespread that what is commonly referred to as 'nature' by the European general public is in reality semi-natural landscape. Since the 1950s the development of agricultural technologies— mechanical, biological, chemical, electronic, and bio-technological (Buckwell, 1996) — in response to the requirements of increasing production and later of conforming with commercial standards, has greatly increased the environmental impacts resulting from agricultural uses, up to the point that even busy, urban western European citizens have begun to recognise the environmental losses and detrimental effects of such industrialised agriculture. This fact has led politicians and markets to consider seriously the concerns and wants of both voters and consumers, and to see the environment as a new opportunity for agriculture and rural development instead of as a factor constraining economic growth.

In recent years in the CEEC's and CIS countries the process of extensification of agriculture has resulted in reduced agricultural production. This is a result of financial and economic difficulties at the farm level rather than a deliberate shift of policies (FAO, 1997a). Consequently it is too early to say what the environmental impacts related to the transition towards a market-based economy would be.

What is interesting in this context is very much related to the question of whether this process of greening agriculture will continue and, most importantly, if the prevailing reforming tool for agriculture throughout Europe, the market mechanism, is the right one to achieve sustainability.

First of all it may be useful to take a further look, in the light of property rights, at what markets are and what should be exchanged through them, in this case environmental goods and services.

As far as markets are concerned, some important factors allowing them to operate efficiently can be distinguished:

- Property rights; to put it simply the ownership and the right to alienate or to use what is exchanged in markets must be clearly defined;
- Business and contract law, able to deal with all the possible situation coming out of transactions, must be established;
- Quality and safety standards as terms of reference for markets to function are often necessary;
- Perfect competition (i.e., large numbers of buyers and sellers) to avoid problems of monopoly; and
- Adequate information, required in order to overcome problems such as asymmetric information, high transaction costs, risk, and uncertainties.

From the previous overviews of the agricultural sector in the three European sub-regions, it appears clearly enough that these five factors in agricultural markets are poorly achieved in CEECs and CIS nations. In the case of the EU, it can be rightly questioned whether perfect competition, adequate information, definition of quality, and safety standards are fully achieved in western agricultural markets.

Things only get worse if markets alone are intended to optimise the efficient allocation of environmental goods and services associated with agricultural use of natural resources.

The World Bank (1997) identifies factors such as externalities, the problem of public goods, and incomplete information as causes for poorly functioning or non-existing markets in eliciting benefits of biodiversity conservation. Externalities are defined by Pearce and Turner (1990) as: "*An external cost [benefit] exists when the following two conditions prevail: 1) an activity by one agent causes a loss [gain] of welfare to another agent; 2) the loss [gain] of welfare is uncompensated [unpaid]*". This can be the case, for example, when the excessive use of chemical inputs by farmers up-hill contaminates the quality of water used by farmers down-hill.

To internalise externalities through the market mechanisms (i.e., to promote transactions between agents), following a rather conventional view of environmental economics (Coase's Theorem), a well-defined legal framework of private rights to pollute or not to be polluted has to be established**,** notwithstanding the difficulties of transactions

arising from the pervasiveness of the sources of pollution, transaction costs in the case of great numbers of parties involved, and valuation of effects of environmental impacts.

The public goods problem refers to those goods thathave the characteristics of non-exclusion and non-rivalry in consumption. Many environmental goods and services belong to this category, therefore the supply of public goods, such as landscapes or conservation of biodiversity by farmers, would not receive any compensation through free markets given the impossibility of excluding non-buyers from benefiting from it. In other words, benefits and costs resulting from supplying public goods are impossible to exchange exclusively through markets.

Incomplete information is another source of market failures. Environmental impacts resulting from agricultural use of natural resources are very often difficult to identify and measure even in their physical, chemical, and biological entities. Translating them into economic language (i.e., valuing them in terms of economic costs and benefits) adds another phase, which can be very useful in interpreting the available information for the decision-making process. This inevitably requires the further gathering of information and knowledge.

The aforementioned factors do impair the functioning of markets in signalling the appropriate value of conserving biodiversity and landscapes to farmers and natural resources managers. This is not to say that government intervention is a better option. Often, externalities and incomplete information are also causes of government failures (e.g., government subsidising of chemical inputs). When markets function properly (i.e., the five factors described above are reasonably achieved) a lot of administrative costs can be saved and different or mixed forms of environmental policies can prove to be fruitful exercise.

RELATIONSHIP BETWEEN TENURE AND SUSTAINABILITY

The anthropocentric and utilitarian ethics that underline market-based economic ideas see individual self-interest as the principal motivator in the decision-making process. It is not within the scope of this paper to discuss the neo-classical economics paradigm, but to simply highlight that according to it, individual self-interest often covers the span of a 'lifetime' (including immediate descendants' needs and wants). From a social perspective, it is clear that life-time has a longer connotation, and from an ecological point of view this fact is even more apparent.

Farmers, in their dealings with natural resources to produce an agricultural output with which to satisfy their subsistence or commercial individual needs, produce also environmental impacts (positive or negative) that involve the interest of the present and future general public. From this it follows that farmers have a dual indivisible role, the first being that of an entrepreneur trying to maximise his/her benefits, the other being that of a manager of public goods: the environment.

Regarding the first role of farmers it can be assumed that markets would be the right tool to allocate resources for agricultural output and for the satisfaction of farmers' private interests, in the situation where ownership of the components of production (including land) and the rights of access to markets, information, credit, etc. (see the above described factors related to market functioning) are well defined. On the contrary, from the reasons given in the previous section, it appears clear enough that, in the case of the second role played by farmers, the management of natural resources and the public nature of these goods create environmental problems of a social and intergenerational character. In this respect, besides the reasons described, market mechanisms cannot work properly (in case of government non-intervention) because there are no agents buying farmers' management services (e.g., present societies or future generations).

In this case these stakeholders can be only represented in the market place by democratically elected governments (at least this is true for present society's interests), acting as agents who should have the interest (the social welfare), plausible good information, and well-balanced, risk-averse position (i.e., precautionary principle), to pay for farmers' natural resources management role.

These transactions should be payments for the real services that farmers provide to the general public. As Allan Buckwell (1996), President of the European Association of Agricultural Economists, has pointed out, rural environmental services could be assimilated in principle to the up-keeping of a public park supplied under a contract between a public local authority and a private firm of landscape gardeners. Obviously there are differences in the kind of environmental services supplied while performing agriculture (e.g., conservation of biodiversity) and in the information required (know-how and difficulties in assessing the ecological sustainability of the agricultural use by both governments and farmers).

Recognising the inseparable dual role of farmers gives rise to questions related to land tenure and access rights, issues such as those concerning the link between farmers' environmental performance (stewardship function) and land ownership and/or land use. Moreover, besides being paid for environmental goods and services (e.g., controlling erosion), it is timely that farmers should be considered accountable for eventual environmental damage coming from un-

sustainable agricultural practices. Upstream and downstream industries in the primary sector should be considered responsible also for imposing too harsh conditions in their contracts with farmers promoting unsustainable cultivation practices in order to suit their economic interests.

It is clear that to identify both environmental goods and services as bads, a lot of monitoring would be needed and therefore transaction costs (i.e., monitoring and control), between governments and farmers for environmental services through markets, probably would turn out to be high, not to mention administrative costs.

Nevertheless, even considering these difficulties in trying to reconcile the free-market wind blowing throughout the continent and government intervention where the market fails, the idea of paying farmers for the environmental goods and services they would provide is gaining consensus amongst western European citizens, so it may be possible to see it working (and in some cases is already working, at least indirectly, as in Reg. 2080/92 and 2078/92) in the EU in the coming years (see also Agenda 2000 and the Cork Declaration).

In conclusion, for Europe, what OECD (1997) states seems to hold true: "...*Private ownership may or may be not superior to public ownership, depending on policy objectives; and most any allocation (public, private, 'customary') is better than no allocation*". In the last decades, when agricultural policies in the EU as in CEECs and CIS countries were enhancing production, neither private nor public ownership of land ensured sustainability in agriculture.

Three further observations may be made. The first is what is likely to be the impact of such European agro-environmental policy in the next WTO round, scheduled for 1999, and more precisely if the envisaged environmental payments would be seen for what they are (i.e., payments for real services), or would they be considered as income transfers to European farmers, as was the case in the past CAP.

The second consideration regards what would be the answers to these policies from farmers and citizens in CEECs and CIS countries. In other words, if farmers were ready to provide environmental goods and services, would eastern European citizens be ready to pay for them?

The third and final observation, as at the beginning of this section, is about ethics. Issues of rights and responsibilities are strictly connected with ethics. As far as there would be a vacuum in environmental ethics, it is fairly probable that forms of land tenure and rights of access should be clearly defined in their relationship with sustainability and should be enforced via the imposition of laws and standards that create economic incentives with all their consequential limits and difficulties of implementation. If environmental ethics are to be developed in Europe, or to put it better, resumed, human beings, contemporary and future, would save a lot of money, time, and energy in achieving sustainable agriculture. To use economic language this would represent a very good long-term investment.

As Aldo Leopold (1949) put it: "*A land ethic, then, reflects the existence of ecological conscience, and this in turn reflects a conviction of individual responsibility for the health of the land.*"

Annex 1

Table 1: Agriculture of Western Europe (EU) (highly aggregate level)

FACTORS:	Ecological	Economic	Social
SCALE: Field/Farm	OBJECTIVE *up to the '80s*: to increase agricultural production *from early '90s*: to include environmental goods and services' goals into production performances (e.g. conservation of biodiversity and landscape)	OBJECTIVE to maximise profit, *up to '80s*: to increase production, to cut productions' costs, to sustain farmers' income, *from early '90s*: to meet growing demand for food quality and environmental goods and services	OBJECTIVE *up to '80s*: to grant same standards of quality of life as urban people, *from early '90s*: enhancement of distinctive features of countryside way of living (i.e. cultural landscapes)
	POLICIES *up to '80s*: heavy pesticides and fertilisers use, monocultures agriculture practices, external energies inputs (e.g. mechanisation), *from early '90s*: set aside, crops rotation, low-input farming, organic agriculture, to enhance multifunctionality in agricultural use of natural resources	POLICIES *up to '80s*: specialisation and standardisation of production (i.e. industrialisation of agriculture), farmer associations' pressure on national and European governments to obtain greater production quotas and compensation payments for stock surpluses, *from early '90s*: diversification of economic activity within the farm (e.g. agritourism), higher prices for good quality products (e.g. organically grown), certification of quality products, adoption of EU compulsory (set aside and quotas) and voluntary (e.g.reg.n° 2078/92 and reg.n° 2080/92) regulations, internalise environmental goods and services in the economic performance of the farm	POLICIES *up to '80s*: enhance opportunities to experience urban lifestyle (e.g. investments in transport communication), *from early '90s*: enhance diversification of social, cultural, historical traditions,
	RESULTS *up to '80*: increased specialised and standardised agricultural production, pesticides residues in food, concentration of animal waste, decrease in biodiversity due to monocultural agriculture practices, contamination of surface and ground water resources, conversion of biotopes (e.g. clearing of hedgerows), *from early '90s*: slight increase in extensive agriculture practices (e.g. organic agriculture), likely of biodiversity gains if non-rotational set-aside is maintained for several years (e.g. increases in soil organic matter and plant and wildlife populations)	RESULTS *up to '80s*: enlargement of farms' size and ownership concentration, decreasing contractual power of farms in dealing with agricultural inputs suppliers industries on one side and with the commercial sector on the other, agricultural jobs losses, sustained agricultural commodities prices, increased production and productivity, structural surpluses, *from early '90s*: slightly reduced production, growing supply of quality products, conservation of landscapes, diversification of rural activities	RESULTS *up to '80s*: farms property concentration, unemployment, abandonment of rural areas, *from early '90s*: diversification of rural lifestyle, local distinctive social features are resumed

FACTORS:	Ecological	Economic	Social/Institutional
SCALE: Ecosystem/Local	OBJECTIVE *up '80s*: habitats conversion to arable land, specialisation of agricultural systems, *from early '90s*: conservation of landscape, biodiversity and natural resources of soil, air and water, to ensure sustainable production of food	OBJECTIVE *up to '80s*: creation of product oriented rural area to benefit from economies of scale (e.g., livestock production in the Po valley) *from early '90s*: enhancement of multi-functionality of agriculture	OBJECTIVE *up to '80s*: equitability of rural standards of living with those of urban areas, *from early '90s*: diversification of rural activities, maintain rural communities on the territory, enhance farmers' stewardship function
	POLICIES *up to '80s*: clearing lands and draining wetlands, development of monocultural agricultural areas, *from early '90s*: ecosystems multifunctionality approach, SMS approach identification of Environmentally Sensitive Areas (ESAs, EU CR797/85)	POLICIES *up to '80s*: investments in infrastructure, production specialisation *from early '90s*: certification of origin for quality products (geographical identification, eco-labelling), diversification of rural economies (e.g. agritourism), cross-sectoral approach	POLICIES *up to '80s*: urbanisation of rural areas (i.e., investments in infrastructures, transport, etc.) *from early '90s*: sustainable agriculture's research and extension, decentralised and integrated (i.e., multi-sectoral) rural policies
	RESULTS *up to '80s*: uniformity of substituted landscape, biodiversity losses, contamination of soil and water by chemicals, *from early '90s*: afforestation and wetland preservation, low-input agriculture in ESAs	RESULTS *up to '80s*: rural areas specialisation in agricultural products, investment in specialised infrastructures and services, *from early '90s*: growing consumers' confidence in the quality of products coming from distinct areas, development of local markets (from producers to consumers)	RESULTS *up to the '80s*: abandonment of countryside, disintegration and identity loss of rural communities, *from early '90s*: too early to say but appearance of interesting localised forms of rural development, revaluation of local culture (i.e., religious and seasonal festivals, markets, etc.)

Table 1: Agriculture of Western Europe (EU) (highly aggregate level) ... Continued

FACTORS:	Ecological	Economic	Social/Institutional
SCALE: National/ subregional	OBJECTIVE *up to '80s*: intensify agricultural production from early '90s: sustainable agriculture POLICIES *up to '80s*: industrialisation of agriculture, ecosystems conversion to arable lands from early '90s: adoption of EU's agro-environmental regulations (e.g., reg.n° 2078/92 and reg.n° 2080/92) and set-aside programmes, conservation of survived natural habitats and landscapes RESULTS *up to '80s*: standardisation of landscapes and agricultural outputs, biodiversity losses, contamination of soil and water by chemicals, *from early '90s*: establishment of natural parks, biodiversity gains from agriculture's extensification (e.g., from reduced use of external inputs)	OBJECTIVE *up to '80s*: food security, equitability of agriculture income with those of other sectors, protection of domestic producers, from early '90s: to adapt to the global free trade competition, to reduce stick surpluses POLICIES *up to '80s*: intervention in agricultural markets (e.g., compensation payments, sustained prices of agricultural commodities, etc.), domestic supply management (import tariffs and export subsidies) *from early '90s*: direct income subsidies, cross compliance policies (e.g., reg.n° 2078/92 and reg.n° 2080/92), production quotas, decoupling subsidies from production, envisaging creation of agro-environmental markets RESULTS *up to the '80s*: structural surplus of supplies, high EU budget share spent on the agricultural sector (i.e., compensation payments), *from early '90s*: likelihood for further cuts in subsidies and reduction in import protection, reduction of compensation payments (e.g., first WTO round in 1999), increase incentives in environmental production of goods and services	OBJECTIVE *up to '80s*: equitability of rural standards of living with those of urban areas, *from early '90s*: diversification of rural activities, maintain rural communities on the territory, enhance farmers' stewardship function POLICIES *up to '80s*: urbanisation of rural areas (i.e., investments in infrastructures, transport, etc.) from early '90s: sustainable agriculture's research and extension, decentralised and integrated (i.e., multi-sectoral) rural policies RESULTS *up to the '80s*: abandonment of countryside, disintegration and identity loss of rural communities, *from early '90s*: too early to say but appearance of interesting localised forms of rural development, revaluation of local culture (i.e., religious and seasonal festivals, markets)
SCALE: Regional/ Global **(i.e. influences and results of European objectives and policies on the sustainability of agricultural uses of natural resources of other world Regions; to be analysed in co-operation with interested world Regions)**	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed

Table 2: Agriculture of Central and Eastern European Countries (highly aggregate level)

FACTORS:	Ecological	Economic	Social/Institutional
SCALE: Field/Farm	OBJECTIVE *up to the '80s*: collective farm managers concerned more in meeting their production targets than preserve natural resource of the farm, *from early '90s*: too early to say because of reforms in progress	OBJECTIVE *up to the '80s*: production to satisfy local consumption and centrally planned demand, *from early '90s*: to face market competition, profit maximisation?,	OBJECTIVE *up to the '80s*: food security and social services for farmers' families, *from early '90s*: land restitution to national private rights holders and farmers, needs of creation of a market-oriented mentality, prevent new owners to become victim of foreign speculation in land transactions
	POLICIES *up to the '80s*: conversion of ecosystems for agricultural use enhancing agricultural productivity of fields through external inputs less stressed than in EU but significant, restrictions on land use (i.e. obligation to farm the land and to observe sound conservation practices), failure to cultivate the land can lead to expropriation, forms of extensive agriculture in traditional farms (e.g. NE Poland) *from early '90s*: low inputs agriculture due to subsidies cuts and difficulties in access to inputs, valuation of land quality and suitable farm size for production	POLICIES *up to the '80s*: industrialisation of agricultural production in collective farms, *from early '90s*: cut productions' costs because of reduction of subsidies for inputs, farm restructuring, joint co-operatives of private farmers	POLICIES *up to the '80s*: provision of social services by collective farms, *from early '90s*: different degrees of legitimisation of private rights, land markets creation, transfer of collective lands to individual owners, different forms of restitution for agricultural infrastructures and machines
	RESULTS *up to the '80s*: specialised agricultural output (e.g., monoculture) with cases of excessive use of chemical inputs, extensive practices, localised pollution from chemical inputs, soil erosion and water run-off resulting from heavy tillage and ploughing without contour, traditional farms retains richness in flora and fauna, *from early '90s*: less environmental impacts from chemical inputs due to cuts in subsidies	RESULTS up *to the '80s*: increasing production in collective farms, quantity preferred to quality and to efficiency and competitiveness, agricultural technologies outdated or inefficiently applied, large scale mechanised farm employing hundreds of workers, small-scale private landuse in traditional farms, production in traditional farms is not stressed by profit maximisation behaviour, *from early '90s*: decreasing farms size (from large to medium), decreased production and productivity, future great potentiality to increase production and productivity, subsidies supports granted to farmers lower than in EU, risk and uncertainties in private farming, lack of farmers confidence in market mechanisms and sometimes in skills and mentality for private farming and market competition, risk of intensification of agricultural production because of profit maximisation objectives and creation of perverse incentives	RESULTS *up to the '80s*: large collective farms, rural and social services provided for farmers (e.g., schools), *from early '90s*: creation of small private farms and agricultural co-operatives, in some countries farm average size restriction and increased in number of private households plots, difficulties in access to markets (e.g., access to inputs and credits), legal uncertainty, private farming too risky, reorganising of private farmers in relatively large co-operative units

Table 2: Agriculture of Central and Eastern European Countries (highly aggregate level) ... Continued

FACTORS:	Ecological	Economic	Social/Institutional
SCALE: National/ Sub-Regional	OBJECTIVE *up to the '80s*: enhance agricultural production from early '90s: design of National Natural Conservation Programmes and of International Convention such as P.E.B.L.D.S.	OBJECTIVE *up to the '80s*: production to satisfy national food security and industrial demand, from early '90s: trade off between economic efficiency and income distribution goals	OBJECTIVE *up to the '80s*: grant equity and distribution of income from early '90s: decollectivisation and privatisation of farms, needs of reforms in rural services and institutions, redefinition of distribution and equity issues
	POLICIES *up to the '80s*: localised intensive agriculture besides surviving traditional farming from early '90s: sustainable agriculture's research and extension	POLICIES *up to the '80s*: farms are integral part of the centrally planned economy from early '90s: creation of a market-oriented agrarian economy based on private ownership and individual incentives, demonopolisation of agroprocessing inputs supply, services, trade and financial systems, cuts in budget expenditures for agriculture	POLICIES *up to the '80s*: low food prices and low wages, relevant role of large farms in providing social services in the rural areas, from early '90s: institutional reform
	RESULTS *up to the '80s*: localised problems coming from chemicals contamination of soil and water, traditional farms fields rich in fauna and flora from early '90s: potential comparative advantages of CEEC's agriculture relative to EU's one due to natural resources endowment but risk of further agricultural intensification to reverse declining production	RESULTS *up to the '80s*: significant weight of agriculture compare both to other economic sectors as well as to EU agriculture, from early '90s: process of establishment market-driven agriculture in progress but far from complete, needs to focus also on upstream and down stream agriculture sectors, redefinition of wealth and income distribution	RESULTS *up to the '80s*: considerable employment in agricultural sector compare to other economic sectors and EU's agriculture, from early '90s: establishment of private ownership in progress, differences between land tenure entitlements and real propriety rights, institutional and rural services and credit vacuum
SCALE: Regional/ Global (i.e. influences and results of European objectives and policies on the sustainability of agricultural uses of natural resources of other world Regions)	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed

Table 3: Agriculture of the Commonwealth of Independent States (European) (highly aggregate level)

FACTORS:	Ecological	Economic	Social/Institutional
SCALE: Field/Farm	OBJECTIVE *up to the '80s*: state and collective farm managers concerned more in meeting their production target than in preserving natural resources, *from early '90s*: generally too early to say POLICIES *up to the '80s*: conversion of ecosystems for agricultural use and enhance agricultural productivity of fields through external inputs less stressed than in EU but still significant, *from early '90s*: entitlement to private farming also conditional to following 'good farming practices', shift of production output mix RESULTS *up to the '80s*: localised severe chemical contamination of soil and water, *from early '90s*: less environmental impacts from chemical inputs due to cuts in subsidies and from livestock concentration due to shift in the farms production mix (from livestock to staple crop	OBJECTIVE *up to the '80s*: production to meet the centrally planned agricultural demand *from early '90s*: transition towards market-based economy POLICIES *up to the '80s*: industrialisation of agriculture *from early '90s*: reduced direct subsidies for inputs and increased indirect subsidies(e.g. tax exemptions, writing off of debts to the state) RESULTS *up to the '80s*: state or collective large mechanised farm is the general productive unit model, 'quasi-private' households plots for direct consumption, *from early '90s*: higher production costs, reduced inputs purchasing, more productive use of limited resources, decreased agricultural output, absence of robust private forms of distribution beyond that of local markets, slow changes in size, management, organisation and mix of production (e.g., from livestock to staple crops)	OBJECTIVE *up to the '80s*: state or collective farms are central to the life of rural communities, *from early '90s*: decollectivisation and privatisation of farms POLICIES *up to the '80s*: provision of an umbrella of social services (e.g. health, education) *from early '90s*: transfer of ownership from state to collective farms, creation of individual entitlement to land through "paper certificates" distributed to workers, local teachers, doctors, etc., RESULTS *up to the '80s*: farmers are part of a well identified rural community, *from early '90s*: creation of collective ownership but difficulties in transition to individual ownership, farmers have little confidence in leaving the reassuring umbrella of social services to cope with an unfavourable private farming environment (risk and uncertainties), they reorganise into co-operatives, collection of farms, etc.
SCALE: Ecosystem/ Local	OBJECTIVE information to be inserted up to the '80s: from early '90s: POLICIES information to be inserted up to the '80s: from early '90s: RESULTS information to be inserted up to the '80s: from early '90s:	OOBJECTIVE information to be inserted up to the '80s: from early '90s: POLICIES information to be inserted up to the '80s: from early '90s: RESULTS information to be inserted up to the '80s: from early '90s:	OBJECTIVE information to be inserted up to the '80s: from early '90s: POLICIES information to be inserted up to the '80s: from early '90s: RESULTS information to be inserted up to the '80s: from early '90s:

Table 3: Agriculture of the Commonwealth of Independent States (European) (highly aggregate level) ... Continued

FACTORS:	Ecological	Economic	Social/Institutional
SCALE: National/ Sub-Regional	OBJECTIVE *up to the '80s*: mainly to increase agricultural output *from early '90s*: design of National Natural Conservation Programmes (e.g. concept of National Strategy of Biological Diversity Conservation in Ukraine, 1997) and of International Convention such as P.E.B.L.D.S.	OBJECTIVE *up to the '80s*: food security and agricultural export *from early '90s*: transition towards market-based economy	OBJECTIVE *up to the '80s*: satisfaction of rural communities' needs by state farms *from early '90s*: transition towards individual responsibilities in satisfying private needs, creation of markets' institutions
	POLICIES *up to the '80s*: intensive agriculture and land conversion (e.g.1954-60 "Virgin lands" programme in USSR converted about 41mln ha of steppe to arable land) *from early '90s*: recognition of the importance of integrating environmental aspects in agriculture landuse	POLICIES *up to the '80s*: centrally planned demand and supply *from early '90s*: price liberalisation, trade policies, creation of markets, creation of credit services,	POLICIES *up to the '80s*: provision of rural social services *from early '90s*: reform of land and of the agricultural sector
	RESULTS *up to the '80s*: localised problems coming from chemicals, livestock concentration and irrigation schemes, loss of ecosystems (e.g. steppe), desertification and soil erosion (e.g. 40.9% of agricultural lands in Ukraine) *from early '90s*: likely of biodiversity gains coming from reduced impacts of chemicals inputs and livestock concentration and extensification of cultivation practices in general; overall effects resulting from reforms to early to be identified	RESULTS *up to the '80s*: agricultural sector has a relative greater share of GDP than in the rest of Europe, *from early '90s*: decreased production output, macroeconomic problems (i.e. high inflation rates, budget unbalances, unfavourable balance of payments),	RESULTS *up to the '80s*: coincidence of rural communities with farm's workers families under the leading guidance of collective farm managers *from early '90s*: deficiencies in access rights to farming and to rural credit and services
SCALE: Regional/Global (i.e. influences and results of European objectives and policies on the sustainability of agricultural uses of natural resources of other world Regions; to be analysed in co-operation with interested world Regions)	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed	OBJECTIVE to be analysed POLICY to be analysed RESULT to be analysed

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Summaries

Au plan agricole, l'utilisation des ressources naturelles en Europe varie de manière considérable. Il s'avère donc assez risqué de faire des généralisations en décrivant l'agriculture européenne. Cependant, l'avantage est que l'on peut se concentrer davantage sur l'essentiel dans l'analyse de tendances actuelles qui militent en faveur de l'utilisation durable des terres agricoles. Une caractéristique commune à l'agriculture en Europe est l'intérêt accordé depuis toujours à la sécurité alimentaire. Après 40 ans d'efforts, l'on peut dire que l'objectif de la sécurité alimentaire est atteint dans toute la région, ce qui signifie que les besoins d'une population totale de 680 millions d'habitants sont satisfaits. La présente étude commence par une description socio-économique du secteur primaire dans les trois sous-régions de l'Europe occidentale, centrale, et orientale, ainsi que dans les Etats indépendants du Commonwealth, avec un accent particulier sur les réformes agraires. L'étude met ensuite l'accent sur les principaux outils de réforme que sont les mécanismes commerciaux et la définition des droits de propriété. Elle conclut par l'examen des services publics environnementaux assurés par les agriculteurs, tels que la conservation de la biodiversité et des sites.

El uso agrícola de los recursos naturales en Europa es muy diverso. Por lo tanto, resulta un tanto arriesgado generalizar demasiado la descripción de la agricultura europea. No obstante, puede ser ventajoso tratar lo más esencial cuando se hace un análisis de los actuales derroteros hacia la sostenibilidad en el uso de la tierra de cultivo. Una característica común de la agricultura europea ha sido el interés histórico por la seguridad alimentaria. Como resultado de un proceso de 40 años, puede afirmarse que se ha conseguido en toda la región el objetivo de la seguridad alimentaria, satisfaciendo la demanda de una población total aproximada de 680 millones. Este trabajo se inicia con una descripción socioeconómica del sector primario en tres subregiones –Europa occidental, países de Europa central y oriental (CEEC) y estados independientes de la Comunidad Británica (CIS)– con un énfasis especial en las reformas en las tierras de cultivo. El estudio, posteriormente, trata de las principales herramientas de la reforma: mecanismos con base en el mercado y la definición de los derechos de propiedad. El trabajo concluye con el examen del suministro de bienes públicos medioambientales (como la conservación de la biodiversidad y los paisajes) por parte de los agricultores.

Tenure in the Context of Sustainable Use of Natural Resources in Asia

Shafqat Hussain[1]

The predominant tenure system in Asia was communal tenure by which whole communities owned a resource and possessed communal rights to its use. Colonisation of Asia in the middle of the nineteenth century by the industrially advanced and wealthy European countries played a significant role in forcing a change and breakdown in local values and institutions – particularly those relating to property rights. Rather than conserving these resources, the colonial powers exploited particular resources primarily to generate revenue for further resource extraction within Asia. This policy never gained legitimacy amongst the majority of local people, nor was it effectively enforced. As a result, traditional and customary tenure systems continued to exist, albeit 'illegally' and with weakened authority.

At present there are four types of common property rights regimes operating in Asia: open access, communal property, private property, and State property. After independence colonial policies were continued and all resources became state owned.

The current system of protected area management is inefficient due to high transaction costs. It has engendered an inherent perception of illegitimacy amongst local peoples encouraging non-compliance with the system.

Introduction

There are many factors that affect the sustainable use of resources. On the social front literacy, population growth, and urbanization are important factors. Among economic factors, structure of the economy, links to the international economy, and political ideology of a country are most notable. Tenure is another factor that affects sustainability of resource use, cross cutting as it does through economic and social dimensions.

Most of the literature on tenure exists as a part of two larger disciplines: it is analyzed either from the standpoint of the political economy of development of newly liberated states, or, it is analyzed from a social and anthropological perspective. From a conservation point of view, very limited literature exists on tenure and resource use sustainability.

At first sight the concept of tenure is straightforward enough. "*[Tenure] is a system of rights regulating the ownership or use of land*". Broadly speaking tenure can exist either formally – as a legal document originating from a central legislature – or informally as a result of orally established local property rights and community-based consensus. It is sometimes also referred to as a property right regime. Property rights regimes include two components:

1. property rights: entitlements defining rights and duties in the use of natural resources, and
2. property rules: the rules under which those rights and duties are exercised.

The aim of this paper is not to pinpoint the exact relation between different tenure arrangements and their effect on sustainability of resource use in Asia. Rather it is to bring the issue of tenure into the sustainability equation, and draw some generic lessons from Asia. This paper is also intended to highlight the role of tenure as an important fac-

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tor in conservation and sustainable use and for its consideration in international policy arenas. For the purpose of focus, I have limited the literature review to selective renewable natural resources such as forest and its products i.e., wild species of flora and fauna, pastures and protected areas.

BACKGROUND TO ASIA

Intertwined with the broad ecological diversity of the Asian continent are a wide range of historic cultures that preach prudent use of nature for community benefit. The great cultures of Buddhism, Hinduism, and Shamanism and later Islam, as part of their general teaching, have promoted wise and prudent use of nature and its resources for a community as whole. Buddhist communities in the northern part of the sub-continent (China, Mongolia, and Southeast Asia, emphasized the upkeep of the ecosystem in balance with religious fervor and authority.

> "*In the past Mangolian nomadic society was strongly determined by principles related to behavior focused on surviving in the harsh environment, in which Shamanism and later Lamaism played a major role. These religions emphasized the importance of living in harmony with nature, and their written texts and customs included a series of basic nomadic land-use principles and guidelines. These were related primarily to the use of land, water, soil and vegetation and simultaneously formed a framework for adjudicating related conflicts between users of the land. The leading principle for nomadic land use was related to what we may now describe as 'sustainable' principles.*" (Germeraad & Enebisch, 1995)

The destruction of nature was checked through sanctions and the promotion of a compatible set of collective social behavior guidelines. For example, greed, wasteful behavior, and accumulation of wealth are condemned and emphasis is laid on equity, simplicity, and communal harmony. These social goals were the guiding principle for all social, political, and economic institutions in Asian societies.

TENURE IN AN ASIAN PERSPECTIVE

The predominant tenure system in Asia was communal tenure. In this system whole communities owned a resource and had communal rights to its use. They managed the resource through local institutions that set their own rules for resource use. Within the community, tenure was granted to individuals, a household, or a clan. In the case of land a communal tenure system may divide the whole land into small plots and grant use rights on an individual basis. This system works like a private property system in which individuals can exercise the right to exclude other individuals from their plot of land.

Tenure could also be extended to naturally growing resources on communal land, without allowing for cultivation. For example, in northern Pakistan, under the communal tenure system over forest, members of the community exercised the right to harvest herbs and grasses or collect fuelwood for subsistence. Collection of resources was not allowed for commercial purpose; resources could only be collected for subsistence use.

Individual property rights were very frequently traded or sold. For example, a member of the community who did not live in the community area and thus did not use the resources could trade his right of use to other individuals. In some cases communal rights were granted to only those members who lived in the community. Resident status was also defined using various other criteria. For example, members living permanently outside the community could have resident status (and the rights this conferred on them) if they owned a house within the community area, or their livestock grazed on the community pasture.

Rights were defined for water and pastures. These resources were managed in the same way (i.e., by defining criteria for exclusion and inclusion). Often these rights were based on very old traditions. For example, in northern Pakistan, communities managed irrigation water through a system that dated back at least four hundred years (Gloekler, 1995).

Rights to use of wildlife were also very complex. For example, in Wakhan, Afghanistan, hunting was allowed but only for certain members of the community. However, if a hunter killed an animal and other non-hunting community members arrived at the scene, they had the right to claim a share of the meat. This arrangement was probably devised to ensure a degree of equity in access to the benefits from wild game.

In some cases tenure systems over some resources changed seasonally. Mostly of the privately held agriculture land, in the central Asian mountain communities, became an open access resource after the harvesting season. During this time, livestock grazed freely on anybody's land and individuals did not have the right to fence their land in order to stop communal livestock from grazing. This system reflected the adaptation made to fight shortage of livestock feed in these communities and the relative role livestock played in the economy.

MANAGEMENT OF TENURE – THE 'TRADITIONAL' ADVANTAGE

Matters relating to tenure were usually managed by a traditional village committee, made up of village elders. The main function was to resolve conflicts and disputes, and provide a fair and inexpensive judicial system that was sensitive to the prevailing climate of social, economic, and ecological values. Access to a quick and fair system of conflict resolution avoided the chances of resource degradation, as a resource that was under an unclear or conflicting tenure arrangement encouraged resource degradation.

In most of the Asian rural communities, the village-level committee formed an efficient and inexpensive management system, entailing coordination of resource use, implementation of mutually agreed upon laws, and adaptation in tenure arrangement as needed. It was inexpensive due to its low transaction costs – the costs incurred in keeping a resource under control and keeping a tenure system functional (Eggertsson, 1996). In the case of communal tenure systems, evolved from within the communities and carrying the sensitivities and views of whole communities, compliance was voluntary, thus incurring very little transaction cost. Due to a low rate of violation and fairly secure control over communal resources, very few resources were wasted, thus making the system economically efficient.

TRANSFORMATION OF ASIA

In the last quarter century, Asian values and institutions have been subject to transformation. This transformation has been caused by both internal and external social, ideological, and economic forces. Among external forces have been the rise of the global economy and global culture, each with its own distinct set of values, making them important factors in the equation. Due to technological advancement at the global scale, linking of local economies with the global economy has become inevitable. The exposure to global culture has inspired many Asian cultures to take on values that conflict with traditional Asian values. The new values promote self-interest over communal interest, pursuit of material wealth, and less regard for resource sustainability. In most cases this exposure to alien values was not voluntary, but forced upon Asian societies.

Colonization of Asia by the industrially advanced and wealthy Europe in the middle of the nineteenth century played a significant role in forcing a change and breakdown in local values and institutions. Perhaps the most drastic change was forced in the institution of property rights.

Several Land Alienation Acts and Land Ordinances were passed in colonial Asia in the name of 'public interest' and 'security'. These laws were imposed on all natural resources including farmland, wasteland, forests, fisheries, and wildlife. Under these pieces of legislation tenure of natural resources passed from local communities to the government. Any remaining property judged communal was managed under rules defined by the colonial legislation. Ownership of agricultural land was concentrated in the hands of local people loyal to the colonial powers. The goal of colonial tenure policy was completely opposite to that of pre-colonial Asia: it was to exploit natural resources, to generate the material resources necessary to expand the empire deep into new geographical areas in order to further continue resource extraction. Such a process helped create a status quo in support of colonial rule.

Not surprisingly, imposed tenure policies never gained legitimacy amongst the majority of local people, nor could they be effectively enforced. As a result, traditional and customary tenure systems continued to exist, albeit 'illegally' and with weakened authority.

ASIA BECOMES INDEPENDENT

After independence and the emergence of new sovereign states, no significant changes were made to the colonial system of tenure. No attempt was made to reintroduce and legalize the customary and traditional tenure systems.

The single most important reason in keeping with the status quo was that new states wished to pursue a goal of economic growth through industrialization. Such a process was based on the import of machinery and expertise from the west. The nations of Asia financed this goal principally through the continuing sale and non-sustainable exploitation of natural resources.

Until recently, conservation of resources did not fit with the economic development goal of many countries. In fact, some countries regarded conservation as counter-productive to the efforts of economic development. Therefore, State-defined tenure systems over natural resources did not take conservation measures into account. Natural resources continued to be exploited on a non-sustainable basis either to earn much needed hard currency to pay interest on huge foreign debts or to fuel import substitutions industrialization.

CURRENT SITUATION

Today there are four types of common property rights regimes in Asia. These are:

- open access;
- communal property;
- private and State property.

Open access resource is usually a public good (e.g., water bodies, parks and mountains that are accessed by all segments of public). It is essentially a system in which rights are not defined. Most open access resources, however, are State property, but without a management regime — it is a *laissez-faire* system. Historically, most of the open access resources were under communal tenure and were later alienated from local people.

In management terms the communal property regime is perhaps the most common property regime in Asia. In communal property a resource is controlled by a community, who can exclude non-community members and regulate use. Most of this management is considered 'illegal' as communities do not have formal title to these resources. The resources over which communities extend their communal property rights are, in legal terms, under either a State property or an open access regime – both formally owned by the State. Communities in Asia continue to deny the State's encroachment on their resources and struggle to keep their traditional systems alive in order to protect their livelihoods. The State, on the other hand, exerts its pressure to keep control over these resources. It is this state-community conflict that forms the core of tenure and resource sustainability debate in Asia. This conflict is nowhere more intense than in State-run protected areas.

Legally, State property is the most common type of property regime in Asia, all of wildlife and most of the forest and range land falls under the State property regime. The State owns these resources and all rights to access and use are vested exclusively in the State. Part of this State control over resources evolved in to the Protected Area Management System (PAMS).

Very few natural wild resources are held under private property regimes.

TENURE AND MANAGEMENT OF PROTECTED AREAS

The protected area management system was first introduced in 1960 in Asia. The thinking behind the system was laudable enough, shadowing conventional attitudes towards conservation prevalent at the time. Governments sought, through legislation, to reduce the pressure of resource use in natural areas, principally by excluding people and removing their rights to tenure. Laws were drafted on the central assumption that human activity in sensitive areas was necessarily destructive (Kothari et al., 1997). Unfortunately, in most cases, this assumption proved correct. However, the underlying reason for the failure of PAMS was not the resource use method of local communities but the effects flowing from a bad law.

For the efficient management of a tenure system, transaction costs have to be lower than the benefits received from the resource. Experience demonstrates that low transaction costs are achieved through equitable management. Equity does not mean that resource users get equal shares, but it does mean that management of a tenure system is consistent with social standards for representations, distribution, openness, and conflict resolution. PAMS meets none of these criteria because it has an inherent notion of illegitimacy in the eyes of the local people, who encourage non-compliance with its management system.

Due to weak government control illegal activities such as poaching, hunting, and felling thrive. This has resulted in driving some species of wildlife to the verge of extinction. Illegal poaching and hunting are a direct result of weak State enforcement capacity and absence of communal control. Poachers from outside come in and take animals without checks. Most states in Asia have full-fledged national parks departments. These departments consume scarce government resources without actually achieving their objectives – sustaining biodiversity of the protected areas. High transaction costs of PAMS and no apparent benefits render their management inefficient.

"The sustainable use of natural capital will be facilitated by those property rights regimes capable of responding to feedback from natural capital... A systems view of the difference between common property and open access systems: Common property systems have two way feedback between the resource, the regime, and the institution. These linkages enable institutions (rules in use) to regulate resource use. In the case of open access systems, however, there are no institutions to respond to signals from the resources and no negative feedback (stabilizing feedback) or rules to regulate use. The result is that open access system tend to turn into positive feedback loops (vicious circles) whereby resource depletion leads to more intensified use, which leads to more depletion." (Berkes, pp. 93, 1997)

STATE OF THE ASIAN FORESTS

State forests in Asia are mainly managed by providing concessions, licenses, and quotas to private, non-local operators. These operators could be national or international timber companies, fishing fleets, or mining companies. It is no surprise that run at a profit seeking commercial enterprises, the motive of these concession holders is economic efficiency and productivity gains, with no regard to the sustainability of resource extraction. The situation is further exacerbated as companies prefer to have short-term con-

Open access resource is usually a public good (e.g., water bodies, parks and mountains that are accessed by all segments of public). It is essentially a system in which rights are not defined. Most open access resources, however, are State property, but without a management regime — it is a *laissez-faire* system. Historically, most of the open access resources were under communal tenure and were later alienated from local people.

In management terms the communal property regime is perhaps the most common property regime in Asia. In communal property a resource is controlled by a community, who can exclude non-community members and regulate use. Most of this management is considered 'illegal' as communities do not have formal title to these resources. The resources over which communities extend their communal property rights are, in legal terms, under either a State property or an open access regime – both formally owned by the State. Communities in Asia continue to deny the State's encroachment on their resources and struggle to keep their traditional systems alive in order to protect their livelihoods. The State, on the other hand, exerts its pressure to keep control over these resources. It is this state-community conflict that forms the core of tenure and resource sustainability debate in Asia. This conflict is nowhere more intense than in State-run protected areas.

Legally, State property is the most common type of property regime in Asia, all of wildlife and most of the forest and range land falls under the State property regime. The State owns these resources and all rights to access and use are vested exclusively in the State. Part of this State control over resources evolved in to the Protected Area Management System (PAMS).

Very few natural wild resources are held under private property regimes.

TENURE AND MANAGEMENT OF PROTECTED AREAS

The protected area management system was first introduced in 1960 in Asia. The thinking behind the system was laudable enough, shadowing conventional attitudes towards conservation prevalent at the time. Governments sought, through legislation, to reduce the pressure of resource use in natural areas, principally by excluding people and removing their rights to tenure. Laws were drafted on the central assumption that human activity in sensitive areas was necessarily destructive (Kothari et al., 1997). Unfortunately, in most cases, this assumption proved correct. However, the underlying reason for the failure of PAMS was not the resource use method of local communities but the effects flowing from a bad law.

For the efficient management of a tenure system, transaction costs have to be lower than the benefits received from the resource. Experience demonstrates that low transaction costs are achieved through equitable management. Equity does not mean that resource users get equal shares, but it does mean that management of a tenure system is consistent with social standards for representations, distribution, openness, and conflict resolution. PAMS meets none of these criteria because it has an inherent notion of illegitimacy in the eyes of the local people, who encourage non-compliance with its management system.

Due to weak government control illegal activities such as poaching, hunting, and felling thrive. This has resulted in driving some species of wildlife to the verge of extinction. Illegal poaching and hunting are a direct result of weak State enforcement capacity and absence of communal control. Poachers from outside come in and take animals without checks. Most states in Asia have full-fledged national parks departments. These departments consume scarce government resources without actually achieving their objectives – sustaining biodiversity of the protected areas. High transaction costs of PAMS and no apparent benefits render their management inefficient.

"*The sustainable use of natural capital will be facilitated by those property rights regimes capable of responding to feedback from natural capital… A systems view of the difference between common property and open access systems. Common property systems have two way feedback between the resource, the regime, and the institution. These linkages enable institutions (rules in use) to regulate resource use. In the case of open access systems, however, there are no institutions to respond to signals from the resources and no negative feedback (stabilizing feedback) or rules to regulate use. The result is that open access system tend to turn into positive feedback loops (vicious circles) whereby resource depletion leads to more intensified use, which leads to more depletion.*" (Berkes, pp. 93, 1997)

STATE OF THE ASIAN FORESTS

State forests in Asia are mainly managed by providing concessions, licenses, and quotas to private, non-local operators. These operators could be national or international timber companies, fishing fleets, or mining companies. It is no surprise that run at a profit seeking commercial enterprises, the motive of these concession holders is economic efficiency and productivity gains, with no regard to the sustainability of resource extraction. The situation is further exacerbated as companies prefer to have short-term con-

cessions (Callister, 1992). The companies want only short-term rights because of their obvious lack of interest in the long-term future of the resource. Then there are problems of actually monitoring the compliance with the terms and conditions of the concessions (i.e., the rights granted for resource extraction). With poor management structure, inadequate capacity, and pervasive corruption in the State governance systems, short-term rights act as a strong incentive for illegal resource extraction.

If forest cover is taken as a proxy indicator of biodiversity richness, Asian countries have suffered significantly. Loss of forest cover has a direct bearing on biodiversity. Habitat destruction is the number one cause of biodiversity loss. Both national and international logging companies have cleared a large part of the natural forest in the insular Southeast Asia (Brunei, Indonesia, Malaysia, the Philippines, Papua New Guinea) and continental Southeast Asia (Cambodia, Laos, Burma, Thailand, Vietnam).

It is estimated that at the turn of the century two-thirds of Thailand was covered under forest of remarkable ecological diversity. Now it has only 15 per cent of the total land area under patchy forest cover. Indonesia is second only to Brazil in tropical forest area. It harbors a rich range of fauna and flora and has the largest mammal diversity on earth with 515 species. The country is continuously plagued by conflicts between State and local people, with the end result of forest and biodiversity degradation. In 1934 57 per cent of the Philippines was covered by forest. By 1980 this figure had fallen to 20 per cent (Ismartono and Gill, 1996). A report from the Interpress Third World News Agency (IPS) states that according to a study carried out by the FAO on Asian tropical forests, in 1980 the rate of deforestation was estimated at two million hectares per year. In 1990 this rate had almost doubled to 3.9 million hectares per year. This is 50 per cent more than the loss rate for Latin America (IPS, 1995).

The case of illegal logging and smuggling of wood in the South-east Asian region is the biggest example of how short-term, centrally administered property rights lead directly to the unsustainable use of forest in a region. The forests of Southeast Asia are not being degraded by the logging companies alone. The local communities, who continue to deny the government-imposed tenure structure, also engage in 'illegal activities'. Lack of government capacity to carefully govern the State property rights regime has rendered most of the areas as *de facto* open access. The result of this is devastating. The communities who once used the forest and its resources, and managed it for its long-term future, can no longer do this even amongst themselves. Their communal regimes and management systems have been undermined by State institutions, creating an incentive for the community and its individual members to extract as much as possible from the resources within an uncertain time frame.

This all happened not only because of the type of tenure, but as IPS puts it, *"The Asian Development Bank said a macro-economic and inter-sectoral approach to forestry is crucial because deforestation is linked to rural poverty, population growth, agricultural practices, the development of infrastructure and alternative livelihood options and energy policies*" (IPS, 1994). The ADB also said that "*(it) will support fuelwood production by local communities and farmers by promoting incentives such as land use reforms, security of property rights and alternative energy sources and by restricting access to previously 'free' resources*" (ADB News Release No. 20/95, 1994).

> "*The government's high profile in forestry management dates back to the late 19th century and decisions made by the British colonial administration. To provide timber for an expanding railway network and for shipping, the administration enacted laws in 1865 and 1878 that effectively granted the government control of India's forest… The colonial laws had several unfortunate consequences. Foresters tended to try to limit people's access to forests and to treat agriculture and forestry separately. Tribal forest communities had no ownership rights and only limited use of the forest. Conflict often arose between government forest managers and shifting cultivators or local inhabitants who wanted to have access to the forest for firewood and other forest resources. Official foresters mainly concentrated on timber extraction. The government frequently sold wood at low prices, prompting paper mills and plywood companies to maximize short term profit by harvesting until a resource was exhausted, then moving to another area. In regions such as Uttra Kannada district of Karnataka, companies exhausted the more accessible deciduous forests and then went after even more remote evergreen forests… In the race to extract timber, forest products that could be used as fuel, food raw material, and medicines were largely overlooked… This approach also reduced the incentive for local residents to harvest fuelwood, fodder, and other products on a sustainable basis. Recently the government has begun involving village communities and non-governmental organization in forest management*". (The World Resources Institute, 1994-95, pp. 88-89)

PARADIGM SHIFT

In most cases nationalization of resources in Asia has resulted in social dislocation and resource degradation. Governments are beginning to realize that excluding people has done more damage to resources than conserving. Nepal nationalized its forest in 1957 to combat desertification. Communal rights of locals were denied, but new tenure regimes could not be enforced. A as result locals saw the forest as an open access resource and the rate of deforestation increased. Later, government recreated communal property rights in 1976 (Berkes, 1997).

This introduced a new compromise approach to forest management in Asia — social forestry. Social forestry is essentially a new tenure arrangement over resources that are co-managed by the State and community. This approach gained currency in Asia, especially in the rural mountain communities, and social forestry is now practiced in Pakistan, India, Nepal, Central Asian States, China, and Bhutan.

The experience of co-management in social forestry has so far proved to be very successful although limited in scale. Its success has prompted governments to test the co-management approach in other resources areas as well. The most important example comes from Northern Pakistan, where government has given partial ownership of wildlife to the community, who manages it on a sustainable basis.

CONCLUSION

Conservation, sustainability, and sustainable use are concepts for the long term. Implicit in these terms is society's continued interest and stake in the access, use, and flow of resources. Uncertainty of access to resources undermines this long-term view. Uncertainty breeds chaos, which leads to uncoordinated behaviors in human society. Coordination plays a central role in keeping social stability and ensures long-term endurance of human society. It begins with identification of collective goals, setting of roles and responsibilities among different players, and putting in place a mechanism for accountability. Coordination and accountability are governed by social institutions. The institution that facilitates accountability in the use of resources is property rights or tenure.

At the interface between natural resource exploitation and conservation are local people. Historically rights of tenure have been handed down through generations, a line of custodianship that safeguarded the local biodiversity while enabling people to sustainably exploit the natural resources around them.

Man is an entrepreneurial explorer with a gift for inventing and exploiting technology. As we have seen, the arrival of colonial powers in previously balanced agrarian societies led to a breakdown in local tenure rights and opened-up natural resources to exploitation for reasons other than survival and small scale trade. The rights and responsibilities of tenure were removed from people and centralized within government. Without properly monitored contracts this diffusion of power created a vacuum that both commercial interests and local people filled, each 'illegally' exploiting resources within an increasingly short and desperate time frame. Pressures from the global market place, population growth, and corrupt governments all combine to make natural resources more vulnerable and rarer than ever and the need for action increasingly urgent.

For a management system to be economically efficient, control over resources should be secure. In the case of State property the system lacks secure control over resources and makes transaction costs high, while management becomes inefficient as resources are wasted and degraded.

It will be a long haul to get centralized, bureaucratic administrations to hand back custodianship of natural resources to local people. The ownership of tenure is a powerful tool, one that governments have used to build societies.

Annex I

TENURE, SUSTAINABLE USE AND THE CONVENTION ON BIOLOGICAL DIVERSITY

The opening article to the Convention on Biological Diversity (CBD) clearly set the tone for the approach to biodiversity conservation.

> **"***The objective of this Convention, to be pursued accordance with its relevant provisions, are the conservation of biodiversity, the sustainable use of its component and the fair and equitable sharing of the benefits…*" (in Glowaka et al., 1994)

This article sets out three main objectives of the Convention. The objective of sustainable use is covered under Article 6, 10 and 14 of the convention. However it is section c of article 10 that brings the issue of tenure, albeit implicitly, into the Convention. The article states that it is the objective of the Convention to:

> "*Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirement*" (in Glowaka et al., 1994)

ARTICLE 11: DEALING WITH INCENTIVE MEASURES STATES:

> *"Each contracting party shall, as far as possible and as appropriate, adopt economically and socially sound measures that act as incentive for the conservation and sustainable use of components of biological diversity"* (in Glowaka et al., 1994)

Seen in the context of this paper, it becomes very clear that the issue of tenure is an important subject because it relates to the 'socially sound measures' discussed here.

The objective of fair and equitable sharing of benefit from the use of biodiversity is covered under Article 16 of the Convention.

In so far as the Convention sets out realistic goals, its treatment of tenure and the promotion of sustainable use and sharing of benefit is not very explicit. For example, one would argue that before fair and equitable sharing of benefit, there has to be fair and equitable control over and access to the resources from which the benefit accrues. This issue then puts tenure at the heart of the matter. It is also very important that real property rights (as opposed to intellectual property rights) of the people to resources are safeguarded and (re)arranged in a manner that provides for socially sound practices based on cultural and traditional methods of sustainable use of resources.

Annex II

INDIGENOUS PEOPLE

> "*The International Work Group for Indigenous Affairs (IWGIA) estimates that there are over 200 million people belonging to 950 distinct indigenous communities in Asia. Indonesia with 300 ethnic groups ranks first in diversity while China and India with 91 million and 51 million indigenous people are at the top in the terms of sheer population*". (Gill, 1995)

Unlike New Zealand, Australia, Latin America, and North America, where most of the ethnic groups are struggling against dominant European settlers, the situation is much more complex and bleak in Asia. In Asia, indigenous people are coerced into unacceptable administrative, political, and cultural structures by fellow Asians. This has put them in a relatively disadvantageous position in international arenas. Outside Asia, the plight of indigenous groups has gained a lot of publicity. The movement to restore indigenous rights has gained wide public support. The reason for this support is the context within which the issue is debated – the colonial history. The issue is highly political and sensitive and to some extent has put non-Asian indigenous people in a better bargaining position than their Asian counterparts.

> *"The plight of Asian indigenous people continues to go mostly unnoticed because it hardly comes out of the realm of national political arena. 'Talking about indigenous people is likely to open a Pandora's Box in Asian societies where typically a variety of age old ethnic, linguistic, and cultural groups lay claim to the same territory,"' says a South Asian diplomat based in Bangkok.*
>
> "*Asian governments have refused to accept the concept of indigenous people, claiming that the term is too ill-defined and nebulous. But at the root of the problem is their willingness to give up political control over weaker ethnic groups*," says Luingan Lithui, a Naga activist (ibid.).

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Summaries

Le système foncier prédominant en Asie était le régime communautaire qui permettait à des communautés entières de posséder une ressource et de jouir de droits communautaires pour son utilisation. La colonisation de l'Asie au milieu du dix-neuvième siècle par les pays européens riches et industrialisés a joué un rôle primordial en introduisant un changement et une rupture dans les valeurs et institutions locales, en particulier celles relatives aux droits de la propriété. Plutôt que de conserver ces ressources, les pouvoirs coloniaux ont principalement exploité des ressources particulières afin de générer des revenus pour extraire davantage de ressources en Asie même. Cette politique n'a jamais acquis de légitimité au sein de la majorité des populations locales et n'a donc jamais pu être réellement appliquée. En conséquence, les systèmes fonciers traditionnels et coutumiers continuent d'exister, bien que de manière illégale et avec une autorité amoindrie.

Il existe actuellement quatre types de régimes de droits de propriété communautaire en Asie : l'accès ouvert, la propriété communautaire, la propriété privée et la propriété publique. Après les l'indépendance, les politiques coloniales et toutes ont été poursuivres les ressources ont été étatisées.

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*El sistema de tenencia predominante en Asia fue la tenencia comunitaria, mediante la cual la comunidad entera era propietaria del recurso y poseía derechos comunitarios para su uso. La colonización de Asia, a mediados del siglo XIX, por parte de países europeos ricos e industrialmente avanzados desempeñó un importante papel en la producción de cambios y rompimientos en los valores e instituciones locales, particularmente en lo relativo a los derechos de propiedad. Lejos de conservar esos recursos, las potencias coloniales explotaron recursos especiales con el fin de obtener ganancias y, con ellas, extraer otros recursos dentro de Asia. Esta conducta nunca obtuvo legitimidad entre la mayoría de las gentes del lugar, que siempre mostraron su oposición. En consecuencia, los sistemas de tenencia tradicionales y habituales continuaron existiendo ilegalmente (*albeit*) y con autoridad debilitada.*

Actualmente, hay cuatro tipos de regímenes de derechos de propiedad común que funcionan en Asia: acceso abierto, propiedad comunitaria, propiedad privada y propiedad estatal. Después de la independencia, continuaron las políticas coloniales y todos los recursos pasaron a poder del Estado.

El actual sistema de manejo de zonas protegidas es ineficiente debido a los altos costos de las transacciones. Ello ha generado una percepción intrínseca de ilegitimidad entre las gentes de los lugares, quienes fomentan un espíritu de incumplimiento del sistema.

Natural Resources Tenure in the Context of Sustainable Use

Simon Metcalfe[1]

Tenure systems define a relationship between people, not just between people and some physical property. That property may be farmland, grazing land, forest land, a river, a fishery, wildlife, or some other resource, including minerals. Tenure is not just about owning land but encompasses a 'bundle' of rights and responsibilities to a range of renewable and non-renewable resources. Each resource has particular physical qualitie, and technical constraints on its use, yet it fits into an integrated ecosystem. Land resources throughout most of Africa are administered through three overarching tenure systems: state, traditional, and private. In general, the State has legally co-opted traditional communal tenure to create a statutory communal system overlaid on the traditional one. However, the State is seriously challenged by customary authorities. Unless the two systems can be reconciled, the political will to establish a communal land reform policy will not exist.

Introduction

Between the desire to preserve customary tenure and the impulse to modernize lies the dilemma of the present land reform policy debate. One system emphasizes security, equality, and community; the other, productivity, social differentiation, and individuality. The social security of the communal resident is based on belonging to a group and having an inalienable right of access to share tribal land. This is at odds with the security some economists envisage based on an expanding economy with rising levels of real income. To be acceptable to a majority of rural people, any change from the traditional communal system must provide greater security for all. The benefits of change must be greater than the advantages lost in the process.

Any comprehensive communal tenure policy, and attendant institutional framework, must ensure community interests like food and social security, and enable individuals to access resources and accumulate wealth. Policymakers throughout Africa are challenged to address the countervailing authorities of traditional and statutory approaches.

The Traditional Communal Tenure Systems of Africa

The cardinal feature of customary tenure, before its gradual erosion under the impact of colonial policies and population pressure, was its consonance with traditional land use systems, which in turn were well adapted to ecological limitations. Under communal tenure, at least in theory, all members of a community had a right of access to land for cultivation, pastoralism, hunting, fishing, and residence. Social or family organization was intimately linked with exploitation of the land. Geography could be seen in terms of social organization: land as a genealogical map.

The highest authority in the customary tenure system of the Shona people of Zimbabwe was the chief, who was, by and large, a territorial ruler. The tribal area was subdivided into semi-autonomous wards, each under a hereditary headman. Each ward was a geographical and kinship unit containing a number of villages. The villages (*kraals*) were groups of households whose members were related by family ties, the kraalhead being the head of the family. Land was held by the community but an individual's rights

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were secure. Grazing land was common property.

The security enjoyed by tribal people was based on an inalienable right to share in tribal land. More than simply a means of production, land represented a hereditary right to belong to a community. However, the fact that communal land customarily had no market value did not mean that it was freely accessible to anyone. An allocation procedure based on kinship and local conventions recognized and rationed the finiteness of land and natural resources.

Customary tenure has the following strengths:

- The system has been flexible and resilient enough to survive the racial land apportionment process of settler domination.
- It still has vigour today within democratic and bureaucratic local authorities.
- Customary tenure has prevented significant speculation and land grabbing by not allowing a land market to develop.
- Its strengths are much clearer in regard to the ownership and management of commonage than of cropping lands.
- Authority over and management of common property resources was united. Collective decision-making was effective and rules were enforced.
- Above all, it consolidates the cohesion of the group, whether a simple kinship group or the whole village.

Customary tenure also has disadvantages:

- It does not fit well with the statutory system of property rights and the land market.
- It is uncertain because it provides limited tenure security based on community membership, not individual title; this can discourage conservation and improvement of natural resources, as individuals externalize conservation costs to the community.
- It does not encourage the credit and investment necessary for development as land is not taken as capital to be owned.
- It can perpetuate clan rivalries and tribal divisions.
- It is patriarchal and clashes with the 'democratic' ideal of gender equality.
- In short, it impedes the ascendance of individuality through land accumulation and the formation of a landowning class.

THE EVOLUTION OF DUALISTIC COMMUNAL TENURE SYSTEMS

The twentieth century has witnessed the formal demise of customary tenurial systems through the alienation of land to private and state sectors. Particularly in countries that had colonial settler populations the alienation to the private sector was in some cases severe (e.g., South Africa, Namibia, and Zimbabwe). Generally in Africa the introduction of bureaucratic regulatory powers has undermined the traditional management of the common natural resource base. The colonial system co-opted traditional authority into district administration, with management responsibilities over specific resources divided into specialist technical and regulatory agencies.

Colonial (1890-1980) attempts at communal land reform in Zimbabwe focused on moves toward granting farming rights (cropping land) while retaining communal grazing. These attempts failed largely because the government lacked legitimacy, planning, as it did, communal reform within a racial national land policy framework. These contextual flaws do not exist today. Representation of the people exists at local and central levels. Communal land tenure reform can take place in relation to reform of the commercial land tenure system, and communal interests can participate in the policy formation process.

So far, however, post-colonial governance has featured the further ascendence of bureaucratic governance based on co-management by 'democratic' local and central government. Democratic local authorities have formally replaced customary authorities. Despite the law, which has the local authorities as communal land authorities, it is still custom and a sense of community that are the organizing principles of communal land.

Today Zimbabwe's communal areas are characterized by:

- high population pressure;
- high rates of overstocking;
- small farms in comparison to the large-scale sector;
- high levels of environmental degradation;
- low productivity;
- life based on cultural and traditional practices; and
- dual resource governance systems, comprising elected and traditional institutions.

Some of these problems can be laid at the door of land alienation by settler and State regimes, while some are caused by inefficient and ineffective community decision making caused by the dualistic tenure system.

THE PROBLEM OF SPLIT AUTHORITY

As long as communal land resources are both formally State and informally customary lands, authority and management

will be compromised and open access tendencies will thrive. This dualism in control of access to rural resources is common in Africa.

The fracture in authority at the community level manifests itself throughout government-promoted natural resource management programs.

- In the Zambezi Valley, in-migration of settlers, deemed illegal by local authorities, continues unabated. Traditional leaders directly challenge the statutory system by granting access to land. Unplanned settlement in the area threatens to fragment the landscape and drastically dilute the resource supply to human demand ratio. Unless local communities can enforce exclusive access, the possibility of sustainable development is severely undermined.
- The same symptom of dualism is seen in the management of the artisanal fishery of Lake Kariba. In their efforts to regulate the fishery, the local authorities have usurped the authority of tribal kraalheads and the tendency toward open access has increased. Without the support of traditional authorities, the State is attempting to grasp at control beyond the reach of its effective power.
- The agriculture department has attempted to manage livestock grazing by establishing grazing communities of livestock owners under statutory development committees. In reality these committees cannot effectively demarcate grazing areas without input from the local kraalhead.

The ambiguities of statutory policy and practice allow traditional authority to re-emerge as a source of power responsive to local needs. Rural communities need a supportive framework for resource ownership and utilization. This is a broad governance and civil society agenda as the management of the rural resource commons concerns the ordering of society and the role of the economic market to stimulate development. Both community (customary authority) and private sectors may seem fragile in comparison to the State, but the regulatory authority of the State is nowhere more illusory than in regard to what actually happens on the ground.

THE CHALLENGE TO BALANCE AUTHORITY OVER COMMUNAL RESOURCES

Internationally, the need to decentralize natural resources management to clearly bounded local communities is widely advocated. Communities should be involved in planning and implementing projects and enhanced economic benefits of resource use should accrue directly to them. Unfortunately, these good intentions often fail to achieve sustainable natural resources management and utilization. The actual outcome is often the co-option of local elites and leadership for derived programs. Decentralization can mean just another bureaucratic obstacle in natural resources management.

The question of how to balance dualistic authority is extremely challenging to national governments whose own authority is based, sometimes tenuously, on democratic principles. The Land Tenure Commission in Zimbabwe has recommended strongly that the government recognize the traditional village, constituted under the village headman, as the basic unit of social organization in communal areas. Members of the traditional village should be given formal perpetual rights, jointly, to land and all resources in the village. A schedule of members would be maintained, and the village would have rights to include or exclude new members. The Commission also recommended the disbanding of the State-supported village committees. Traditional institutions would replace statutory ones at the lowest level (village) and integrate with them at the coordinating level of the district.

Thus, communal land would no longer be State land, and having joint title, could then sub-title residential and arable land while retaining the commons as village property. The government has not, however, accepted this recommendation. Communal tenure is a political issue. Once communities have land rights they would grow in stature and security, which the fragile nation states of Africa could find threatening. The spirit of statutory governance in Africa still tends towards centralization and that spirit is partly underpinned by weak tenurial conditions for the majority of rural Africans.

COMMUNAL TENURE AND MARKET LIBERALIZATION

As global market liberalization replaces development as the *modus operandi* for North-South relations the 'developing' nations have little choice but to enter the neo-liberal universe of democratisation, market economics, and international trade. Given the indebtedness of most African nations and their extremely weak position in world trade they have little choice but to adjust their economic and political strategies. What does this mean for the conservation of biological diversity, the sustainable use of natural resources, and the equitable distribution of conservation costs and resource

use benefits? Unless African governments decentralise authority and responsibility over land and natural resources to communities and other regionally defined governing structures, the threat to biological diversity and socio-economic development is very real.

Countries with large debts to service are being driven toward export-led policies. For many parts of southern Africa this includes tourism, based on its unique wildlife diversity and wild open spaces. However, the ownership of these natural resources is widely contested within communities and between them and their governments. The danger exists that governments will tend to further alienate resources from communities in pursuit of joint-ventures with foreign investors. Unless rural communities are granted strong (legal) group tenure over common pool natural resources the State could empower itself and the private sector at the expense of its rural, increasingly marginalised, people.

In rural Africa today access to land and natural resources is the overarching political issue. While individuals need secure access to arable land their communities need secure access to common property resources, like wildlife, if they are to approach establishing sustainable livelihoods for themselves. Their prospects also depend on the lifestyle options of all people in the world who aspire to individualised 'western' material standards.

This scenario is a threat to nature because only those people living with the resources can truly appreciate what life would be without them. If rural communities are alienated from their resource base their survival instincts could force an 'open access' resource scramble in Africa. Communities are more likely than the constituent individuals who form them to make some of the hard sustainable use choices. However, communal identity can be reinforced or denied, depending on government policies related to both tenure and decentralization.

The economic value of wildlife is a threat to its conservation if that value is appropriated by people who do not have responsibility for it. Conservation costs must be directly allied to resource use benefits. As the world moves towards global markets and ideologies it is imperative that we remember that developing countries are characterised by a weak State apparatus, centralised institutions, cultural diversity, and large rural populations who practice subsistence agriculture. A model is necessary that ensures that good governance and sustainable resource use are one and the same thing. Communities with secure tenure will appreciate both their governments and their natural wealth more than those without, a win-win situation. Fortunately, in southern Africa there is some ground for optimism as several national policies reflect a desire to decentralise some authority over natural resources, and as a consequence we are, to some extent, witnessing a renaissance in relations between communities and their wild and open spaces.

MANAGING SAVANNA RANGELANDS FOR A MULTI SPECIES APPROACH

Much of Africa, two thirds of southern Africa, is typically dry savanna ecosystems. Protected areas are unfenced wildlife islands in a landscape perceived by local people as a rangeland resource for domestic wildlife production (e.g., pastoralists). The forage resources of graze, browse and water, on which domestic and wild species depend are the primary production base of dryland areas. Access to forage is generally broad and subject to competing legal (national) and utilization (local) systems. Although, in principle, a common property, forage is effectively privatised by livestock owned by individual households. Livestock management is the preferred land use because domestic animals can be easily owned, used, and marketed and are integral to the household production system. Although wildlife may have a comparative economic and ecological advantage it is not regarded as useful because of its proprietorial constraints. Communal people living in dry areas lack adequate legal, institutional, economic, and technical resources to conserve both their rangelands and their wildlife; fundamentally, they lack the incentives to do so (Cumming, 1994).

Rangeland resources that are critical to community livelihoods are increasingly becoming fragmented through population growth and privatisation, while the management costs of conserving them remain largely externalised. With the prevailing dualistic authority pattern across the continent, local people have little formal legal standing in relation to the rangeland or the wildlife, but their property right over livestock is sacrosanct. Simply, wildlife, and the rangeland it depends on, must become valuable to the people in the same way their cattle are. Unless and until tenurial arrangements are established which cater for a multispecies approach (wildlife and livestock) the tendency will be for the household property of livestock to dominate the community property of wildlife. In this predicament, the better bounded (enclosed) both the resource (rangelands) and the resource users (stock owners) are, the easier the management task will be (Uphoff, 1986).

Most livestock is owned by a minority of the community who pay little for their access and have a strong vested interest in livestock production. A common property approach would therefore be a threat to the rural power elite, be it traditional or modern leadership. For the majority such an approach would be attractive inasmuch as communal ownership would provide a redistributive mechanism between

those who have stock and those who have forage on which the stock depends. Competition for forage resources, especially in key resource areas (e.g., riverine) highlights the urgent need for a market mechanism that can allocate scarce biological resources to individuals and groups. A supply and demand mechanism is necessary to allocate grazing between resource owners (communities) and users (households): a management regime, based on tenure, that holds users accountable to producers.

Although livestock is differentially owned between households, local cattle 'barons' have customarily been accountable, to the point of social cohesion, to the community. A fiscal arrangement (e.g., community trust) could provide a formal rather than a patrician approach to the issue if a resource use charge (rent) for a given time period granted the user legitimate exclusive rights of access. In return the producer group would gain a local revenue base with which to meet costs of social security and a managerial control with which to insist on sustainable use. This could apply not only to rangeland forage resources but all natural resources where a defined user group requires access to communally owned resources (Metcalfe, 1995).

Tenure over common pool forage resources is at the heart of a sustainable multispecies approach in African savanna ecosystems. The worst case scenario would be a perpetuation of the blurred boundaries between state and community, democratic and traditional authorities, as well as between resource users and producers. In these circumstances only rainfall variability (drought) can assert control over stocking levels, humbling human management effort.

A TENURIAL LESSON FROM MOZAMBIQUE

Rural communities in Mozambique are threatened by the absence of formal recognition of customary land rights. The government can abrogate community rights of access to land and the natural resources in their neighbourhood at will. In a situation of State debt and structural adjustment the pressures on governments, in search of exports, to mortgage a country's natural resources to foreign investors is great, as witnessed with timber concessions in the Amazon Basin. Indigenous local communities with no formal title to land, wildlife, forest, coastal, and marine resources are threatened by loss not only of their present productive base but also all their future land use options as well. With the erosion of customary tenure communities lose their negotiating power over resources desired by the State and international investors and face the prospect of becoming merely a source of cheap labour.

The partnership between State and investor is missing the crucial aspect of local communities because of their lack of formally recognised land rights. If alienated from their own resources rural peoples are likely to assert access and force the state into expensive and largely futile protectionist approaches. Mozambique is not unique in having no legal basis by which rural communities can negotiate partnerships with the state and private sectors. The community-based wildlife utilization experiment in Mozambique's Tete province required a legislative diploma to permit the active participation of the community in a sport hunting enterprise. At present the continued presence of the tsetse fly in parts of Mozambique is doing more to conserve biodiversity, by limiting habitat conversion to livestock, than any national or international policy and programmatic effort.

A TENURIAL LESSON FROM SOUTH AFRICA

The recognition of traditional land claims in South Africa has meant that the protected area authorities have to negotiate with communities in regard to their management. Consequently, authorities have to regard communities as potential management partners of the protected areas in question along the lines of the co-management approach developed in Australia with Kakadu National Park (Northern Territories) where the state is effectively the management authority but the ownership is vested with the aboriginal peoples.

Apart from land claims inside State-proclaimed protected areas there is also the matter of tenure on communal lands themselves. The Transkei Wild Coast provides a pertinent example. The socio-economic status of most rural people in the Transkei can be characterised as poor with dependency on migrant labour financial remittances. The poorest households are most dependent on harvesting natural resources from the marine and forest resource bases. An overall natural asset of the area is the coastline itself, which provides tremendous aesthetic land and seascapes that have potential for a local tourist industry. Previously, land was vested in the traditional leadership on behalf of their communities. Recently, land authority has been vested in elected transitional rural councils. Therefore, the legitimacy of tenure is contested between two competing local authorities.

The State has established a Wild Coast Spatial Development Initiative (SDI), which aims to attract capital investment into a poor area with the view of "*generating employment and creating opportunity for local communities to become partners and co-owners of viable, multi-million rand income-producing projects. The design is that capital is coming to the Wild Coast and wants to team up with the communities in bringing their asset to the table: the*

land" (Pienaar, 1998). The government appears to recognise that however the land is legally dispensed the underlying right remains with the community, whether traditionally or customarily defined. Consequently, the Minister of Lands is the nominal owner of the land on behalf of the government. He intends to transfer the land in an "*orderly and transparent manner*". Pending the finalisation of land transfer to communities, investors can obtain legal security of tenure through long-term leases that will be registered in their favour by the Minister of Lands as the nominal owner of the land.

Once the land is transferred to communities from the State, they will 'step into the shoes' of the minister, inheriting all his legal rights and obligations in the land. For this reason, communities will be intimately involved in the negotiations process to ensure they are satisfied with all the agreements.

This example indicates a way through the present impasse related to communal tenure. Rather than the State alienating communities in favour of partnership with the private sector, the State acts in partnership with communities first and works with them in regard to any private access to resources negotiated. The intent is clear, that the State recognises communal tenure, facilitates its evolution, and underwrites its interests. Therefore, the State can link its land policy and its spatial development initiative directly with the tenurial interests of local communities. At the macro level of tenure this is a viable approach given one's faith in the state to do 'the right thing' by its constituent communities. However, at the micro level many issues remain (Pienaar, 1998).

RESOURCE ENDOWMENTS AND ENTITLEMENTS

A recent study of the social and ecological dynamics of rural livelihoods of people living along the South African coastal areas of the Wild Coast (Pondoland) highlights that tenurial issues are manifest at different spatial and temporal dimensions. Resource endowments vary in time and space within and between local community areas. Although a common tenurial code may apply at a certain level of administrative or settlement scale, within that scale access to specific resources at specific places and seasons is highly dynamic and driven by need, opportunity, and proximity. An environmental entitlements framework emphasises the nature and role of institutions in local people's livelihoods. Evident in the Wild Coast area is the issue of conflict between institutions at local and external levels. At the local level, this conflict centres around authority with a three-way conflict between chieftaincy (traditional), council (elected), and several local organisations. Central to this conflict is the uncertainty about roles each should play, with each using historical facts to motivate its position. The chieftaincy relies on customs that the communities know. The councils are legitimated by the democratic process. The local organisations are legitimated by common practice established on the ground. In reality, both the chieftaincy and especially the council are relatively remote management authorities whereas the local organisations have developed *in situ* (e.g., marine and forest resource users).

The study recommended that any outside intervention in this matter should encourage some degree of compromise by all the conflicting institutions. Government legislation alone is not enough to solve the problem. An environmental entitlements framework looks inside broader tenurial dispensations, whether statutory or traditional, highlighting those institutions that complement each other in mediating access to environmental resources. Some of the (informal) institutions (e.g., craft-makers) are often not valued by policymakers, despite the fact that policy changes affecting these institutions greatly affect people's livelihoods. The study ends by stating that "*intervention should enhance areas of complementarity, while helping to reduce conflict between institutions*" (Kepe, 1997).

Annex I

STRENGTHS OF ZIMBABWE'S CAMPFIRE PROGRAMME[2]

- The principle of empowerment of communities over resources was established by devolving State control over wildlife to districts who further devolved those rights to communities.
- The land use potential of wildlife has been advanced by establishing high values on wildlife through consumptive and non-consumptive utilisation.
- Community-level institutions have evolved and shown a capacity to organize themselves effectively.
- CAMPFIRE has demonstrated the validity of devolution of tenure over common property resources, which informed the Land Tenure Commission recommendations.
- The combination of resource regimes and valuable resources has provided incentives for improved management. Indicators of this are:
  — the development of a process of internally motivated common property;
  — improved land use planning and management of the village commons;
  — improved returns on forage use; and
  — improved social infrastructure, welfare, and household and food security.

WEAKNESSES OF CAMPFIRE

Two key factors account for most of CAMPFIRE's weaknesses:

- its attempt to empower communities with tenure over only one resource in a holistic bundle, and
- its inability to directly address the dualistic authority issue.

Consequently the following problems are manifest:

- The overall tenurial (property rights) framework does not exist for integrated village common property resource regimes.
  — Wildlife legislation supports districts not villages. Formal authority is with districts, technical control with sectoral agencies and management control with villagers. Consequently, a framework exists to enclose the wildlife commons, but not the livestock grazing lands.
- Authority over resource access is split between statutory and customary authorities.
  — Resource boundaries and loyalties to basic units of social organisation can conflict. Conflicts can elevate local transaction costs, as consensus is not easily forthcoming.
- Authority over resource management decisions is split at the intra- and inter-village level depending on the particular resource tenure niche in question.
  — Key resources are not evenly distributed, so carrying capacity varies between villages. In times of resource pressure, villages well endowed with forage resources cannot enforce exclusion and must allow access to other villages.
- Jurisdiction over resource access can be confused between the different tiers and sectors of statutory governance.
  — Clear rights and responsibilities at various levels of social organization do not exist. The technical input of sectorial agencies undermines rather than supports community-based management. Management decisions can be compromised to prevailing social, economic, and political forces. This is particularly true with regard to livestock management, which manifests differential ownership. Decisions favour the owners rather than the rangelands or equity considerations.
- The sustainability of the wildlife resources market

[2] *"CAMPFIRE (Communal Areas Management Programme For Indigenous Resources) was conceptually developed by the Branch of Terrestrial Ecology, Department of National Parks and Wildlife Management in the Ministry of Natural Resources and Tourism in Zimbabwe. The fundamental aim behind the CAMPFIRE Programme is to move away from purely protectionist and preservationist wildlife management policies toward an approach which integrates conservation with development. Therefore the value that the natural resource base has is of critical importance. Being common property, of equal importance is the issue of equity or distribution of value. To whom do the trees, soils, rivers, and wild animals belong? CAMPFIRE argues for the proprietorship by local people of their natural resource base. Grass, for instance, is not just a free and abundant resource but a limited resource that can facilitate the production of domestic (cattle, goats) or indigenous (wildlife) species, or both." (Africa Resources Trust website: <http://www.art.org.uk>)*

is questionable compared to livestock and agriculture.

— Whereas sport hunting and, increasingly, non-consumptive tourist markets have been reliable so far, the consumptive market is vulnerable in the medium term due to external economic and political pressures.

Annex II

THE RELATIONSHIP BETWEEN TENURE AND SUSTAINABILITY: THE CENTRALITY OF RESOURCE OWNERSHIP AND USE

Wildlife management policies in southern and eastern Africa have recently introduced the concept of sustainable use and encouraged integration of conservation and development objectives. Essentially, sustained use of wildlife necessitates two conditions:

- Clearly defined property regimes: Who is entitled to what?
- Established use values for natural resources: What is wildlife worth?

The combination of clear resource entitlements and trade in wild species provides a positive economic incentive to develop and conserve wildlife as a land use. New policies in the southern African region have attempted to re-empower local communities with valuable wildlife use rights because as long as wildlife was state property, the communal people could not and would not invest in it. As communal property, wildlife can compete with domestic livestock for a place on the rangelands.

Ownership of wildlife without trade would provide little incentive for conservation. Trade without focused ownership is insufficient to ensure sustainability.

Two fundamental principles are involved:

- The unit of proprietorship (tenure) should be the unit of production, management and benefit. It should be as small as possible.
- Those who live with the resource should benefit from its value (trade). Management and benefit should be positively co-related.

Unless wildlife outside protected areas is a positive land use option, it will lose its habitat to monospecies production systems, which is contrary to what both ideologies support.

Annex III

THE CONSERVANCY: AN EMERGING CONCEPT FOR MULTITENURE LAND USE

The use of conservancies in some southern African countries is giving rise to a need for a precise and useful definition of the concept of 'conservancy'. This is fundamental as the policy debate can easily become confused on this issue. At stake are the following choices:

- a 'conservancy' is a general term that encompasses virtually all the wildlife management activities undertaken by the private sector;
- a 'conservancy' is a private sector wildlife co-management arrangement;
- a 'conservancy' is a co-management scheme within or between the private, communal, and state sectors.

Murphree and Metcalfe (1997) opted for the third alternative defined as follows:

"*A conservancy is a contractually legitimated co-management entity which involves two or more recognised land and resource authorities formed for the use and conservation of natural resources on land under their jurisdiction.*"

Their reasons for selecting this definition are:

- To define any wildlife management activity on a single holding in the private sector as a conservancy merely replaces the current usage of the terms 'game farm' or 'ranch' and loses any special utility the concept of a conservancy could have.
- To apply the conservancy concept only to the private sector loses the applicability of the concept within the communal sector and between it and the private and State sectors.
- The conservancy approach, as a concept and a tool, can have utility in the process of selectively adapting and improving the present wildlife policy and legislation. As defined here the 'conservancy' concept can help to clarify both the roles and the relationships between the main land tenure groupings of the country, that is, the protected area authority as the 'responsible authority' for all wildlife and the communal and private sectors as 'appropriate authorities' for wildlife on their land.

Essentially, the protected area authority (PAA), through this definition has two major roles:

1. To be accountable for the status and utilization of all wildlife in the country.
2. Through a conservancy approach the PAA can be a partner agency with either the communal or private sectors, or both of them.

Most wildlife management boundaries have been artificially established through the delineation of State, communal, and private land over the past century. A conservancy approach could encourage co-management entities to be voluntarily established and thereby facilitate the creation of management units that are ecologically and economically robust. Not only could a conservancy approach enhance the ecological and economic objectives of the protected area authority but also go some way to addressing the thorny equity issue between land authorities.

The evolution of co-managed conservancies between the State, communal, and private sectors, or combinations, could help provide the ecological and economic scale necessary to determine sustainable use as well as address critical equity issues between stakeholders.

Annex IV

THE ROLE OF THE INTERNATIONAL COMMUNITY

The international community can guide these issues through the Convention on Biological Diversity (CBD), whose core principles supporting conservation, sustainable use, and equitable sharing of costs and benefits provide a framework for addressing tenurial issues. The CBD highlights and supports an ecosystems approach for sustainable use and recognises the important role of indigenous peoples and local communities within nation states. The CBD recognises national sovereignty as central in a three tier system of local, national, and global interests. This means that the global and the local interests have to be accommodated in national policy. While the global dimension comprises many national interests so the national dimension is made up of diverse local interests. There may be some validity in the view that occasionally the global and local dimensions should ally to ensure a conducive national environment on tenurial issues.

If it is human nature to attempt to accumulate property to oneself at the expense of others, and further, if economic and political elites of the world tend to protect their property at the expense of the weak, then communal property will be increasingly vulnerable. We witness this at the global level with conventions for the sea, air, wildlife, biodiversity, etc. The struggle to combat the "*tragedy of the commons*", where natural resources are like a community purse that gets spent more quickly, and with less thought, than if the money came from an individual's own purse, is occurring locally and globally. In Africa, where indigenous communal property systems are still extensive there is a great challenge to ensure that statutory tenurial regimes recognise this through an enabling policy and a positive incentive environment. The theme is universal and therefore must be addressed at all levels of policymaking — global, national, and local.

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Summaries

Les régimes fonciers définissent une relation entre les personnes, et non pas seulement entre les personnes et les biens matériels. Ces biens matériels peuvent être des terres agricoles, des pâturages, des forêts, des rivières, des pêcheries, des espèces sauvages, ou toute autre ressource, y compris les minéraux. La propriété foncière ne se limite pas à la possession d'une terre ; elle comprend aussi tout un «arsenal» de droits et responsabilités ainsi que toute une gamme de ressources renouvelables et non-renouvenables. Chaque ressource possède ses propres particularités physiques, ainsi que des contraintes techniques liées à son utilisation, et pourtant elle s'adapte à un écosystème intégré. Les ressources agraires sont, dans la plus grande partie de l'Afrique, gérées par trois grands régimes fonciers : public, traditionnel, et privé. D'une manière générale, l'Etat coopte le régime communautaire traditionnel pour créer un système communautaire statutaire qui couvre le système traditionnel. Cependant, l'Etat est sérieusement contesté par les autorités coutumières. A moins de réconcilier les deux systèmes, la volonté politique de mettre en place une politique de réforme agraire communautaire n'existera pas.

Los sistemas de tenencia definen una relación entre las gentes y no precisamente entre la gente y alguna propiedad física. Esa propiedad puede ser una tierra de cultivo, pastizal, terreno forestal, un río, una pesquería, zona silvestre o cualquier otro recurso, incluidos los minerales. La tenencia no se trata precisamente de poseer la tierra, sino que abarca un montón de derechos y responsabilidades respecto a una serie de recursos renovables y no renovables. Cada recurso posee cualidades físicas específicas y limitaciones técnicas en cuanto a su uso; sin embargo, se adapta a un ecosistema integrado. Los recursos de la tierra en la mayor parte de África se administran por medio de tres sistemas de tenencia "en arco": estatal, tradicional y privado. En general, el Estado ha dispuesto legalmente que la tenencia tradicional comunitaria sea sustituida por un sistema comunitario estatutario. Sin embargo, el Estado enfrenta un serio desafío por parte de los poderes establecidos por la costumbre. A menos que haya una reconciliación entre los dos sistemas, no se dará la voluntad política de fijar una posición comunitaria de reforma de la tierra.

Influence of Tenure and Access Rights on the Sustainability of Natural Resource Use

Gaikovina Kula[1]

The Pacific Island countries and territories occupy a vast region, covering more than 38 million square kilometers of the Pacific Ocean. Less than 2 per cent of this is land scattered over thousands of large and small islands. Large-scale industrial fishing and logging in the region has depleted valuable resources while providing minimum benefits to local communities. Invariably, the Pacific Island region's form of land tenure is seen as central to this problem. Generally, land belongs to the traditional owners and cannot be bought or sold. It would seem that the development issues center around the inability to buy or sell land itself. The bond between traditional land ownership and sustainable resource use can occur, but accountability for benefit sharing and resource use must build upon an appreciation of the deep spiritual, ecological, economic, and social bond between land and the people.

> *Land is our physical life and our social life; it is marriage; it is status; it is security; it is politics; in fact, it is our only our world. We have little or no experience of social survival detached from the land. For us to be completely land-less is a nightmare that no dollar in the pocket or dollar in the bank will allay; we are threatened people. (Dove, Miriung, and Togolo, 1974:182)*

The Region and Land Ownership

The Pacific Island countries and territories occupy a vast region, covering more than 38 million square kilometers of the Pacific Ocean in their Exclusive Economic Zones. Of this, less than 2 per cent is land scattered over thousands of large and small islands. Within this vast area are 27 island nations, territories, and affiliated states and an incredibly diverse array of traditional cultures, all dependent upon their natural resources for survival (see the map). The Pacific Island region has more rare, endangered, and threatened species per capita than anywhere else on earth. Its marine environment comprises an enormous and largely unexplored resource, including the most extensive and diverse reefs in the world. The region supports large blocks of intact rainforests, including many unique species and communities of plants and animals found nowhere else in the world.

Living conditions by global standards are often very basic and economic development is poor. Subsistence farming and fishing is the main occupation of most people; health and education services are very basic or non-existent. Life expectancy is low and infant and maternal mortality is the highest in the world. The region lacks infrastructure development and reliable access to potable water (in a region

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Country	Total Land Area (sq.km)	Population	Population Growth rate(%)	Growth rate of GDP (%)
Cook Islands	237	19 100		
Fiji	18 272	777 700	1.7	2.6
Kiribati	81	78 300	1.9	3.5
Marshall Islands	181	54 090		
Palau	488	16, 00		
Papua New Guinea	462 243	3 951 500	2.4	2.1
Solomon Islands	28 330	367 400	3.3	6.8
Tonga	747	98 300	0.4	2.0
Tuvalu	26	9 500		
Vanuatu	12 190	164 100	2.9	2.6
Western Samoa	2 935	163 500	0.6	0.2
American Samoa				
French Polynesia				
Guam (US)	541	146 700		
New Caledonia (France)	19 103	182 200		
Micronesia	701	105 900		

Table 1: Some Basic Indicators for the Pacific Island countries and Dependent Territories.

of high rainfall), which is a basic need of all communities. Population and economies are small compared with the western world, with Papua New Guinea having the largest land area and freehold the smallest. Some of the basic indicators for the Pacific Island countries are listed under Table 1.

Rapid population growth (2.2 per cent for the region; as high as 3.6 per cent in some countries); habitat destruction from logging, mining, agriculture, uncontrolled disposal of wastes, and coastal/near-shore degradation; over-harvesting of fish and wildlife resources; and introduced pests have combined to put tremendous pressure on natural environments. Very new threats to the region's biodiversity are the destructive live reef fish trade from Asia and illegal bio-prospecting.

Large-scale industrial fishing and logging in the region has depleted valuable resources while providing minimum benefits to local communities. The effects of resource depletion have become more evident, and issues such as benefit sharing, accountability of resource use, and the sustainability are of concern. For example, 50-60 per cent of the US$1.7 billion commercial tuna industry is caught

in the EEZs[2] of Pacific iIlands countries, but these countries realize only 4 per cent of the dollar value of the total catch. In forestry, rates of deforestation by timber operations in Papua New Guinea and the Solomon Islands have increased so drastically, yet less than 10 per cent of the value is estimated to stay within the national economy.

Today, the conflict among (1) companies expecting a reasonable return on investment, (2) governments who want national sustainable economic growth and social development; and (3) local communities who want improved quality of life for this and future generations to come (including respect for community values) is resulting in the serious loss of natural resources across the entire region, with little positive return for any local people.

Land tenure is deeply embedded in wider political relationships, and the issue is not easily reduced to a code that everyone can agree on. Customary landowners are seen to be gaining steadily increasing shares of benefits, while companies provide the local services that the government cannot afford.

LAND TENURE

Invariably, the Pacific Island region's form of land tenure, which differs markedly from western systems, is seen as central to this problem. Most Pacific Island countries have emerged from the colonial era with a system of customary ownership of lands in some form still in tact (see Table 2 below). Generally, land belongs to the traditional owners and cannot be bought or sold.

Countries	Customary Owned[4] (%)	State (%)	Freehold[3] (%) Hectares
Papua New Guinea	97	-	3
Vanuatu	-	-	-
Solomon Island	87	8	5
Fiji	83	10	7
Western Samoa	80	16	4

Table 2: Comparison of Customary and State Ownership Over Land Areas

It would seem that the development issues center around the inability to buy or sell land itself. It is argued here that this is a misconception. The bond between traditional land ownership and sustainable resource use can occur. Accountability for benefit sharing and resource use must build upon an appreciation of the deep spiritual, ecological, economic, and social bond between land and the people across the Pacific Island cultures. If mutual benefit is to occur and resource usage and access to resources in our cultures is traditionally managed, businesses must learn how to conduct negotiations in traditional cultures.

THE OPERATING TENURE

To better understand the essential features of the tenure systems operating across the region and the implications for sustainable development there is a need to define both 'customary tenure' and 'communal tenure'.

Customary tenure refers to *having traditional right to own the land and anything found on it like the forest, wildlife, mineral, gas, and water and to some extent, air.*

On the other hand, the communal tenure is the *way in which the customary tenure is used and managed.*

Such a system is a common view shared across all communities in Papua New Guinea, and the essential features and the social economic implications are common to other island nations in our region.

A community of several clans may claim an area of land as its territory. The boundaries are sometimes not well defined. Within that territory, each clan is acknowledged. The whole is not a common property of the community for more intensive uses, despite the fact that, by custom, all residents may be free to gather forest products, like firewood and building material from most of the territory. For example, from the forest and uncultivated areas. Although some limited rights may approach commonality within this forest or uncultivated land, individual trees or products may be recognized as the property of individuals and control of hunting and gathering may rest with particular people or subgroups. Within the land of one clan, for example the uncultivated area, members may not all have equal rights to clear and cultivate any part. This is because specific individuals and families may hold residual and relatively exclusive rights to occupy. This results from passing of traditional rights or from the last period of cultivation of the particular piece.

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[2] *Economic Exclusive Zone.*

[3] *Including the Crown and native grants that are other than Crown freehold.*

[4] *Crown Land includes the Crown freehold (land purchased by government) and other land not yet transferred to the government and leased from the traditional owners.*

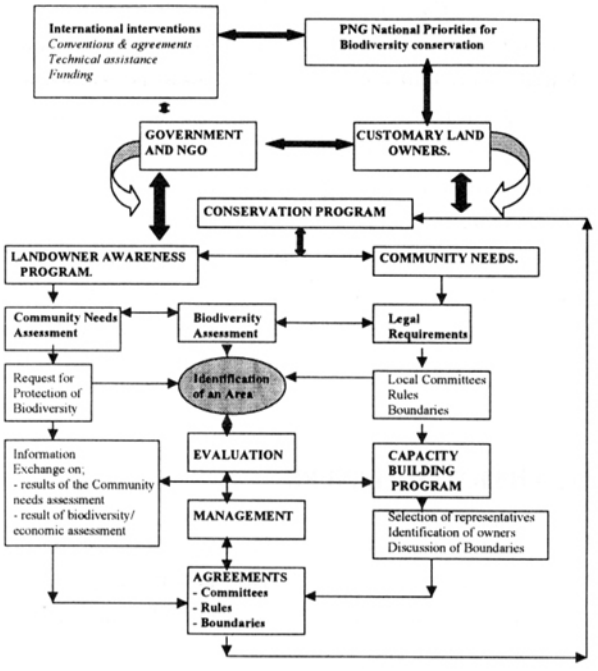

Figure 1: A General Process of Securing Access and Maintaining Land for Conservation Purposes.

The land of a house site (especially in *village areas*) may be very specifically under the control of a particular nuclear or extended family. Specific resource sites, such as a source of gravel, although within the boundaries of a clan's land, may be controlled by specific members of that or another clan. At the same time, there is relatively free access allowed to all for traditional uses. Upon the superficial examination of this type of system, it can be seen that all members are able to hunt, gather, or collect water and so forth from any area or site within the community's broader territory, and not only on the land of their own clan – the rights under customary ownership. Observance of this activity has led to the belief that land is common property. Few Pacific Islanders would accept such an interpretation.

As illustrated above, land in the Pacific Island countries is not common property in either the sense of open access to all people, or equal access to all members of a particular community that claims ownership. In general this is usually true of reef and lagoon fishing grounds. Community tenure, as defined above, is our operating tenure, and well developed and understood across Pacific Island communities. It has evolved as a part of the fabric of our society and will continue to evolve. Changes to it are subject to the decision -making processes that are also part of everyday village life.

Neither is it generally true that those members of the community who use specific pieces of land are insecure in their continued right of usage. It is reasonable to assume that individuals will continue to move towards individualization and privatization, within the realm of the security of customary ownership, so that village life will continue to operate on a continuum of hunting and gathering to very specific and individualized use.

Therefore, if security of occupation or usage in a land system or reliable access to resources is the necessary ingredient for development purposes, the Pacific Island operating tenures have this. It operates on a daily basis across the region, but within the collective ownership group. Therefore, communal ownership of land need not entail inefficient use of land and resources, but the traditional negotiating ways need to be looked at seriously.

KEY FACTORS AND CHALLENGES IN GAINING ACCESS

Accepting that the collective form of land ownership can accommodate differing rights of access, the essential question is how can access for use be made more secure for developers and how can benefits be shared equitably? What will result in sustainable, responsible usage? These are big questions and Figure 2 illustrates the general process of accessing and securing land for conservation purposes.As an example, some of these key factors are identified and discussed below.

In promoting conservation of biodiversity in Papua New Guinea — where land is owned under traditional ownership — it is very important that the correct landowners, leaders and traditional processes and linkages are identified in order to successfully achieve long-term acceptance by the owners and sustainable use of resources.

One of the most significant problems is gaining access to resources. In many cases, governments have allocated areas to forestry, infrastructure, mining, and other development purposes and are being challenged through the courts by local people. For example, in Papua New Guinea, logging concessions are given to developers without proper authority and the agreements are signed by people who are not the traditional landholders and often done through backdoor dealings. The most important factor is identifying the right traditional landowners and not the users.

In Fiji, traditional ownership is registered at the *Mataqali* level, which is a traditional functional level (usually about 10 families) and administrated by the Native Trust Board. This was done during British colonial times where land, traditionally used by various occupations (farmers, carpenters, fishermen, soldiers, chiefs) in carrying out their daily business was registered under an Act of Parliament.

Land can be leased for various purposes from traditional

owners through the Native Trust. These leases can be bought and sold. All capital improvement on the land is subject to formal approval, but not sold. Resources can be sold if a license (e.g. forestry) is obtained. Traditional owners can stop the business holding the license from selling it on to another party.

This is a very lengthy, time consuming process, requiring the commitment of major resources in funding and governmental capacity. In the region, governments do not have these resources nor the capacity, and the developers can't wait. This results in a policy of 'get in and get out quickly'. At the same time, this behavior leads to the best ore grades and the best trees being taken first with little or no attention being paid to the resulting environmental effects.

Once gaining access to a resource through the traditional negotiating systems is achieved, maintaining that access by some form of agreement is essential. In this case, developing landowner awareness programs through community participation is essential. Accessing and securing the land requires the capacity to maintain it. The continuous flow of arrows (see Figure 2) shows that consulting and negotiating deals with the government, the landowners, and the development agencies is very important for the reasons for sustainability of the resources and the community.

For example traditional western conservation through establishment of national parks and reserves is not entirely appropriate for Papua New Guinea. There are only four national parks established covering just 127 square kilometers or .03 per cent of the land areas. All of these areas are found in government lease areas. Probably the most appropriate protected area category for Papua New Guinea is the Wildlife Management Area (WMA), which allows certain designated species to be used by customary-owners under a set of rules for management and cropping programs. Some 23 of these WMAs exist and cover 13,732 square kilometers, or 2.8 per cent of the country.

Another approach gaining more recognition in recent years is the Integrated Conservation and Development model (ICAD). This approach links conservation initiatives to social and economic development, and they may be particularly appropriate to the needs and land tenure realities of PNG. These approaches and models are yet to be fully accepted by the customary owners to protect the biodiversity of Papua New Guinea.

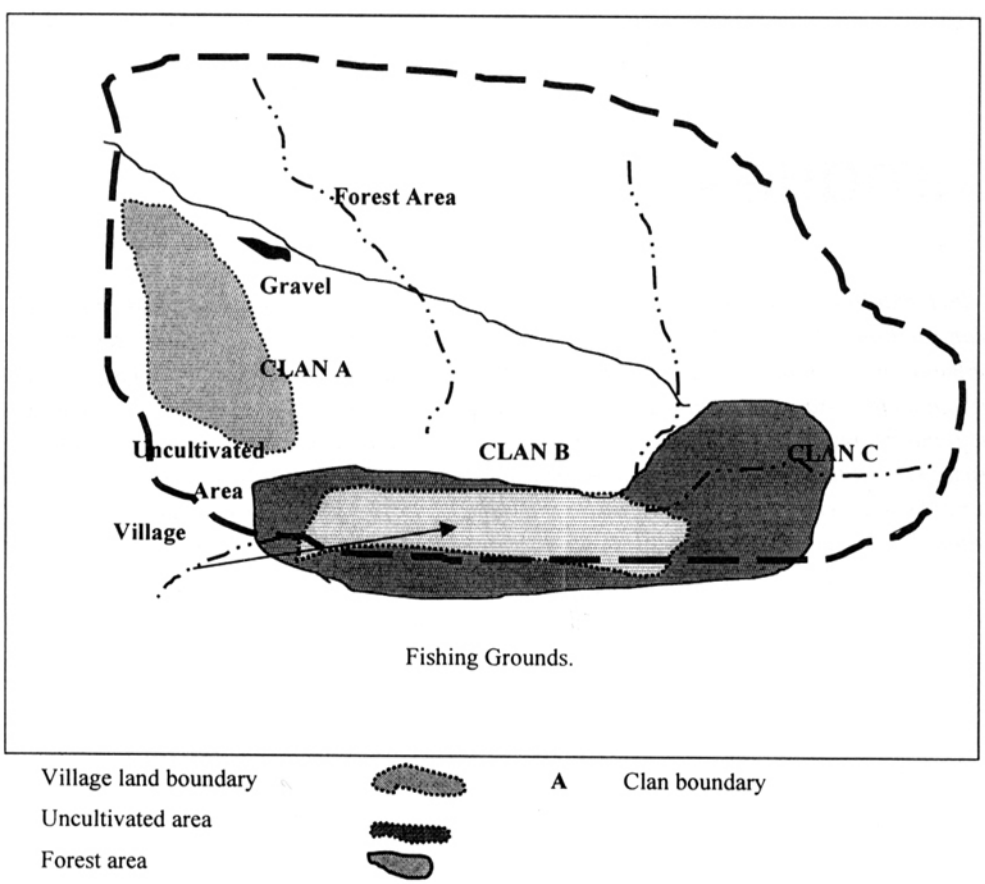

Figure 2: Landholdings in a Hypothetical Village Between Members of a Community and Families

CONCLUSION

To conclude, tenure in the Pacific Island countries can accommodate differing rights of access: access for use can be made more secure for developers with the benefits being shared equitably through traditional means of negotiation and distribution of wealth, by the following means:

1. Increasing the information flow between developing agencies and the PNG landowners/government and trying to develop a greater degree of trust in the information provided.
2. Widening the issues covered in the contract and agreements and including all parties likely to be affected in the negotiations. The terms of contracts and agreements should cover events such as unusually high prices, new discoveries of ore bodies, and environmental effects that may be seen to have only a low probability, and agreement should be reached on what should be done if they do occur. In particular, landowners should share in the windfall gains of high prices just as PNG government does already. Equity shareholding by landowners in mining ventures is one mechanism for achieving this objective as well as being a means of internalizing disputes by aligning land interests and voting interest in the mining company.
3. Landowner royalty payments could also be enhanced by a similar mechanism to the Additional Profit Tax. Intergenerational competition between landowners should be catered for through adoption of trust funds, which would pay an income stream to future generations.
4. Contracts and agreements should allow formal arbitration procedures to handle grievances rather than attempting to resolve these through courts.
5. Contracts and agreements should specify period reviews of fees and royalties. However, the wider the terms of the contract are drawn, the less will be the need for reviews.
6. The government should act to improve its reputation with investors. A body to review fiscal behavior has much to commend it.

These essential recommendations may also be applied to other forms of land use. For Papua New Guinea, and other Pacific Island countries with similar tenure regimes, it is essential to provide greater security of access to use of land. One way is better identification of land-ownership, which will entail survey and registration of land. However, saying this is not the same as saying that forms of land tenure have to be changed.

Summaries

Les pays et les territoires des îles du Pacifique occupent une vaste région qui couvre plus de 38 millions de kilomètres carrés dans l'Océan Pacifique. Moins de 2% de cette superficie est constitué de terres éparpillées sur des milliers d'îles de grandes et petites dimensions. La pêche industrielle et l'exploitation forestière à grande échelle dans la région ont épuisé de précieuses ressources tout en procurant des avantages minimums aux populations locales. Le type de régime foncier de la région des Iles du Pacifique est invariablement perçu comme étant le cœur du problème. D'une manière générale, la terre appartient aux propriétaires traditionnels et ne peut être achetée ou vendue. Il semblenait que les questions du développement soient centrées sur celle incapacité d'acheter ou de vendre de la terre.Il peut se créer un lien entre la propriété foncière tradition nelle et l'utilisation durable des ressources, mais la responsabilité du partage des bénéfices et l'utilisation des ressources doit reposer sur une appréciation du profond lien spirituel, écologique, économique et social qui unit la terre aux hommes.

Los países y territorios insulares del Pacífico ocupan una vasta región que abarca más de 38 millones de kilómetros cuadrados de dicho océano. Menos del 2% de esta superficie son tierras esparcidas en miles de islas grandes y pequeñas. Las industrias pesqueras y madereras a gran escala que hay en la región han agotado valiosos recursos con el mínimo beneficio para las comunidades locales. Sin ninguna duda, se considera fundamental en este problema la forma de tenencia de tierras de esta región de las islas del Pacífico. Por lo general, la tierra pertenece a los propietarios tradicionales, y no hay posibilidad de comprar o vender. Pareciera que los problemas de desarrollo se centraran alrededor de la incapacidad de comprar o vender la tierra misma. Es posible que se dé una conexión entre la propiedad tradicional de la tierra y el uso sostenible de los recursos, pero la responsabilidad en la repartición de los beneficios y en el uso de los recursos debe fundamentarse en la consideración del fuerte vínculo espiritual, ecológico, económico y social entre la tierra y la gente.

Tenure in the Context of Sustainable Use in Latin America

Alberto M. Vargas[1]

This paper presents an overview of the main issues that the international conservation community may consider in the formulation of policies regarding 'tenure' that may enhance the conservation of biodiversity through sustainable use in Latin America. First, a review of the concept of 'tenure' (of land and wild resources) is presented in the historical and socio-economic context of Latin America. The key tenure issues introduced include: inequitable distribution of land prevalent in the region; limited success of current land titling, privatization, and legislative efforts to correct disparities; status of protected areas, indigenous populations' land rights, and common property regimes; and the violent legacy of land tenure conflicts in the region. Two case studies in Bolivia and Mexico illustrate some of the implications of tenure issues for the conservation of biodiversity through sustainable use. Recommendations call for immediate action to solve tenure conflicts that exacerbate natural resource degradation, and learn from and support constructive examples where tenure enhances sustainable use.

Introduction

This paper presents an overview of tenure in the context of sustainable use in Latin America. The purpose is not to find consensus or to conduct a thorough examination of this enormous topic. Rather the aim is to highlight the main issues to be considered by the international conservation community in the formulation of policies regarding tenure that may enhance the conservation of biodiversity through sustainable use.

The importance of tenure for biodiversity conservation in Latin America can not be overemphasized. The region is important on a global scale because several megadiversity areas are included in Latin America, but also this region is one with the highest disparity in land distribution; as summarized by one analyst: "*In no other area of the Third World do so few monopolize the resources while the 'system' bypasses the many who are poor*" (Thiesenhusen, 1996). This inequitable distribution of land and resources has been repeatedly identified as one of the main factors influencing environmental degradation (Thiesenhusen, 1996).[2] The challenges for the international conservation community to incorporate tenure in policies to enhance sustainable use are considerable, but dealing constructively with the issue will pay high dividends.

The Understanding of Tenure in Latin America

Tenure (or *tenencia* in Spanish) is a concept that is often associated in Latin America with holding a 'title' to land and natural resources. In essence, it refers to 'who has the right to what'. Tenure is closely related to the concept of 'prop-

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[2] Thiesenhusen, 1996 p.12,13, cites several quotes highlighting this relationship: *"it is ludicrous to describe environmental degradation as only a function of demographics. Rather the situation is due to the extraordinary maldistribution of land..." (Hecht, 1985: 679); "...the real causes [of tropical deforestation] are poverty, unequal land distribution, and low agricultural productivity combined with rapid population growth." (Mahar, 1989:3).*

erty'. Analysts define property as a social convention *concerning "the security of future benefit or income streams*" (Bromley, 1989). Thus property refers to the triadic relationship, sanctioned by the state, among an individual (or a group) and the rest of society *vis à vis* an object (such as land or a natural resource). This relationship can be viewed as a 'bundle of rights'. To complete this concept, rights have associated 'duties,' which constitute the basis for accountability regarding the use of resources. Rights and duties related to property give rise to different regimes of land tenure. Analysts recognize private, public, and common regimes, and situations where the property relations are undefined (often referred to as 'open access') (Bromley, 1989).

Most Latin American governments have created restrictions on property, limiting the size of the land that can be owned and the associated bundle of rights, such as the ability to buy, sell, trade, mortgage, rent, or inherit it. The purpose of these restrictions was primarily to restructure the *latifundios* (or very large estate holdings) resulting from the colonial period, and to redistribute the land to the rural dispossessed through the 'social' function of property. In reality, as will be explained later, these efforts have had limited success in the region.

Latin American governments also created restrictions in the access to and use of natural resources, such as forests, water, and fishing grounds. The purpose of these restrictions was to ensure that resources remained a *national patrimony* (most governments in the region have kept a claim for natural resources in trust for the common good).

Although the intention was good, the restrictions often created confusion regarding different overlapping regimes such as with public forest management schemes that excluded local populations from decision making and from benefits sharing.

Today there is a trend worldwide toward privatization, resulting in a movement away from government control of ownership. This movement poses new questions and challenges regarding the conservation of biodiversity.

In the following section, I present the main issues that characterize land tenure in Latin America as they might affect sustainable use and biodiversity conservation.

KEY ISSUES ON TENURE IN THE CONTEXT OF SUSTAINABLE USE IN LATIN AMERICA

1. *PARTIAL UNDERSTANDING OF TENURE*

Tenure should refer to more than land. Although in Latin America tenure often has been related to 'land' and specifically to 'agricultural land' (with remaining resources usually being claimed by the state) the challenge for the next century for biodiversity conservation is to consider 'tenure' more broadly. Thus 'tenure' should also include the bundle of rights (and duties) encompassing resources (such as forests, fishing grounds, wildlife). Only when the rules of access to and use of resources are clear through appropriate legislation, and when these rules are understood by all interested parties, will those parties be accountable. (This issue of legislation will be discussed in point 7 below.)

2. *INEQUITABLE DISTRIBUTION OF LAND*

Tenure is skewed and the environmental repercussions are evident. Historically the root of inequality in land distribution in Latin America can be traced to the Spanish and Portuguese colonization, which established the *minifundio-latifundio* system. This system of land tenure is characterized by the coexistence of large estates, or *haciendas*, in the hands of few wealthy landowners, with the majority of the rural populations subsisting on very small plots with insecure tenure. In spite of attempts to correct this through land reforms many aspects of this system have survived to date. One expert concluded: *"Agrarian reform programs in the region have been too small, too late, too under-funded, too dictated from above, too hierarchically organized, and too infrequently responsive to pressure from the grassroots. If land reform efforts had been more inclusive, and if organized pressure from the grassroots had been received more attentively, results might have been quite different"* (Thiesenhusen, 1996). The resulting inequality leads to environmental degradation as landless peasants are expelled to the fringes and are forced to over-exploit resources to make a living. But this form of exploitation is just a symptom of the larger problem of inequitable distribution of land.

3. *LAND MARKETS NOT WORKING*

This recipe won't work by itself. In the 1990s governments of the region have tried to establish land titling programs and land markets with the assumption that landless peasants would be able to acquire land. Yet lack of capital prevents peasants from obtaining land and may force the ones who have secured it to sell it in times of economic hardship. This might lead to further concentration of land in the hands of already wealthy landowners. Thus it is uncertain that establishing land markets will result in more equitable land distribution and enhance sustainable use.

4. *STATUS OF INDIGENOUS POPULATIONS*

We are in the paradoxical situation of increased recogni-

tion of indigenous peoples' rights on the one hand, and renewed neglect on the other.

The rights of indigenous peoples to their land have been recognized in numerous international fora, including the CBD (Article 8[j]), and statements by the International Labor Organization (Convention 169) and the World Bank (Operation Directive 4.20). Despite these intentions it is difficult to translate such policy statements into implementation in the relationships between governments and indigenous peoples. A major challenge Latin America faces today, with strong implications for conservation of biological and cultural diversity, is how governments in the region can actualize the recognition of indigenous peoples' rights to land and dignity. Tenure arrangements of indigenous groups in Latin America vary widely and require a great deal of creativity from all stakeholders and policymakers in order to take advantage of the potential partnerships and opportunities that those varied arrangements offer for the conservation of biodiversity (Davis and Wall, 1994). The unrest in Mexico (Chiapas and Guerrero), Bolivia, Colombia, Ecuador, Brazil, and Guatemala among indigenous peoples illustrates the severity of the problem and the urgency of seeking an effective and genuine means of cooperation between indigenous peoples and governments. Until this paradox between international policy agreements and on-the-ground treatment of indigenous peoples is resolved, biological and cultural diversity will continue to be threatened.

5. CONTINUED THREAT TO PROTECTED AREAS

Parks are still in peril. Considerable effort in Latin America has resulted in the conservation of about 5.6 per cent of the region's territory into protected areas. But these protected areas are not necessarily secure. Many protected areas in Latin America have people living within or near them. While biosphere reserves, with buffer zones for sustainable use, have the potential to be effective sites for the protection of biodiversity, other forces can challenge these efforts. The unclear tenure relations and tenuous economic status of these people result in degradation and destruction of protected area resources. Also, the varied parties overseeing the enforcement, research, and resource use within protected areas can be in conflict with one another, further complicating the effectiveness of biodiversity conservation plans.

6. DISMISSAL OF COMMON PROPERTY REGIMES IN LATIN AMERICA

Common property regimes are under attack but have great potential to protect biodiversity. Common property regimes in situations where users themselves devise, monitor, and enforce rules for resource use have proven to be an effective means of assuring sustainable use of resources. In Latin America, forest management initiatives under communal regimes have implemented management plans that include timber extraction with the conservation of biodiversity. Common property regimes have been misunderstood but they offer great potential in preventing degradation of resources (Bromley and Cernea, 1989). Under conditions of clear boundaries and membership, adequate use rules, monitoring, enforcement, and mechanisms for conflict resolution, common regimes can result in the conservation of biodiversity while simultaneously providing economic returns to local populations (McKean and Ostrom, 1995). The limitations of common regimes are that they are not easy to implement and require a slow and gradual building period and might not be adequate for every situation. But once established, common regimes can constitute a strong complement to government plans to conserve biodiversity. Current efforts to privatize resources and dismantle common property regimes are undermining this potential.

7. LEGISLATIVE EFFORTS ALONE ARE INSUFFICIENT

Obey, but don't comply! Although Latin American governments have enacted legislation that recognizes the importance of biological diversity and the claims of indigenous groups and landless peasants, the situation is still far from being resolved. There is a gap between laws on the books and implementation and enforcement in the face of degradation and over-exploitation of resources.

8. VIOLENT LEGACY OF LAND TENURE CONFLICTS IN LATIN AMERICA

The desire to obtain rights to land by the dispossessed and the resistance of governments and elites to make it happen has led to numerous armed conflicts throughout Latin America. When violence erupts, environmental destruction is exacerbated. This reaction of violence surrounding land tenure should make governments more sensitive to this issue.

Case Studies

Two case studies illustrate the problems and potential of land tenure for biodiversity conservation.

CASE STUDY ONE

IMPACTS OF TENURE IN THE FRONTIER AND TENURE CONFLICTS IN THE CHIMANES FOREST, BOLIVIA (BASED ON: LEHM AND KUDRENECKY, 1995; THIESENHUSEN, 1991).

William Thiesenhusen explored the implications of tenure for the environmental debate, filling a gap in the agrarian literature (Thiesenhusen, 1991). He suggested that in Latin America a scenario occurs in which rural labor is prematurely expelled to the frontier and environmental degradation is caused through three mechanisms:

1. acute inequality in land distribution appears to use resources in a suboptimal manner, leaving land idle in large estates while pressure is exerted in small plots or *minifundios*;
2. concentration of the best land in large *latifundios*, leaving the poorest land in *minifundios*; and
3. tenure insecurity for the poor discourages conservation measures.

These wasteful patterns of land use and mechanisms are reproduced in the frontier as a reflection of the country's social structure, causing extensive destruction of resources, creating conflicts, and favoring large settlers and land speculators over local inhabitants.

As an illustration, the case of the Chimanes Forest depicts some of these mechanisms but the situation can be found throughout Latin America. In the northeastern Bolivian state of Beni, the Chimanes Forest covers approximately 1.2 million hectares of an area of high biological diversity and ecological fragility. Located in the lowlands (at an altitude of 150-250 meters above sea level) this area was scarcely affected by the 1953 Bolivian land reform. Thus the indigenous inhabitants have not received land titles. Rich in forest resources and inhabited by about 3,000 indigenous peoples from more than a dozen ethnic groups, the area has attracted colonists in search of timber and land.

The Bolivian government was conscious of the timber wealth of the region with its abundant supply of mahogany. In the last two decades, the government made two decisions that affected the tenure situation and access to resources for the indigenous population of the Chimanes. Under Bolivian law, forested areas can be set aside either as Reserves or as Permanent Production Forests. In Reserves, timber extraction is not allowed until adequate studies are completed, while Permanent Production Forests could be devoted to timber extraction through concessions or other type of permits. In 1978 the government declared the Chimanes area a Reserve. Studies were conducted in the next three years, but focused almost exclusively on the timber resources, minimizing other social, cultural, and ecological aspects.

In 1982 the Beni Biological Station was established, which later became a biosphere reserve covering 135,000 hectares in the northern part of the Reserve. Almost simultaneously timber companies started to exert pressure to open up the southern part of the Reserve for timber extraction. In 1986, the government changed the status of 579,000 hectares of the former Reserve to Permanent Production Forest, and opened the area for bids from timber companies to obtain concessions. Seven concessions were granted to timber companies without consideration of the indigenous population.

The indigenous population of the region was not taken into account in the process of declaring the area first as a Reserve and then as a Production Forest, nor was it involved when the biosphere reserve was established. According to one source: "*the possibility that they [indigenous peoples] should contribute to the decision-making process was not even entertained*" (Lehm and Kudrencki, 1995). Some of the mechanisms described by Thiesenhusen for environmental degradation in the frontier started to occur in the Chimanes as the timber companies opened roads creating conflicts with the indigenous peoples. As described by Lehm and Kudrenecky, "*installing sawmills in communal areas, cutting trees used by the inhabitants for canoes and cart wheels, depleting wildlife, obstructing rivers with bridges, constructing roads that caused soil damage, and socio-cultural aggressions (occupation of religious centers, arrogance, etc.) are some of the acts frequently denounced by the communities in the region*".

This situation of conflict in which the tenure rights of indigenous peoples had been ignored led to the 1990 *March for Territory and Dignity,* in which hundreds of residents of the Chimanes and their supporters walked over 650 kilometers to the capital. As a result of mounting pressure, the Bolivian government enacted *Supreme Decree 22611.* This decree stipulates that after the 20-year contracts with timber companies expire, the entire Chimanes will be indigenous territory. The decree also defines three types of zones: indigenous territories, protected zones, and zones for commercial use, and recognizes the right of indigenous peoples to organize their production activities according to

their preferences. However, *Supreme Decree 22611* did not require the establishment of an official land title nor the delimitation of territorial boundaries.

Despite the positive developments in establishing a legal framework to consider indigenous rights, the fate of the Chimanes region is uncertain as progress to implement the decree is slow. Lehm and Kudrencki concluded that uncontrolled mahogany traffic and the lack of legitimization for indigenous peoples' rights hinders the formulation and implementation of sustainable development strategies by the indigenous population and jeopardizes their goal of gaining legal recognition of their territory by the state.

CASE STUDY TWO

SUSTAINABLE USE IN THE MAYAN FOREST OF QUINTANA ROO AND CAMPECHE, MEXICO (BASED ON: BOEGE, 1995; KIERNAN AND FREEZE, 1997; VARGAS, 1998).

In the Yucatan Peninsula, Mexico, a forest rich in mahogany extends to neighboring Guatemala and Belize. This area was home to ancient Mayan civilization, and remained sparsely populated practically until the second half of the present century. The states of Quintana Roo and Campeche, in the Yucatan Peninsula, are the site of a regional project where an attempt to manage forests sustainably has been in operation for almost 15 years. This project had, as one of its main tenets, the recognition of the rights of communities to manage their own forests.

The Mexican land tenure system that emerged from the 1910 Revolution stipulates that all land and resources belong to the state. The government has the faculty to grant private property rights to individuals or 'social' rights to communities under the *Ejido* system. (*Ejido* refers to the Mexican modality of land tenure through which the government — after the Mexican Revolution of 1910 — granted usufruct rights to land to a village or community.) Until 1992 land granted to villages as *Ejidos* could be used, but could not be sold, leased, or mortgaged. Separate legislation stipulates additional use rules for forest and water resources. Forest policies had varied widely from designation of large areas where logging was banned to granting industrial concessions to private or public timber companies. In both cases local populations were excluded from decisions regarding the forests despite the fact that they had rights to the land through *ejidal* law. The confusion between *ejidal* rights to the land and simultaneous rights of concessions to extract timber from the same land resulted in lack of interest and concern for the resources. Rampant deforestation resulted. From the mid 1970s to the end of the 1980s the Mexican forestry authorities tried to change this exclusionary situation and recognize the rights of communities to use their forests and keep the benefits.

In 1954 the government granted 500,000 hectares of mahogany rich forest in Quintana Roo as a 29-year concession to a private timber company. Although the company had sound management plans at the beginning of the concession, government colonization policies resulted in the relocation of thousand of settlers in the region, making the management plans inoperable, creating social tension, and causing environmental degradation.

To reverse this situation, state and federal authorities with international technical assistance initiated a project in 1983 to devolve forest management rights to the *Ejidos,* giving them the opportunity to keep the profits from timber extraction. The expectation was that this would create an incentive for the conservation and sustainable use of the forest. Ten *Ejidos* with a total land area of 300,000 hectares (with 40 per cent dedicated to permanent forest management) and which included approximately 2000 members, gained a voice in the decisions to manage their forests.

A basic tenet of the project was the delimitation of permanent forest areas with the participation of the communities. For this aspect of the project absolute respect for the tenure rights of the *Ejidos* was required, as well as clear rights and duties for the use of the forest. Thus the users themselves were involved in the identification of forested areas devoted to sustainable use. By 1991 the scheme had been extended, with varying degrees of success, to almost 50 *Ejidos* in Quintana Roo and about 44 in Campeche. At least three *Ejidos* had been certified, with the approval of the Forest Stewardship Council, as sustainable forest operations. Other projects in some *Ejidos* involved attempts to complement income from timber extraction with other sustainable uses of forests: wildlife management, *chicle* (the sap of the chewing gum tree) collection, and establishing eco-tourism sites.

Two biosphere reserves were established in the areas surrounding the forest *Ejidos*: Sian Kaa'n in 1986 in the eastern portion of Quintana Roo with 525,000 hectares, and Calakmul in 1989 with 723,000 hectares in the southern part of Campeche. Theoretically, two large protected areas could be connected through the forested areas managed by the *Ejidos*.

The overall project faces great challenges regarding the definition of and adjustments to the management plans. These plans are based on growth data for mahogany gathered through a network of permanent sampling plots that are monitored through a computer database and geographic information system.

Tenure was not an obstacle in this project as the rights

of the communities were respected and recognized. Energies did not have to be channeled to gain territorial recognition. Yet, this is only one element of what is needed to attempt sustainable use and the work in front of everyone is still enormous. Secure tenure was the foundation necessary to advance on other fronts. Currently new tensions are putting pressure on the project. Technical aspects of forest management need to be adjusted constantly and require considerable attention. Changes in the national agrarian legislation allow *Ejidos* to partition land if their General Assemblies wish to do so. The future is uncertain. Biodiversity conservation will be greatly benefitted if the potential of this large and valuable experience is fully realized and is allowed to mature.

RECOMMENDATIONS

1. Considering the contentious nature and the violent legacy surrounding tenure in Latin America, lack of action in resolving tenure issues in the region will only exacerbate civil unrest, unsustainable resource use, degradation of resources, and loss of biodiversity. It is in the best interests of the Conference of the Parties and of the individual nations in Latin America to place special attention on the relationship between tenure structures and degradation of natural resources. Recognizing that this is a national prerogative, the international environmental community can nevertheless encourage the parties to devote attention to this serious and urgent matter.

2. The Conference of the Parties and the individual nations in Latin America, signatories of the CBD, can learn from constructive examples where secure tenure has led to increasingly sustainable resource use and improved economic conditions for local communities. There is a need for more case studies that illustrate how secure tenure has enhanced sustainable use of resources and prevented degradation. A publication with case studies directed at decision makers and stakeholders in biodiversity could be drafted. Selection of case studies should be made using specific criteria to illustrate the environmental impact of tenure arrangements in rural sectors such as agriculture, forestry, and fisheries in countries of the region where biodiversity is threatened. All cases used should illustrate:
   - tenure arrangements and management plans that have been developed and implemented by local communities and users;
   - tenure rights that are clear, assuring equitable sharing of benefits;
   - tenure duties and responsibilities that are also clear and understood by managers;
   - examples of monitoring and compliance that are clear and lead to accountability mechanisms; and
   - examples of conflicts that have been resolved through negotiations with all stakeholders in such a way that each party is treated with dignity.

3. Governments in the region should be open to consider varied tenure arrangements. An exclusive focus on privatization is clearly inappropriate. Particular attention should be given to cases where common property regimes have been operating or could be fostered. Similarly, governments should be more attentive to cases where a broader understanding of tenure rights (beyond a title and its registration) may include access to and use of forests, fishing grounds, or wildlife.

4. Considerable effort has been directed to equalizing the distribution of land, creating protected areas, and defining appropriate legislation, all of which would work towards improved conditions for securing the rich biodiversity of the region. However, there are numerous forces that undermine these efforts. Decision makers must be regularly reminded and assured that by paying attention to tenure their efforts will result in benefits to all parties. There are tremendous new opportunities that demonstrate the economic advantages of establishing genuine partnerships with rural peoples (including indigenous groups) whose resources, knowledge, and skills are an asset for biodiversity conservation.

5. Decision makers at all levels can facilitate effective biodiversity and sustainable use efforts by ensuring that adequate economic incentives are in place for those who reside on the land and are stewards of natural resources. Recognizing and making clear tenure rights of those people will be essential for these incentives to be effective.

6. Considering the advance in the development of information networks and clearinghouses related to biodiversity, including Geographic Information

Systems and other computer technology, information related to tenure should be incorporated as an database. This effort would constitute a powerful tool in understanding, visualizing, and analyzing how tenure relations affect biodiversity conservation, and may help to devise effective plans for action and monitoring. This information should be made available to the widest audience in an effort to promote democratization and international cooperation.

7. The Bratislava workshop dealt with many central issues. It is important to point out to the Conference of the Parties that tenure truly permeates all of the other issues. Without adequate attention to tenure, these efforts in areas such as financial incentives, sharing benefits of genetic resources, and indigenous knowledge will be ineffective. This point has been recognized by the Sustainable Use Group when describing the systemic nature of our effort. Tenure could be a cornerstone to ensure the implementation of the CBD.

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Summaries

La présente étude donne un aperçu des questions essentielles que la communauté internationale pour la conservation de la nature pourrait examiner lors de la formulation de ses politiques relatives au régime foncier, en vue d'améliorer la conservation de la biodiversité grâce à une utilisation durable en Amérique Latine. Tout d'abord, l'étude présente une révision du concept du régime foncier et de l'utilisation des ressources sauvages dans le contexte historique et socio-économique de l'Amérique Latine. Les questions essentielles traitées englobent entre autres : La distribution inéquitable des terres qui prévaut dans la région, le succès limité de l'octroi actuel des titres, la privatisation et les efforts déployés au plan juridique pour éliminer les disparités, le statut des zones protégées, les droits fonciers des populations locales, et enfin, l'héritage violent des conflits liés au régime fonciers dans la région. Les deux études de cas de la Bolivie et du Mexique illustrent quelques-unes des implications de la question du régime foncier pour la conservation de la biodiversité à travers une utilisation durable. Selon les recommandations, des actions immédiates doivent être entreprises afin de régler les conflits liés au régime foncier qui ne font qu'accélérer la dégradation des ressources naturelles, et des enseignements doivent être tirés des exemples éclatants qui démontrent comment le régime foncier renforce l'utilisation durable.

Este trabajo presenta una revisión de los principales problemas que la comunidad internacional de la conservación podría considerar en la formulación de políticas respecto a la 'tenencia', las cuales pueden mejorar la conservación de la biodiversidad mediante el uso sostenible en América Latina. En primer lugar se presenta un estudio del concepto de "tenencia" (de la tierra y de los recursos silvestres) en el contexto histórico y socioeconómico de Latinoamérica. Los principales problemas de la tenencia que se indican incluyen: la injusta distribución de la tierra que prevalece en la región; el escaso éxito de la actual titulación de las tierras, privatización e intentos legislativos para corregir las disparidades; situación de zonas protegidas, derechos sobre la tierra de la población indígena y regímenes de propiedad en común; los violentos conflictos en la región heredados de la tenencia de la tierra. Dos casos, en Bolivia y Méjico, ilustran algunas de las implicaciones de los problemas de la tenencia en la conservación de la biodiversidad a través del uso sostenible. En las recomendaciones se exigen medidas inmediatas para resolver los conflictos de tenencia que agravan la degradación de los recursos naturales, y aprender y respaldar los ejemplos constructivos en los que la tenencia mejora el uso sostenible.

Tenure Systems in the Arctic

Scott Forrest[1]

Although politically part of industrially developed countries such as the United States, Canada, Russia, Sweden, etc., tenure in the Arctic region bears more resemblance to the colonial experiences of Asia and Africa. Tension and conflict between traditional and State tenure regimes is apparent throughout the circumpolar north. The expansion of sovereignty over these lands by States with power centres outside the region has slowly eroded traditional systems of use and occupancy. Perhaps because the region was ill-suited to many forms of economic development, older forms of tenure have managed to resist assimilation more than in other areas of the globe. The stark contrasts between highly industrialized societies and traditional subsistence culture and new tenure arrangements based on devolution of power from central governments to local autonomy make the Arctic an extremely useful example on the study and practice of tenure.

General Description of Existent Tenure Systems in Operation

The Arctic region occupies the northernmost regions of Canada, Russia, the United States (Alaska), Greenland, Iceland, Norway, Sweden, and Finland as well as the waters of the Arctic Ocean and nearby seas. By this definition, the land and sea of the Arctic covers an area of 40 million sq. km, but with only a fraction of one per cent of the earth's population (Young, pp. 1992). Beside a handful of urban centres, most areas of the Arctic have a population density less than one per square kilometer (Young, 1992). Though sparsely populated, the Arctic is a homeland for a number of indigenous peoples, including the Inuit of North America, Sámi of Fennoscandia, and a variety of peoples in northern Russia. The Arctic's natural environment contains considerable natural resources, both living and mineral. Conditions such as permafrost make the Arctic environment vulnerable to change. Altogether these social, political, and environmental factors make the Arctic a particularly interesting case for the study of tenure systems.

The expansion of sovereignty over these lands by States with power centres outside the region has slowly eroded traditional systems of use and occupancy (Müller-Wille, p. 1997). Tension and conflict between traditional and State tenure regimes is apparent throughout the circumpolar north. Residents of the region have had to endure a relative lack of autonomy over how the lands and resources of the North would be treated. If there is one common element that unites the tenure systems of the north, it is the tension between indigenous land systems and the later application of largely European-based legal notions of property and ownership from administrative centres in the south.

The earliest residents of the region have predominantly practiced subsistence economic activities that required a close knowledge of and connection to the land. For many Arctic peoples, the caribou/reindeer has formed an important connection between humans, nature, and the land. Found throughout the circumpolar north, the hunting or

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herding of this animal has played an important role in shaping the territorial character of the peoples that depended on it. Being a mobile resource, reindeer and caribou could not be fully exploited by a sedentary population. For this reason, many of the peoples that today hunt caribou (Inuit, Dene), and especially those that herd reindeer (Sámi, Nenets), have roots in nomadism.

Whether it was the herding of reindeer, the hunting of marine mammals, or the gathering of berries and bird eggs, the economic activities practiced in the northern regions demanded a very different relation to land and resources than was appropriate for settled agriculture. At the risk of making broad generalities, the territorial systems of northern peoples has tended to be diffuse, flexible, and less exclusive than the firmer, more static, linear, and exclusive forms of land ownership of the States that colonized them (Forrest, 1998). Thus, the application of land tenure systems based on central European feudalism to predominantly subsistence-oriented systems has been fraught with contradiction and friction.

Among the perils of this process has been the loss of land rights by peoples who were perceived not to have ownership of the land on which they lived and from which they made their livelihood, because their concepts of ownership did not match that of the new administrative power. In many cases attempts have been made to reconcile the institutional framework of land ownership and resource management with the local circumstances in northern areas. However, the incompatibility of, for example, Sámi nomadic herding with settled agriculture or hydro-electric power projects shows that such attempts are usually forcing a square peg into a round hole.

The idea that the northern regions were commons or no man's lands (*terra nullius*) denies the reality of the tenure systems that operated there prior to the arrival of European civilization. The historic extension of sovereignty by European kingdoms (the roots of the Russian monarchy are European) over the northern 'wilderness' made it 'Crown' land. While the term "Crown land" is often used — at least in Canadian and Swedish contexts — to mean 'public' lands, the two terms are not synonymous. Although the kingdoms treated the northern areas as empty lands, free to be claimed, their actions were still an appropriation of public lands and resources (held by the local peoples) by the Crown (later the State).

Such a pattern of systems clash is certainly not particular to the Arctic. But perhaps because the region was ill-suited to many forms of economic development, older forms of tenure have managed to resist complete assimilation. There have been pressures on the land and its resources, but especially in the cases of northern Canada and Russia, the extensive land-base has been more than adequate to support the activities of multiple stakeholders, though not without costs.

This claim of sovereignty, and the subsequent interactions between traditional and Crown/State tenure systems, has resulted in the patchwork pattern of tenure that exists in the Arctic today. While subsistence activities of all sorts (which include both the activities of indigenous and majority populations) are generally allowed within public or common land, that access is contingent upon the continued consent of the State. In addition to the presence (though in only a small percentage) of private land, much of the land held 'in common' is actually reserved for economic activities that benefit private stakeholders, such as forestry, mining, and hydro-electric power. Thus, the current situation in the northern regions of the world demonstrates perhaps better than do many other areas the continuing contradictions and tensions between traditional and modern tenure systems.

THE SIGNIFICANCE OF SUSTAINABLE DEVELOPMENT

It is within the definition of 'public' that the interface between tenure systems and sustainability in the Arctic is best revealed. The use of wild resources in northern areas continues to be predominantly for subsistence, rather than for commercial or recreational uses. It is thus the local community, rather than the greater public, which depends on those resources and consequently has the most significant interest in their management. Yet the alienation of land rights has been accompanied with a parallel transfer of resource management from local peoples to the State. Whether it is fisheries in the Canadian north, or reindeer herding in Fennoscandia, the management of subsistence resources in the north is performed by the legal and bureaucratic institutions of the State.

The goals of sustainability, conservation, or resource management vary between the interests of the various actors, including indigenous residents, non-indigenous residents, local governments, and state governments. The recent conflicts arising between subsistence users and environmental and conservationist organizations, such as over whaling, sealing, and fur trapping, illustrate the fundamental differences in what people believe to be conservation. There is an increasing perception in the south that according special rights to native subsistence users only gives them license to exploit the resources beyond sustainable levels and deny others the benefit of those wild resources.

A southern, urban interpretation of a protected area is based on a particularly Western division of humans from

nature. Efforts by southern-based environmental groups and public administrations typically focus on the exclusion of human activity from wilderness areas, in order to preserve 'nature'. At the extreme, this applies equally to industrial-scale forestry as to subsistence hunting. In contrast, there is the view of the indigenous peoples operating in harmony with nature. While the view of indigenous peoples as inherently conservationist is a stereotype, there is nevertheless a stronger sense of humans being a part of nature, rather than separate from it, in those cultures.

Without making a claim that indigenous management systems are simply 'better' than the State alternative, there is justification for evaluating why the latter have failed to effectively meet the needs of local subsistence users (including, it must be stressed, many non-indigenous northern residents) and other stakeholders. There is a certain logic in the thinking that those directly involved in the use of resources are best placed to manage those resources. They have the first-hand knowledge and experience, and the ability to react quickly to changing conditions. State laws and bureaucracies, in contrast, are far removed from the situation on the ground and notoriously resistant to change. Yet the State has the advantage of objectivity (in theory), in that it must represent the interests of the citizenry as a whole, not simply the users of the resource. While they might not consume the resources, other sectors of the population are expressing their interest in those resources, whether for recreational, moral, or other reasons (Usher, 1987).

Balancing the various interests is not an easy or enviable task. The current direction in most northern regions, at least in Europe and North America, is towards a reconciliation of state and indigenous management systems. Co-management recognizes the importance of the sustainable use of wild resources for local users and the knowledge that they can add to scientific approaches to resource management, while balancing their interest with that of other stakeholders.

A common feature of tenure systems throughout the Arctic is that they are under considerable scrutiny and pressure from local peoples to be significantly revised. These efforts have taken many forms, from public activism and political pressure to legal measures such as litigation and land claims. There is a predominant trend towards the devolution of power from central governments to local autonomy arrangements throughout the north. Issues of land and resource management stand as critically important arguments in the settlement of these new political agreements.

REGIONAL EXAMPLES

The Inuit of northern Canada sought resolution to many of their problems experienced at the hands of so-called northern development through a comprehensive land claim. This claim resulted in an agreement between the Inuit and the government of Canada to create the new territory of Nunavut in 1999. Covering an area of 1.9 million sq. km. (nearly one-fifth of Canada's total land area), Nunavut is home to 22,000 people, approximately 80 per cent of which are Inuit (*Nunavut General Information)*.

While the government of Nunavut will be a public administration representing the entire population of the territory, the Nunavut Agreement contains important measures specific to the Inuit, such as a transfer of land title and harvesting rights *(Nunavut Land Claim - Agreement Overview*). Land and wildlife management are central objectives to the settlement, which is seen as contributing towards the cultural and social well-being of the Inuit (*Nunavut Agreement*, p. 12). Through a number of wildlife management, resource management, and environmental boards, the Inuit of Nunavut are able to determine how their lands and resources will be used.

Nunavut, and other similar northern agreements, isevidence of a growing recognition that the sustainability of resources cannot be ensured through simply creating new management systems alone. If there are to be self-regulating management systems, there must be both capacity and interest on the part of the user-managers to effectively carry out that function. By addressing lands, resources, economic sufficiency, environmental conservation, cultural survival and self-government comprehensively, as an integrated system, the Nunavut Agreement is an innovative example of the new directions of tenure in the Arctic, and will serve as an example for others world wide (as it already does for Aboriginal claims in Australia) (Langlais, 1995).

Like the Inuit of Nunavut, the hunting of marine mammals continues to be an important subsistence activity for Greenlanders. However, the colonial experience in Greenland under Danish rule differed substantially from the patterns of exploitation and development that occurred elsewhere in the Arctic. Danish policies aimed to protect the indigenous culture and, although paternalistic, helped preserve traditional subsistence hunting. Since Greenland achieved Home Rule in 1979, resource management has undergone a gradual transformation, but changes have been designed to ensure the continued viability of subsistence hunting as an economic activity. A commercial market system for the sale of hunting and fishing products through a Home Rule government company, KNI, was developed to promote sustainable economic development at a local scale (Nuttall, 1994). While subsistence hunting in Greenland is becoming increasingly subject to government regulation, the existence of Home Rule has promoted the harmonization of local values with economic development in a sustainable manner.

Resource management in the northern areas of Norway, Sweden, and Finland has also been inextricably connected with issues of indigenous rights and the sustainability of traditional activities. State regulation in recent years has been particularly concerned with the prevention of overgrazing by reindeer herds in the Sámi areas. The experience of the Sámi in each of these countries with state-based herding management has seen the erosion of traditional herding systems and the move towards a rationalized commercial herding industry. The creation of reindeer herding districts under State legislation was initially intended to minimize conflicts between herding and other activities. This system has given ministries of agriculture or forestry the power to determine the scope and manner of herding in the Sámi areas.

Fears of a "*tragedy of the commons*" situation developing has prompted even more state regulation, but the effects of these measures were often the opposite of those intended. The State failed to recognize that the traditional Sámi herding system was not a commons, but regulated by the herders themselves (Bjørklund, 1990) The overgrazing that has emerged is attributable more to the breakdown of the former management system through state intervention than to any inherent character of pastoral nomadism.

This perspective illustrates again the tensions between traditional and modern systems of tenure in the Arctic. The States of Fennoscandia are, in different ways, attempting to respond to Sámi demands for increasing rights to land and resources. Norway, for instance, is currently undertaking an extensive examination of traditional land use and occupancy. The Sámi have achieved considerable political gains, such as the establishment of Sámi parliaments in each of the three Fennoscandian countries. Yet resolving Sámi claims to land and resources is problematized by the substantial presence of non-Sámi residents in the region with their own interests in the region's land and resources.

Russia is a particularly interesting case with regard to tenure systems, due to the theoretical absence of private property under communism and the subsequent rush to privatization that followed the collapse of the Soviet Union. The northern regions of Russia are doubly complex because of the existence of nomadic herders such as the Nenets of the Yamal Peninsula. The local clan system and property rights were completely transformed under Soviet collectivization as herds and pastures were broken up into new *koblkozy*, or collectives (Osherenko,1995).

The presence of large amounts of oil and gas have made the Yamal region a target for industrialization, bringing large-scale environmental damage to the tundra from drilling, railways, and pipelines. As in the case of Sámi herding, the transformation of the traditional management system has contributed to problems of overgrazing, which put at risk already threatened pasture land. The critical need for economic development in the Russian north today makes it especially difficult to undertake the kind of co-management strategies that are being attempted elsewhere in the Arctic. With the absence of external assistance, or interference, the Nenets may simply adapt their herding system to suit the new conditions, as they have so ably done in the past.

A policy of 'neo-traditionalism', that is, a return to local independence and self-sufficiency through traditional subsistence activities, may be the only possible solution due to the overwhelming economic constraints in Russia (Fondahl, 1995). Given the lack of any other material assets, to address the problems of economic and cultural breakdown among its northern peoples Russia is showing a willingness to use the one commodity it has in abundance: land. By creating new self-governing territories and returning control over resources (land, reindeer, game, etc.) to local communities, it is hoped that Russia's indigenous peoples will be able to overcome the effects of collectivization and industrialization and return to sustainability.

CONCLUSIONS

The Nenets, Sámi, and Inuit have all survived in the unforgiving northern environment, because they have been able to adapt to changing conditions. The state of tenure systems in the Arctic is dominated by the often conflictual interaction between traditional management systems and modern State-based structures. The result has been a motley patchwork of arrangements, as new measures were met with resistance and resource users were forced to adapt to the new institutional conditions, just as they had responded to ecological changes in the past. The State, with both different conceptions of property and territory, and different interests in northern resources, met that resistance with increasing efforts to modernize and scientifically rationalize management.

Often these efforts were made in the belief that the State was acting in the best interests of the local people, but just as often the State operated according to its own, predominantly economic, interests. Even now that state interests in northern resources are orienting towards sustainability and conservation, these goals are still not parallel to the interests of northern resource users.

The question becomes whether the pace of this institutional transformation at the hands of the State has been too significant for local peoples to adapt to new conditions. While local resource users may still possess the greatest knowledge of the condition of the resource, and how best to manage it, there are nevertheless limits to their ability to manage that resource not only for themselves, but on the behalf

of other stakeholders. New tenure arrangements, such as the Nunavut Agreement, offer perhaps the best chance for a reconciliation of the various interests, by recognizing the interconnectivity of tenure practices with other political, economic, social, and cultural elements. Such arrangements, however, require considerable commitment and resources at the State level to ensure their long-term viability.

These patterns of tenure transformation are not in every case unique to the Arctic, but are reflective of similar experiences of colonization in Asia and Africa. The persistence of tenure systems such as nomadic reindeer herding, albeit significantly transformed, makes the Arctic a useful example for other regions. Nowhere else are the contrasts between highly industrialized societies and traditional subsistence cultures so stark. Yet, if governments in such wealthy countries with strong commitments to democracy and human rights as Canada, the USA, and the Nordic States cannot address the problems in their own backyards, how much more difficult will it be for the peoples of the global south to cope with the same issues? Ideally, the Arctic States can serve as positive models for addressing sustainable development in relation to tenure systems that can be adopted and adapted by others.

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Summaries

Bien qu'appartenant politiquement à la catégorie des pays industriels tels que les Etats Unis, le Canada, la Russie, la Suède, etc., la zone arctique a un système foncier qui ressemble plus aux expériences coloniales d'Asie et d'Afrique. Les tensions et les conflits entre les régimes fonciers traditionnels et les systèmes publics sont apparents dans tout le Nord circumpolaire. Les Etats ayant des centres de pouvoir en dehors de la région, ont accru leur souveraineté sur ces terres, ce qui a entraîné une lente érosion des systèmes traditionnels d'utilisation et d'occupation. Peut-être parce que la région ne se prêtait pas à un certain nombre de formes de développement économique, les anciens types de régime foncier ont mieux réussi à mieux résister à l'assimilation que dans les autres régions du globe. Le contraste frappant entre les sociétés fortement industrialisées et les cultures de subsistance traditionnelles, ainsi que les nouveaux types de régime foncier basés sur la délégation du pouvoir des autorités centrales aux autorités locales font de l'Arctique un exemple extrêmement utile pour l'étude et la pratique du régime foncier.

Si bien políticamente la región ártica forma parte de algunos países industrialmente desarrollados, como los Estados Unidos, Canadá, Rusia, Suecia, etc., la tenencia en dicha región ofrece mayores similitudes con las experiencias coloniales de Asia y Africa. La tensión y los conflictos entre los regímenes de tenencia tradicionales y los estatales, en toda la zona norte circumpolar, son indiscutibles. La expansión de su soberanía sobre estas tierras por parte de estados cuyos centros de poder se encuentran fuera de la región ha corroído poco a poco los sistemas tradicionales del uso y de la ocupación. Debido tal vez a que la región no era capaz de adaptarse fácilmente a muchas de las estructuras de desarrollo económico, las formas más antiguas de tenencia han logrado resistirse al cambio en mayor grado que otras zonas del globo. Los rígidos contrastes entre las sociedades altamente industrializadas y las tradicionales culturas de subsistencia y los nuevos acuerdos sobre la tenencia basados en la devolución del poder, de parte de los gobiernos centrales, a las autonomías locales convierten a esta región del Ártico en un ejemplo sumamente útil para el estudio y la práctica de la tenencia.

Trends in Ownership of Wildlife Resources: Who Owns Wildlife Anyway?

James G. Teer[1]

This paper describes (1) ownership of wildlife in the United States and other regions and (2) the implications of devolution of ownership from the state to the private sector. Ownership is synonymous with land tenure as management and use of wildlife are ordinarily performed by owners. The paper is more descriptive than analytical and has the objective of providing information to other nations for comparative purposes.

Wildlife Conservation: Success or Failure in the USA

Conservation of wildlife resources in the United States has been recognized as the most successful system in the world (Trefethen, 1975; Geist, 1993, 1995;Teer, 1993). It is so recognized because wildlife was brought back from virtual extirpation and near extinction (Trefethen, 1975), and is now managed by an elaborate public and private infrastructure staffed by trained biologists/conservationists (see Bolen and Robinson, Chapter 22, 1995).

Such success also comes from wildlife having been democratized with governmental agencies charged with equitable distribution of consumptive and non-consumptive uses of it. An aware, activist American citizenry has forced conservation of wildlife into public acceptance partly by assigning values to all species — game and non-game alike.

Success did not come easily; wildlife was restored only after extensive exploitation, habitat loss, indifference to its ethical and intrinsic values, and conflicts with various forms of land use. The fur trade, market hunting, subsistence hunting, over-exploitation, and outright profligacy led to near exhaustion of wildlife resources by the end of the nineteenth century — a condition never imagined at best or, at worst, ignored by early European settlers.

When Leopold's classic, *Game Management* (1933) was published, almost every state in the United States and province in Canada had agencies charged with administration and management of wildlife (McTaggart-Cowan, 1995). The Lacey Act of 1900, the Migratory Bird Treaty Act of 1918 (see Trefethen, 1975), the Pittman-Robertson Act of 1937, the Endangered Species Act of 1973, and others created the legal structure under which conservation could be effectively practiced (Moulton and Sanderson, Chapter 2, 1997; Williamson, 1987). By 1998, however, the interactions of laws with property rights have snarled effective land management. A backlash to the conservation movement is now a serious matter as private property rights concerning wildlife and access to wildlife are debated and claimed by landowners and others.

Nonetheless, wildlife now has significant and growing recreational, economic, and cultural value in the United States. The increasing affluence of the nation beginning with the industrial revolution, made the conservation movement possible. Without these two conditions — the growing appreciation of wildlife resources and the affluence to afford conservation — the movement could not have advanced so rapidly or so far.

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Perhaps, most important in the successes of the conservation movement, a system of land ownership and tenure was fashioned after early English law. The Constitution of the United States, the Bill of Rights, and laws and regulations of Federal and State governments established property rights in land leading to strong proprietary interests.

Brokaw (l978) listed l0 fundamental principles in wildlife conservation of which two are important in tenure systems. They were:

1. Supersede the system of the commons wherever it remains in control of wildlife or its habitat.
2. Build knowledge as the basis for management...in the ecological, social, and economic aspects of wildlife.

We shall see how these two perceptive principles are being used and realized in l998.

THE LEGAL DEFINITION OF OWNERSHIP OF WILDLIFE

The fundamental concepts of ownership of wildlife in most of the world is derived from Roman (*res nullis*) and English law (*ratione soli* and *ratione privilegii*) (see Bean and Rowland, 1997; Hudson, 1995; Tillman, 1995).

Under *res nullius*, animals belonged to no one but were property of the commons. The state or governments acting under this early Roman law had no ownership rights in free-ranging wild animals. Rights of ownership were vested in the people, but possession could only be exercised through the capture, control, or death of free-ranging, individual animals.

State ownership (*ratione privilegii*)evolved in English common law. Sovereigns possessed wildlife by gazetting Royal forests and hunting preserves and by imposing severe punishments on the people for taking wildlife that 'belonged to the Crown'. Rights to hunt and possess wildlife were reserved for the aristocracy by permission of the Crown. Penalties for poaching wildlife or removing wood from Royal forests ranged from prison to corporal and even capital punishment.

Democratization of ownership and use of wildlife came with the *Magna Carta* and the *Carta de Foresta,* which two years later, corrected some of the abuses of the monarchy and curtailed extended privileges to the nobles. Hunting privileges provided under *ratione privilegii* were the forebear of licenses now issued by governments throughout the world that permit legal harvesting of wildlife. Licenses control the conduct of users and help conserve resources.

WHO REALLY OWNS WILDLIFE?

Legally, wildlife is the property of the commons just as are air, water, and landscape beauty. In defining ownership of wildlife, Train (l978) stated it succinctly and clearly: American wildlife "*is owned by both everybody and nobody [and — as a result] everybody's business is nobody's business, and...what belongs to everybody belongs to nobody and is, therefore, fair game for anybody*". Lack of clarity of ownership was, in part, responsible for the early demise of wildlife resources in the nineteenth and twentieth centuries in the United States.

Ownership of wildlife is now being devolved from the State, in various forms, to private ownership. Private property rights are being claimed and becoming dominant in determining ownership. Privatization is being expressed especially in the developing nations, and more recently, in the more affluent, western nations. The reasons? A short essay by an African (M'Fezi, l995) provides a clear perspective: "*In the end, Africa will only save its big game animals if local people see more benefit from living with them rather than without them, for it is Africans who are starving and who should benefit from their wildlife heritage. For after all, whose animals are they anyway?*" His statement strikes at the heart of what is happening in conservation of wildlife. M'Fezi used the debate over elephant management to make his point. He pointed out that more than 250,000 humans are born every week in Africa where at least 500,000 elephants remain. *Thus every fortnight there are more babies born than elephants in existence.*

M'Fezi's statement could be applied to any people, even the most affluent societies in the world, where human numbers are increasing and in some nations, are literally out of control. This statement describes the human condition that reflects the desperate straits of many nations and societies. Aside from elemental human needs for food, homes, health care, education, and jobs, people from all walks of life also seek social justice, national sovereignty, and economic stability (Teer, l996). Conservation and people's aspirations are inextricably linked (International Union for the Conservation of Nature and Natural Resources and the United Nations Environmental Program, l984; The World Commission on Environment and Development, 1987).

Tenure is a major determinant in how land and wildlife are administered and managed. Tenure takes many forms, ranging from private ownership to strong regulatory authority of governments. It can take the form of co-management or partnerships between private and public sectors. Today, in most nations, wildlife is taken or controlled under regulations and laws of jurisdictional governments. Ownership and property rights that attend ownership are being ex-

pressed as never before. Transparency of and participation by the private sector in management decisions and strategies are 'in'.

Despite, or perhaps because of, societal interests, pressures to apply command-and-control management of natural resource have escalated as human numbers increased (Holling and Meffe, l995). A plethora of laws and edicts of governments concerning conservation of wildlife has been issued in recent years with the property rights of private landowners causing a fierce debate. For example, should high fences enclose game ranges? Should there be access to wildlife on private property? Is baiting of wildlife to the gun acceptable? Inequitable distribution of opportunities to use wildlife conflict with constitutional law and statutes. These issues are yet to be settled.

Landowners have come to resent authorities that propose to govern 'their wildlife', and, in the process, take property that through constitutional law belongs to them. The Endangered Species Act of l973, and its subsequent re-enactments, have above all other regulations caused antipathy to government conservation efforts, but is supported by 80 per cent of the people.

CURRENT OWNERSHIP OF WILDLIFE IN THE WORLD

THE UNITED STATES

In the United States, laws may be enacted and regulations promulgated by State and Federal governments and, in some cases, by county and other local government jurisdictions. The Federal government, in co-operation with the States, is largely responsible for conservation of migratory species. The States have primary jurisdiction over resident species. Both have jurisdiction over endangered and sensitive life.

Statutes and regulations for use of wildlife usually take the form of seasons, bag limits, means and methods of taking, care and ownership of the game, and uses of it by the persons possessing it. Federal and State statutes protect endangered and threatened species and their habitats.

Except for the vast acreages of public lands in the western United States, managment of migratory species that traverse State and national boundaries (along with endangered or threatened species) is largely conducted by the private sector. Hunters may possess and use wildlife they take. Except for game meat produced on game farms, carcasses cannot be put into commerce for any purpose. Wildlife, then, is a common resource held in trust for the people by the State. Management and administration of wildlife are a partnership between government and the landowner.

Of the 2.36 billion acres of land and waters in the United States, ca l.7 billion acres (70 per cent) are in rangelands and forests (USDA Forest Service, l981). About 700,000 acres (30 per cent) are in cropland, improved pastures, developed land, or barren land. A little more than l0l million acres are in wetlands. Over half (53 per cent) of the forests and rangelands are managed by the Federal government.

Publicly owned forests and rangelands are managed primarily for grazing, timber, recreation, water and wildlife. These are the featured products but they are now giving way to management for biodiversity and protection of threatened and endangered species, a major development in land use. For example, the aftermath of conflicts between losses of spotted owl habitats in old growth forests in the Pacific Northwest was a reduction in cuts of timber from four billion board feet to less than one billion board feet per year (J. W. Thomas, pers. comm, l998).

Management is a triad operational arrangement between State game and fish departments, federal land-management agencies, and the private sector. The State has jurisdiction over resident species of wildlife, sets laws and regulations concerning uses, and licenses those who wish to hunt and fish on public and private lands. Federal land management agencies (the U. S. Forest Service, the Bureau of Land Management, the National Park Service, the Bureau of Reclamation and other federal land management agencies) manage the habitat. The private sector gains access through permits to graze, mine, recreate, and use other natural resources.

Because Federal land management agencies are the primary caretakers and managers of forest and range habitats, commercial interests have often driven management. Until the National Forest Management Act, and the Multiple Use and Sustained Yield Acts were passed, wildlife was not a major factor in forest and rangeland planning processes. Now, however, societal interests and new laws (National Environmental Protection Act, Endangered Species Act, Wilderness Act, Clean Water Act, and the several farm bills) have led federal land management agencies to consider and even feature wildlife in their planning and management activities. Each land management unit now conducts a planning and scoping exercise with inputs from citizens. A plan is then developed for land management and use.

Pressures from various interest groups and their lobbies continue to increase. Ranchers protect grazing allotments, lower grazing fees, and lease tenures, and seek less strict requirements for use (stocking rates and range improvements called for in grazing allotments). Recreationists demand more and more land for wilderness areas and for such human contrivances as ski lifts and back-country activities. The Federal government, as required by law, continues to sell public lands to miners at far less than market value. Wildlife habitat is impacted. Conflict resolution is becoming an

important tool in resource management. Now, demands of a conservation-minded public and increased interests in commercialization of wildlife resources on both public and private land are changing management and harvest systems. In contrast to past practices, where management was heavily weighted to livestock, wildlife now figures prominently in conservation and land use management.

EUROPE

Wildlife in Europe is largely privately owned or owned by the State, which controls great acreages of managed forests and hunting areas. Hunters do not automatically have rights to hunt (Gottschalk, l972; Nagy and Benze, l973; Myrberget, l990). Individual hunters or hunting associations must purchase rights to a revier for their exclusive use. Management is largely the responsibility of hunters and landowners (Myrberget, l990). Landowners and persons with hunting rights set harvest quotas and manage wildlife. Governments are active in hunting as they control State forests where most hunting reviers occur. The most productive game harvest systems in Europe are those in which landowners control hunting rights, or where the harvest is strictly controlled by authorities or hunting organizations (Myrberget, l990).

Animals taken by hunters belong to the landowner or the governmental agency that manages the land. The owner may use or sell the carcasses to the hunter or others at his discretion. Hunting is steeped in tradition in European nations. Demand for recreational hunting, costs of reviers and licenses, and traditions have moved hunting to an elitist activity. Wildlife is essentially owned by those who control the land.

AFRICA AND ASIA

Under the safari-hunting system practiced throughout Africa in the nineteenth and twentieth centuries, wildlife was under-harvested. Wildlife is now at risk largely through conversion of habitat to agriculture. Numbers of some species have been reduced by poaching for food by indigenous people, and, in a few instances, through over-use for their products (elephants, rhinos, and certain antelope).

Ownership of wildlife generally follows English common law with exceptions where social, economic and religious mores come to bear. In recent years, ownership is being devolved to the private sector through community-based conservation projects, sales of animals by private landowners to stock game farms, and outright divestiture of land in large concession blocks. Notable examples are those in the Republic of South Africa, Namibia, Zambia, Zimbabwe, and Botswana (Cumming, 1991; Child, 1995).

Asian wildlife is managed by central governments. Unfortunately, wildlife in much of Asia has been decimated by over- exploitation and loss of habitat. Parks and other forms of protected areas are central to major conservation strategies. Gazetting of lands solely for wildlife has often put local people at risk. Project Tiger in India is a noteworthy example where tiger reserves took away forest resources (fuel, fodder, water, and medicinal and food plants) from villagers who, for centuries, had lived and been dependent on these resources. Where hunting occurs, it is regulated by governments. However, sustainable, consumptive uses of wildlife are seldom permitted because of religious doctrines and social mores. Community-based use projects are now being introduced into Asia. Trophy hunting of sheep and ibex is a recent example of a community-based project in Pakistan (Johnson, 1997). Utilization of saiga antelope has been underway in Russia for centuries (Teer et al., 1996).

LATIN AMERICA

Wildlife is under the protection and management of national governments in Latin America. Except in areas such as the Amazon Basin, where it is protected because of distance and vast area, it has been decimated from subsistence use by the rural poor. Clearing of land for agricultural production and building of access roads are opening up areas heretofore little disturbed by human industry. Moreover, recreational hunting has not been democratized in Latin cultures. Harvests of animals for the pet trade and for their products (skins, meat, medicinal products, etc.) are a pernicious problem, and has led to over-exploitation.

Ojasti (l984) summed up problems in conservation of wildlife in Latin America as follows:

"*The overall situation of wildlife in Latin America is troublesome. A critical observer would likely ask what sort of management, if any, is going on there...The top administrators of developing countries face urgent problems of economic development, politics, education, health, etc., and pay attention to the natural resources only when their productivity and monetary returns are large...*"

COMMERCIALIZATION AND OWNERSHIP

Commercialism of wildlife use has forced and exacerbated the debate over ownership of wildlife. While private ownership has been a strong impetus to management of wildlife, it has also had the effect of producing inequities in its use. Prices of participation in wildlife-based recreation and the increased competition for better habitat (and wildlife) have eliminated some segments of society from the market.

Most of society in the United States, especially in the States with large public land holdings, has developed strong opposition to using wildlife as a commodity. Americans abhor putting a price on a product that they consider a part of their heritage. Some landowners want wildlife to be a part of their land-holding, private-property rights. The debate over this issue has been quite fierce in recent years (see Freese, l997).

Fee hunting and fishing, nature study, eco-tourism ,and other wildlife-related recreation now figure at some level in user-pay activities in most parts of the United States (Teer and Forest, l968; Teer, l975, l993; Burger and Teer, l98l).

Under fee-hunting systems, users pay directly to the landowner and operator for wildlife-based recreation. Other systems of commercialism are not as direct. These may involve payments to outfitters and the like who offer amenities and services to those who use wildlife. For example, guided hunts with all the trappings of a safari-type experience are available for most big game on public lands in the western United States. The same is true of waterfowl hunting where entrepreneurs lease or 'club' waterfowl habitats (rice land and other wetland habitats) from landowners with the purpose of providing hunting and other experiences.

PRIVATIZATION OF PUBLIC LANDS AND WILDLIFE ON PRIVATE PROPERTY

Privatization of the Unites States' public lands has been repeatedly attempted by various interest groups. (Thomas, l997). Legislation to transfer or sell ownership of public lands is introduced in practically every session of Congress. The Sagebrush Rebellion of the l970s is but one noteworthy example, but not the first or last effort. Society deigns to devolve public land to any special interest group be they cattlemen, miners, recreationists, housing developers, or whomever. The public has repeatedly rejected such attempts.

However, while legal devolution of ownership of public lands from the State to the private sector has generally failed in the United States, transfer of ownership of wildlife on private lands has been more successful. Wildlife conservation on private lands is evolving from regulatory to participatory management, from State to private control, from protectionism to sustainable use, and from free uses to all persons and societies to outright commercialization. These trends have had an impact on ownership of wildlife and its uses.

Texas, one of the principal states in which commercialization of wildlife has become entrenched in the fee-hunting system, leads the nation in devolution of wildlife to the private sector.

Private property rights or ownership of wildlife is an extremely contentious issue in the United States. Wildlife is 'claimed' through such devices as high fences to contain large mammals. Over 4,000,000 acres of big game range in Texas are now contained within 8- to 9-foot fences that impede, if not entirely restrict, movements of large mammals, some of which are non-native species (Teer and Young, unpublished data).

In addition, through a strong and effective landowner lobby and a sympathetic Texas Parks and Wildlife Commission, the landowner has been given certain privileges of management that, heretofore, were the role of the licensed sport hunter. Briefly stated, a landowner can now obtain a permit to capture deer from wild stocks, pen and breed them much the same as domestic livestock, and return them to the wild after a certain period. Additionally, landowners may manage numbers of deer on their property under a permit system to take as many deer as deemed necessary to improve his herd on that property. He may undertake the herd reduction himself without traditional recreational hunting by the public.

The usual device for ownership of wildlife is through rights of access rather than outright ownership. Trespass laws are vigorously enforced in Texas. As with other crops of the land, wildlife is now being considered a commodity for sale and or exclusive use by the private property owner. This is in contrast with former systems in which partnerships between users and owners were the norm.

Alabama and Louisiana are struggling against the encroachment of the 'Texas model' by legislating against game fences and importation of out-of-state white-tailed deer bucks (Blakeslee, 1998). Wyoming is pressing to prevent privatization of its great herds of big game. Permits for taking big game are limited to one per person; landowners receive only the same number as an individual hunter.

In short, ownership is being transferred to the private sector through rights of access to private land, through regulations and permits for managing wildlife, and by confining animals, usually deer and exotic large mammals, behind high fences. Wildlife management and uses of wildlife by the general public are approaching the western European system.

Devolution of ownership of wildlife is increasing in the less developed nations as well as the developed ones. It is being expressed in the conservation strategy of sustainable use and development. The old system of *res nullius* is being replaced by legal if not practical changes in ownerships. In one form or another, under varying specific legal devices, ownership of wildlife has been, to some degree, transferred to the private sector. In such African States as the Republic of South Africa, Zimbabwe, Zambia, Botswana, and Namibia, wildlife has been divested by governments to the private

sector. Western European nations have had private ownership rights to wildlife for centuries. The trend is for privatization to increase. Conversely, community-based conservation projects in which indigenous peoples are commercially rewarded for conservation efforts have gained momentum in Africa, Asia, Mexico, and some other nations of Latin America. Under such arrangements, local people realize the fruits of their efforts, and thus the stimulus for conservation and use of wildlife resources is an important outcome.

PRIVATIZATION: GOOD OR BAD?

The value of privatization of wildlife is a matter of place, time, and societal values and needs. When wildlife was largely unmanaged and needed and exploited by pioneering societies, and in seemingly inexhaustible supply, the private sector benefited. As human numbers increased with concomitant decreases in wildlife, governments were forced to intervene through regulations and prohibitions in uses. Now, as human numbers have increased to more than six billion, protection and management have become an absolute necessity.

But can the private sector better manage wildlife resources and its habitats more efficiently and effectively than governments? The answer is that both must continue in partnership arrangements for conservation to succeed. There is no system of wildlife conservation in the world that, in some degree, has no governmental involvement. Sustainable use, equitable distribution of wildlife, and the needs of people are embedded in modern conservation strategies. Conflicts in uses of the land make partnerships necessary.

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Summaries

La présente étude décrit la propriété des espèces sauvages aux Etats-Unis et les implications du transfert de la propriété de l'Etat au secteur privé. La propriété est synonyme de régime foncier étant donné que les propriétaires s'occupent généralement de la gestion et de l'utilisation des espèces sauvages.Cette étude est plus descriptive qu'analytique et a pour objet de fournir des informations sur les autres pays à des fins de comparaison.

Este trabajo presenta (1) la propiedad de los terrenos de vida silvestre en los Estados Unidos y (2) las implicaciones de la devolución de la propiedad por parte del Estado al sector privado. Propiedad es sinónimo de tenencia de la tierra por cuanto el manejo y uso de la vida silvestre los realizan ordinariamente los propietarios. El estudio es más descriptivo que analítico y su objetivo es suministrar información a otras naciones con fines comparativos.

Workshop on the Influence of Tenure and Access Rights on the Sustainability of Natural Resource Uses

Hank Jenkins

Introduction

The workshop was organised by the IUCN Sustainable Use Initiative (SUI) and the Zimbabwean-based Regional Environment Organisation (ZERO), at the request of the IUCN Council. The principal objective of the workshop was to examine the nature of the relationship between tenure and sustainable use of natural resources, and the extent to which this relationship contributes to the conservation of biological resources and achieving the objectives of the Convention on Biological Diversity (CBD).

Summarised Workshop Contents

The workshop comprised seven thematic sessions and a closing session. An introductory session examined the principles of tenure and access rights from a global perspective and identified those provisions of the CBD, the implementation of which may be enhanced by considering the role of tenurial systems. Overview presentations on Europe, Africa, Asia, Latin America, and the Pacific Islands exposed commonalities and differences in the manner in which tenurial systems operate and access rights are granted. Some regional overviews were complemented by specific case studies that demonstrated a positive relationship between tenure, sustainable use and conservation. A closing session identified the major conclusions that could be drawn from the presentations and associated discussions in order to articulate a statement on the outcomes of the workshop.

Europe

Over many centuries, agriculture has had an immense impact throughout Europe in changing and shaping the natural environment. The impact has been so immense and widespread that what is commonly referred to as 'nature' by the European general public is, in reality, extensively modified semi-natural landscape.

The regional overview and case study presentations for the European Region focused on the issue of sustainable agriculture. For convenience, the Region was divided into three sub-regions (*i.e.,* Western Europe - EU; Central and Eastern European Countries— CEEC; and Commonwealth of Independent States - CIS). Nevertheless, it is possible to draw the following general conclusions. Firstly, a common characteristic of European agriculture has been the historical concern related to food security. The inability to satisfy the nutritional requirements of peoples during World War II and its aftermath strongly motivated European States to enhance food production. Food security in Europe has largely been achieved, not, however, without incurring some environmental costs. Highly productive agricultural systems account for much of the loss of biodiversity in Europe. Excessive use of chemicals have resulted in contamination of soils and ground-water, and the eutrophication of water bodies. Monocultures, mechanised cultivation practices, and irrigation schemes have led to large-scale conversion and fragmentation of natural habitats.

Although the problems may differ in the three sub-regions, it is apparent that agricultural reform, through greater privatisation and further liberalisation of market forces, is required throughout Europe in order to promote overall

sustainability. In the case of EU countries the 'reform via market mechanism' should simply remove extensive government intervention in price formation and in production and trade subsidies. In CEECs and CIS countries a complete transition to a market-based economy can only be achieved by a redefinition of land ownership. The process of 'extensification' of agriculture in the CEECs and CIS countries in recent years, which has resulted in reduced agricultural production, has been more a result of financial and economic difficulties at the farm level than a reflection of a definitive shift in policy.

The management of natural resources in farmlands in order to produce an agricultural output, which satisfies individual subsistence or commercial needs, necessarily impacts, positively and negatively, on the environment. These environmental impacts are relevant to the 'quality of life' of present and future generations, and are thus of interest to the general public. In this regard, farmers play a dual role — that of entrepreneurs attempting to maximise outputs and benefits, while at the same time fulfilling the responsibilities of managers of public goods — the environment. This inseparable dual role of farmers gives rise to questions on the linkages between land use for agricultural production and farmers' stewardship functions to manage the environment. The capacity of markets to influence the allocation of resources for agricultural output and provide the means of satisfying the private interests of farmers is well defined. Market mechanisms largely fail to operate properly with respect to environmental management. Because of the public nature of environmental goods and the degree of public interest in the environment, including the associated social and intergenerational issues that are raised, the concept of democratically elected governments acting as public agents to compensate farmers for the environmental goods and services they would provide is gaining consensus amongst the western European public. In addition to being paid for environmental goods and services, it is appropriate for farmers, and associated industries, to be considered accountable for environmental damages that accrue from unsustainable agricultural practices.

In the case of Europe, OECD (1997) stated that "... Private ownership may or may not be superior to public ownership, depending on policies; and most any allocation (public, private or 'customary') is better than no allocation..." In recent years, when agricultural policies in the EU, CEECs, and CIS countries were directed at enhancing production, neither private nor public ownership of land guaranteed sustainable agriculture.

ASIA

The predominant tenure system in Asia was communal tenure by which whole communities owned a resource and possessed communal rights to its use. Colonisation of Asia in the middle of the nineteenth century by the industrially advanced and wealthy European countries played a significant role in forcing a change and breakdown in local values and institutions — particularly those relating to property rights. Legislation governing the use of all wild resources transferred the tenure of these resources from local communities to government. Rather than conserving these resources, the colonial powers exploited particular resources primarily to generate revenue for further resource extraction within Asia and to establish a system that supported colonial rule.

Tenure policies imposed by the colonial administrations never gained legitimacy amongst the majority of local people, nor were they able to be effectively enforced. As a result, traditional and customary tenure systems continued to exist, albeit 'illegally' and with weakened authority.

At present there are four types of common property rights regimes operating in Asia: open access, communal property, private property, and State property. Resources under open access tenure are usually public commodities (e.g., water bodies, parks, mountains, etc.). Most open access resources are State property not subject to any management regime and with poorly or undefined rights of access or use. Historically, most of the open access resources were under communal tenure and were later alienated from local people.

Communal property regime is perhaps the most common widespread tenure system in Asia governing the management and use of wild resources. A natural resource under a communal property regime is controlled by a community, which is able to regulate its use. This also includes the ability to exclude access to it by non-community members. Under colonial legislation, most of this type of management is considered illegal. Because all resources are owned by the State, communities do not have legal title to either communal property rights or open access regimes. In an effort to retain their traditional systems in order to survive, many communities in Asia continue to deny encroachment, by the State, on their community resources. This State-community conflict forms the core of the tenure and sustainability debate in Asia. Nowhere is this conflict more intense than in State-managed protected areas.

Efficient management of a tenure system requires that the transaction costs be lower than the benefits derived from the resource. Experience has shown that low transaction costs are more readily achieved through equitable management. In this context, equity does not mean that resource users get equal shares, rather that management of a tenure system is

consistent with prevailing social standards of representation, distribution, transparency, and conflict resolution. The present system of protected area management fails to satisfy any of these criteria because it has engendered an inherent perception of illegitimacy amongst local peoples that encourages non-compliance with the system.

The present capacities of governments to apply appropriate management and enforce legal controls in protected areas is grossly inadequate. As a consequence, illegal activities such as poaching, fishing, and logging continue unabated. This has resulted in some species of wildlife becoming threatened with extinction through overharvesting or loss of essential habitat. Illegal hunting and fishing is a direct result of weak State enforcement capacity and the absence of communal control. Poachers from outside encroach on traditional communal lands and remove animals with relative impunity. Most countries in Asia possess fully fledged national parks departments; however, these departments consume scarce government resources and rarely achieve their fundamental objective of conserving biodiversity in protected areas. The protected area management system can be generally described as inefficient with high transaction costs, with no apparent benefits.

AFRICA

As in the case of Asia, a similar process that resulted in the replacement of customary tenurial systems by State-controlled management of resources occurred in the European colonisation of Africa and central South America.

In the African context, tenure systems define relationships between people — not simply between people and some physical property. More than just owning land, tenure encompasses a suite of rights and responsibilities relating to a range of renewable and non-renewable resources. Land resources throughout most of Africa are presently administered through three overarching tenure systems — State, traditional, and private. Traditional communal tenure systems entail all members of a community having a right of access to land for cultivation, grazing, hunting, fishing, and residence. Social or family organisation was intimately linked with use of the land. More than a means of production, land represented a hereditary right to belong to a community.

In rural areas, post-colonial governance has featured the ascendancy of a system based on co-management by democratic local and central governments. Democratically elected local authorities have formally replaced customary authorities. However, despite the law, traditional customs and a sense of community remain the organising principles of communal land. While communal land resources are both formally State land and informally customary land, authority and management will continue to be compromised and open access tendencies will thrive. Although community and private sector authorities may seem fragile in comparison to the State, the effective regulatory authority of the State is nowhere more illusory than in regard to what actually occurs in the day-to-day reality of life.

Internationally, the need to devolve responsibility for the management of natural resources to clearly defined local communities is gaining increasing support. Communities should be involved in planning and implementing projects, and enhanced economic benefits of resource use should accrue directly to them. Unfortunately, these good intentions often fail to achieve sustainable use of natural resources. The actual outcome is often the co-option of local elites and leadership for programs that fail to devolve responsibility.

In recent years, wildlife management policies in southern and eastern Africa have introduced the concept of sustainable use and encouraged the integration of conservation and development objectives. New policies in the region have attempted to re-empower local communities with valuable wildlife use rights. As communal property, wildlife can compete with domestic livestock to occupy rangelands. Failure to establish policies that promote wildlife outside protected areas as a positive land use option will perpetuate a continuation of the loss of natural habitats to mono species production systems.

LATIN AMERICA

Tenure is an important consideration for the conservation of biological diversity in Latin America. The region is important on a global scale because several areas of megadiversity are included in Latin America. It is also a region with the highest disparity in the distribution of land ownership. This inequitable distribution of land ownership has been repeatedly identified as one of the principal factors influencing environmental degradation.

Most governments in Latin America have created restrictions on ownership of property and access to and use of natural resources. Restrictions on the size of land that can be owned and the rights associated with land ownership were imposed in an effort to restructure the large land-holdings that were established during the colonial period and redistrib-

ute land to dispossessed rural communities. Ownership of natural resources became vested in the State in order to ensure they remained as a national heritage. Although laudable in intent, these measures have enjoyed limited success. These restrictions often created confusion regarding overlapping regimes, such as those that have occurred with the management of public forests that excluded local communities from decisions and benefit sharing.

Accountability for the extent to which natural resources are used will require rules of access to, and use of, resources that are clearly defined by appropriate legislation, and that are well understood by all interested parties. The inequitable distribution of land ownership, which can be traced to the Spanish and Portuguese colonisation of South and Central America, results in environmental degradation as landless peasants are expelled to the fringes and are forced to over-exploit resources to make a living.

Approximately 5.6 per cent of Latin America has been dedicated to conservation in the form of national parks and protected areas. However many of these protected areas are far from secure as many are occupied by communities that are dependent on resources contained within the conservation area. The unclear tenure relationships and tenuous economic status of these peoples often result in degradation and destruction of the ecological integrity of many protected areas. Common property regimes, where user groups develop, monitor, and enforce rules for resource use, have proven to be effective means to ensure sustainable use of resources. In Latin America, forest management initiatives under communal regimes have implemented management plans which include timber extraction with the conservation of biodiversity. Under conditions of clear boundaries and membership, adequate use rules, monitoring, enforcement, and mechanisms for conflict resolution, common property regimes can result in the conservation of biodiversity while simultaneously providing economic returns to local communities.

PACIFIC ISLANDS

Pacific Island countries, territories and their Exclusive Economic Zones occupy an area in excess of 38 million square kilometres of the Pacific Ocean. Land masses, comprising thousands of large and small islands, account for less than 2 per cent of this area. Large-scale industrial fishing and logging in the region have depleted valuable natural resources while providing minimum benefits to local communities.

At present, conflict exists between the private sector seeking a reasonable return on investment, governments pursuing national economic growth and social development, and local communities wanting an improved quality of life for present and future generations while maintaining respect for community values. This complex dynamic of conflicting interests and objectives is resulting in the serious loss of natural resources throughout the region with little positive return for any one stakeholder.

Land tenure is deeply embedded in wider political relationships, and the issue is not easily reduced to a code upon which everyone is able to agree. Customary landowners are seen to be gaining a steadily increasing share of the benefits that flow from resource use, while the private sector provides local services that are beyond the resources of government to supply. Unlike many other regions in the world, most Pacific Island countries have emerged from the colonial era with systems of customary land ownership, in some form, largely in tact. Land tenure systems, which characterise the Pacific Islands, vest ownership in the traditional occupants. Land cannot be bought or sold. In this regard, land tenure in Pacific Island countries differs markedly from western systems.

The bond between traditional land ownership and sustainable use of natural resources can occur, but accountability for benefit sharing and resource use must be built on an understanding and appreciation of the deep spiritual, ecological, economic, and social bonds between land and the peoples of the Pacific Islands Region. Sustainable development and the sharing of benefits from the use of natural resources is dependent on understanding the way in which business negotiations are conducted in traditional cultures and the ways in which access to and use of resources is traditionally managed by Pacific Island cultures.

One presentation examined the effect of internationalisation on the sustainability of wildlife use. The use of wildlife for international trade or harvesting wildlife on the high seas, where the ability to control access is severely limited, introduces factors that may be beyond the knowledge and control possible at the local level. The creation of an international demand for a particular resource may stimulate markets that are only able to be satisfied by harvest regimes elsewhere, beyond local control, that may be unsustainable and, in some cases, illegal.

It concluded that, in situations where wildlife use is internationalised — particularly in response to a market demand, there is a greater need for a cooperative, international instrument, such as CITES, to operate in support of local or customary tenurial control systems.

GENERAL WORKSHOP CONCLUSIONS

On the basis of regional overview presentations and case studies, it was apparent that the replacement of customary tenure systems with government management regimes has operated largely to the detriment of conservation of biological diversity. In contrast to this, where well-defined tenure and access rights have been devolved to the local level (i.e., landholders and communities that live with, know, or use the resources), sustainability of resource use has been significantly enhanced.

Furthermore, the workshop noted that tenure — the way in which people hold, or do not hold, individually or collectively, exclusive rights to land and all or part of the resources above or below its surface — is one of the principal factors determining the evolution of the landscape, the way in which resources are managed and used, and the manner in which the benefits of such use are distributed.

It was recognised that no single model exists for the successful devolution of tenurial rights and that governments need to collaborate with communities and/or land holders in order to formulate tenurial mechanisms that suit particular social, cultural and economic circumstances. However, in situations where governments and communities had achieved effective devolution of tenurial rights that also provided for equitable sharing of benefits, conservation of biodiversity and sustainable use of its components were enhanced.

Although clearly defined tenurial rights and responsibilities are fundamental to achieving sustainable use, it was recognised that these must be accompanied by supportive policies and incentives, and institutions that provide for negotiated levels of accountability.

Following the analysis by the Secretariat (UNEP/CBD/SBSTTA/2/3), which identified certain land tenure issues as one of the ultimate causes of threats to biological diversity, the workshop noted that appropriately structured systems of tenure are essential to achieve the objectives of the Convention.

The positive relationship between tenure and sustainability was particularly relevant to implementing Articles 8(j) and 10(c) of the Convention, as these relate respectively to traditional knowledge and customary use; Article 11 on incentive measures; Article 12 on research and training; Article 13 on public education and awareness; and, most importantly, Article 15 on regulating access to genetic resources.

RECOMMENDATIONS

At the international level, the workshop recommended that the Conference of the Parties to the Convention:

- consider tenure and access rights for incorporation into its thematic workplans; and
- explore collaborative mechanisms with other relevant international instruments to institutionalise and further strengthen tenure and access rights.

At the national level, the workshop recommended that Contracting Parties to the Convention:

- undertake studies, in collaboration with community and/or land owner organisations, on the full spectrum of tenurial regimes to identify appropriate systems for application; and
- review existing policies, legislation, and incentive schemes with a view to promoting appropriate tenurial systems.

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Section Two

Oslo Workshop: *Tenure and Sustainable Use*

Tenure Regimes and Sustainable Resource Management

Daniel W. Bromley[1]

The challenges concerning sustainability and property regimes in the developing world concern the operational content of the idea of sustainability, as well as clarity regarding causal models concerning why resource degradation persists. In this paper I shall first address the operational aspects of the idea of sustainability. I will then turn to a discussion of the conventional explanations for resource degradation in general, and deforestation in particular. I will emphasize that meaningful resource policy in the developing world awaits a more coherent explanation as to why degradation persists as a serious policy problem. Only then will it be possible to begin to formulate appropriate policy responses to this serious problem.

The Economic Approach to Sustainability

Economists became interested in the idea of sustainability in an effort to understand how to approach growth policy in a way that would not impoverish the future. Because economic growth is usually consumptive of natural resources, it is logical to ask how much growth can be accommodated in the present without leaving future generations with a depleted or degraded stock of natural resources (Dasgupta and Heal, 1974, 1979; Hartwick, 1977; Howarth, 1995; Howarth and Norgaard, 1990, 1995; Krautkraemer, 1985; Maler, 1974; Page, 1977; and Solow, 1974, 1992). When analytical attention focuses on intergenerational equity, the concern shifts to a problem of ensuring that the capital stock — whether natural or constructed — is adequate to provide a level of consumption for each future generation not less than that enjoyed by the current generation. This position is similar to that adopted by Pearce and Atkinson (1993). Pezzey sees the problem as one of ensuring that aggregate welfare is non-declining over time (1989, 1992). Howarth (1994) takes a similar tack on the premise that this is the Kantian imperative. Bishop (1978) suggests a "*safe-minimum-standard of conservation*", an idea originally propounded by Ciriacy-Wantrup (1968).

The conventional economic problem is seen as finding the maximum (or optimal) path of present valued utility (or of consumption), subject to a production function that converts both constructed capital and natural capital into goods and services that then yield utility. But there are obvious problems. Since the goal in this particular formulation is to maximize the utility from consumption across an infinite number of time periods into the future, we must have some idea about what those living in the future might find giving of utility. That is, how do we know what those living in the future will 'value' or 'prefer'? Since we cannot know what they will value, the idea of 'right prices' fails to take us very far. Moreover, we cannot know what will be regarded as capital and so how can we model a path of capital into the future? Indeed, we cannot even know what will be a commodity in the future, and so net national product and its income equivalent as a measure of well-being of those in the future becomes problematical. We cannot know future tastes and preferences.

This standard approach tells us that we must leave something for the future, but does it tell us how much is enough? Can we tell if we should increase the land area devoted to national parks, wildlife preserves, and wilderness areas? More fundamentally, do we need this approach to tell us to leave

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something for the future? The essential problem of sustainability has little to do with optimal utility levels over time. Rather, the essential problem of sustainability arises from the absence of knowledge about what those in the future would wish for us to do. Note that this is not a mere problem of uncertainty or of risk. This is a problem of *decisive information*.

Sustainability is a serious analytical challenge because information problems preclude us from knowing what we should do for those who will follow in the future. Those of us living today stand as dictators over the future and our analytical problem is that we are seeking to solve a provisioning problem for infinitely many individuals in the future whose desires are totally unknown — and unknowable — to us. We cannot optimally model future provisioning for the simple reason that we can never know how to provision the future. Because agents from the future are not present to discuss their provisioning with us, we have no basis for arranging their provisioning, for contracting with them over that provisioning plan, or for addressing the compliance problems associated with any particular provisioning plan (Bromley, 1989b).

We are left with the fact that locating the optimal sustainable path for an economy is logically impossible because of the presence of information costs, contracting costs, and enforcement costs. These costs stand between our investment and consumption choices and the circumstances of those who will come after us. Given these transaction costs, the concept of sustainability is necessarily devoid of any positive analytical content for the economist. Rather, the problem of sustainability becomes simply a normative judgment about the ability of autonomous maximizing agents to establish and sustain mutually beneficial patterns of consumption and investment over time (Bromley, 1998b). But how will we ever know if we have achieved even this weaker condition of 'mutually beneficial' consumption and investment over time?

THE SOCIAL CONSTRUCTION OF SUSTAINABILITY

Sustainability is not about autonomous provisioning giving rise to spontaneous order and a socially optimal consumption path into the future. Rather, sustainability must be about a prior *constructed order* defining a socially acceptable provisioning program now and into the future. In intertemporal provisioning there are no contracts because there is no way to negotiate a contract with future persons. Our only escape from this dilemma is to construct an *environmental regency* in which the present generation controls provisioning until the dependent party — the next generation — is able to assume that control. The solution, therefore, is for those in the present to pledge collateral against the possibility that we may, in a moment of weakness, violate the interests of the future. We do this by setting aside natural and constructed assets.

I suggest that the proper constructed order must avoid the current fetishism that underpins 'endangered species' thinking. The problem with species fetishism is that it denies the reality of nature and of evolution. What must be conserved is not species *per se*, but the conditions for the *recreation of essential ecosystems.* We might think of the ecosystem as part of the globe's social infrastructure. The constructed order we require ensures the continued viability of certain essential ecological processes and circumstances. Not only does this supplant species fetishism, but it permits the consideration of constructed assets on the same plane as natural assets. And it unites us — indeed it forces us — to get on with the important task of discussing and demarcating such settings and circumstances.

One possibility is 'regard for the future' operationalized through the idea of *social bequests*.[2] Regard for the future through social bequests shifts the analytical problem to a discussion about deciding what — rather than how much — to leave for those who will follow. This moves the discourse to a level that each family undertakes as it reaches advanced age. The issue is not really how much to pass on to one's children. Rather, the question becomes one of what to pass on? A few things will be sold off, a few things will be given to dear friends, and a few things to highly regarded charities. Then one comes to the core — our legacy to our heirs. These artifacts represent our essential values — objects we hope they will value as we valued them. We acquire our concerns for the future from our knowledge of the past. And it is this knowledge of the past that constitutes the essence of what shall be left to the future. This value is manifest through our acquisition of these objects, through their maintenance, and now through their transmission to the future.

The traditional approach suggests that sustainability criteria can be imposed as a constraint on the maximization of social preferences concerning the welfare between present and future generations. This is operationalized by arguing that each successive generation has a duty to ensure that the expected welfare of its offspring is no less than its own

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[2] *The idea of social bequests* may *be operationally equivalent to the "safe-minimum-standard of conservation" (Bishop, 1978; Ciriacy-Wantrup, 1968).*

perceived well-being. But this approach is to view sustainability as a problem of substantive rationality. However, the future must be provided for through social bequests informed by the logic *of procedural rationality* (Simon, 1987). Procedural rationality calls for an emphasis on choices about what shall be left for the future. These processes will not be informed by maximization algorithms concerning future capital, or future levels of welfare. They will, instead, be informed by a consideration of the various kinds of artifacts — both natural and constructed — that our descendants might value. The procedurally rational approach seeks to consider the social bequest problem in much the same way that good parents — or regents — seek to shape those who will follow.

The fundamental problem in crafting public policy conducive to sustainability concerns how we — who stand as dictators over the endowment to be left for future generations — view the choice problem. Do we consider the future in terms of the present, or do we consider the present in terms of the future? When the future is considered in terms of the present, we approach public policy as is traditionally done using benefit-cost analysis and the conclusions it generates regarding 'efficient' or 'correct' public policy. When the present is considered in terms of the future, we are induced to turn the analytical problem on its head (to reverse time's arrow) and to address the problem of what John R. Commons called the "purposes of the future" (Commons, 1990).

SEEING THE PRESENT IN TERMS OF THE FUTURE[3]

I have recently begun to focus my own work on how economists explain particular social behaviors. Not surprisingly, that quest concerns economic epistemology. One aspect of my work concerns alleged explanations of natural resource degradation (Bromley, 1998a). We can think of this problem in terms of preserving biodiversity, global climate policy, or deforestation in the tropics. As indicated, these problems are obviously related to the concern for the relationship between tenure and sustainability. If we think about deforestation and the implications for sustainability, we are usually invited to see the causal factors as the prevalence of slash and burn agriculture, the spread of roads into remote areas, rapid population growth, the lack of viable economic opportunities in non-forested areas, cattle ranching, fuelwood gathering, weak or unclear property institutions, powerful logging concessionaires, and often weak or corrupt governments (Allen and Barnes, 1985; Barbier et al., 1991; Deacon, 1994, 1995; Deacon and Murphy, 1997; Sandler, 1993; Southgate et al., 1991; Vincent, 1990).

I have argued elsewhere (Bromley, 1998a) that deforestation is *"the willful and permanent transformation of land cover from that which is forested to that which is not".* Notice that this definition precludes the practice of swidden agriculture common in many areas; it seems appropriate to regard swidden as simply a form of land management in which different kinds of crops (including trees) are used in serial rotation. We see, therefore, that swidden agriculture does not constitute deforestation any more than managed (plantation) forestry constitutes deforestation. Notice also in my definition of deforestation the emphasis on *the willful transformation* of land cover and land use.

When we turn to the matter of explanation of deforestation, most of the studies tend to focus too quickly on what seems to be the obvious precursor to deforestation rather than seeking, with greater care, other possible causes. The usual 'causal' factors listed above — population growth, roads, ranching, fuelwood gathering, unclear property rights, corrupt governments — are illustrations of the confusion between the *first cause* (origin) of an occurrence and the *final cause* (purpose) of an occurrence. I suggest that the cause(s) of deforestation can only be clearly determined by giving explicit recognition to the idea of intent. Put somewhat differently, deforestation does not happen by accident or by neglect. It happens because there are purposes to be served by deforestation. The analytical challenge, I insist, is to search for those purposes.

We can see this most clearly if we consider population growth — often cited as a cause of deforestation. Obviously population growth is not *intended to* bring about deforestation. That is, population growth, or migration into forested areas, does not come about *for the purpose of* causing deforestation. Population pressure may be the *origin* (first cause) of deforestation, but it cannot be the *final cause* of deforestation. The idea of final cause requires *the establishment of a connection between events and the purpose or intent behind those events.* In that sense, final cause can be understood as follows: *"...the 'final cause' of an occurrence is an event in the future for the sake of which the occurrence takes place...things are explained by the purposes they serve. When we ask 'why?' concerning an event, we may mean either of two things. We may mean: 'What purpose did this event serve?' or we may mean: 'What earlier*

[3] *Some of the following is a revised version of Bromley (1998a).*

circumstances caused this event?' The answer to the former question is a teleological explanation or an explanation by final causes; the answer to the latter question is a mechanistic explanation" (Russell, 1945, p. 67).

This distinction between teleological and mechanistic explanations, I suggest, will be helpful in understanding the causes of deforestation and will, therefore, be helpful in understanding sustainability issues.

The search for final cause — the teleological explanation — allows us to go beyond any particular event and to inquire what purpose it is intended to serve in the future. The traditional approach to causality, on the other hand, tends to look for antecedent conditions, or circumstances that are mechanically related to the event.[4] Consider road building into remote forested regions — an activity that will, in many instances, be followed by deforestation. Can we therefore say that roads 'cause' deforestation? Assume that the roads are pushed into remote areas precisely to gain access to timber. In this case, the desire for access to timber is *the final cause* of the new roads; roads are not the *final cause* of timber being harvested (though roads facilitate timber harvesting). The quest for timber causes roads to be built, so roads are the mechanistic explanation for deforestation — but the quest for timber is the teleological explanation for the construction of roads. Roads are merely the means to the easier acquisition of timber.

Now assume that roads are developed in remote areas for the purpose of allowing sedentary agriculture to flourish where trees now grow. Here sedentary agriculture is the *final cause* of the roads and the subsequent deforestation. We now see that when it is said that roads cause deforestation it is analogous to an assertion that roads cause sedentary agriculture. But does it make sense to say that roads *cause* sedentary agriculture? It is rarely expressed that way. Roads allow settlements in the forest, but the issue of final cause must be more carefully considered. Usually it will be said that population growth and poor peasants cause deforestation by creating a demand for agricultural land whose access is denied by thick forests. Roads open up new territory, timber is cut off, and then sedentary agriculture can be established. But these 'explanations' confuse the mechanistic explanation with the teleological explanation. Coherent policy analysis of deforestation can only arise from attention to teleological explanations.

Consider the usual explanation of powerful timber concessionaires as the cause of deforestation. It seems more correct to argue that the quest for timber is the *final cause* of the powerful timber concessionaires, who then become the mechanistic explanation (*the proximate cause*) for deforestation. But, as above, if the activities of the timber companies do not result in a permanent change in land use, then the timber concessionaires are merely the mechanistic explanation for harvesting, but they are not the mechanistic explanation for deforestation (since deforestation is not the same as timber harvesting). We then must decide whether the problem is the harvesting activity, or the environmental implications of harvesting, even in the absence of a permanent change in land use.

This emphasis on final cause reminds us that coherent environmental policy in the developing countries requires that we pay attention not just to proximate cause (the mechanistic explanation), but to the purposes for land conversion. That is, we must investigate whose interests are served by such conversion in land cover and land use, and how those interests manage to manipulate the political system so that their purposes can be achieved. These are the important explanations for resource degradation in general, and deforestation in particular.

In an assessment of deforestation and the 'rule of law' — the quintessential institutional explanation — Deacon writes that: "*consistent associations were found between deforestation and political variables reflecting insecure ownership...The explanatory power of the model is fairly low, however, so firm conclusions would be premature...the task of developing analytical models that better illuminate the fundamental causes of deforestation remains. Any such model must recognize that many, possibly most, of the factors taken as causes in popular accounts of deforestation are really determined endogenously...the political indicators of insecure property rights examined here probably should not be regarded as truly exogenous either....Unraveling this chain of causation is centrally important to any policy intended to control deforestation or the use of other natural resources. Absent an understanding of these causes, and a firm basis for separating causation from correlation, policy in this area will mistakenly treat symptoms rather than causes*" (Deacon, 1994, p. 429).

In a related paper, one year later, Deacon observes that: "*While knowledge of ownership issues is important for understanding the process of deforestation, this knowledge does not point to a straightforward fix. The sheer size, multiplicity of access points, and communal service flows of tropical forests make monitoring and enforcement very costly in some situations and virtually unimaginable in others. Redefining nominal rights in ways that appear to*

[4] *For a discussion of a similar instance of confused causality concerning resource management and property regimes see Sjaastad and Bromley (1997).*

correct inefficiencies in the written law may yield gains in some instances, but an approach to environmental protection that leans heavily on this approach seems directed more at symptoms than causes. Similarly, policy approaches based on the use of Pigovian taxes or marketable permits can be expected to encounter the same monitoring and enforcement problems that keep the market from providing forest services efficiently" (Deacon, 1995, pp. 16-17).

Finally, Sandler writes that: "*Tropical deforestation is a complex problem stemming from a host of activities including forest farming, logging, cattle ranching, and large-scale infrastructure projects. The driving forces behind these activities are population pressures, highly skewed land ownership, and/or misdirected government policies*" (Sandler, 1993, p. 232).

We see here the results of three careful assessments of the alleged causes of deforestation in the tropics. Do the authors seem confident that they have found the unique causal factors? Not really, unless the catch-all category 'bad policies' is regarded as a cause. But, do *bad policies* constitute a final cause? Does it seem useful to regard 'bad policies' as the *purposes* for which deforestation is the antecedent event? This seems unlikely. Rather, 'bad policies' are the proximate cause that then allows a range of human behaviors to occur whose ultimate impact is deforestation. But what is the final cause — the teleological explanation?

I suggest that traditional studies of deforestation have regarded deforestation as the end state requiring explanation and have therefore focused analytical attention upon the antecedent circumstances that appear, at first glance, to 'cause' deforestation — population pressure, road building into remote areas, land-hungry peasants, insecure property rights, etc. But if we see deforestation not as the end of the causal chain but as an intermediate step along the way, then I believe it allows us to find some much-needed clarity in the quest for an explanation for deforestation and resource degradation. That is, the search for a teleological explanation would ask: *what event or circumstance in the future is served by deforestation?* When we locate that event or circumstance, we will have discovered the final cause of deforestation. Lacking this, many of the conventional explanations are seen to be merely mechanistic explanations that focus on antecedent circumstances.

When we understand that deforestation is an event serving some subsequent purpose, it becomes logically necessary to conclude that there are only two possible explanations for deforestation that can satisfy the conditions of final cause:

(1) to earn resource revenues from harvesting trees; and

(2) to provide land for other uses.

The first of these regards trees as a source of income for the state,[5] while the second of these regards forested land as having an unacceptably high opportunity cost for the state if it remains forested. Indeed, the two 'causes' really collapse into one — the high social opportunity cost of forested land, the conversion of which will provide access to scarce land, with the costs of conversion being partially (or fully) covered by the selling off of the forest cover.[6]

The obvious conclusion from this sequence, it might be thought, takes us back to population growth as the real cause of the high social opportunity cost of land remaining under forest cover. But this would be both too simple, and incorrect. Perhaps the final cause is the unwillingness of governments to undertake actions that might relieve the shortage of land for other uses. That is, perhaps forested land has a high social opportunity cost in its current use because of the failure of the government to address the issue of land scarcity elsewhere in the economy. If non-forested land is controlled by a few large landowners, and if the government is unwilling to address the land scarcity brought on by this ownership structure, then the social opportunity cost of forested land is artificially inflated and provides part of the 'justification' for government support of deforestation activities. This brings us back to willful intent (purpose) and illustrates that population pressing up against scarce land cannot be the *final cause* of deforestation; it only looks that

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[5] *A second way that some governments undervalue the forest is by failing to extract much of the revenue that accrues to those given the opportunity to harvest timber.*

[6] *This is the approach taken by Deacon. He assumed that the agricultural good produced from the newly liberated lands was exported and the revenues were then used to import a manufactured good. The net effect on deforestation was indeterminate. When deforestation occurred to earn revenues for the state, the results also depended on the assumptions employed. Deacon did not undertake empirical work in this paper but surveyed other works for insights about the effects. He notes that the* "...the empirical basis for identifying sources of deforestation and linking them to governmental policies is very meager at present. Hence, the conclusions reached and policies recommended in the deforestation literature lean heavily on logical reasoning. The lack of empirical evidence magnifies the importance of using an explicit analytical framework when drawing conclusions about this important policy issue. More importantly, perhaps, it strongly suggests that it is now time for those interested in deforestation to shift the direction of research away from descriptive accounts and a priori reasoning and toward the careful empirical analysis needed to document the relationships involved and to measure their magnitudes." *(Deacon, 1995, p. 17.)*

way because governments allow that perception to persist.

We see here the very serious difficulty of building coherent econometric models that offer some hope of actually *explaining* economic phenomena. In other words, we see the difficulty in building sound conceptual models that have empirical content. The usual pattern is to build causal models from the data we have available — miles of road built, population growth, income, security of ownership, etc. But such models are driven by data availability, not by a conceptual approach that seeks final cause as opposed to mechanistic cause. The empirical problem is obvious: it is difficult to get governments to admit that they are unwilling — or unable — to take actions that will solve the problems associated with landless people. It is equally difficult to get some governments to admit that they need (or want) the revenue from the widespread harvesting and land conversion activities that deforestation entails. That is, the intentions of government policies are difficult to include in an econometric model. Yet the quest for final cause is impossible without reference to intent.

All other alleged explanations are merely mechanistic; as such they provide no insights about policy reform. As long as a particular nation state is driven by a desire to earn rents from harvesting trees, and as long as land hunger (itself often the result of other policy failures) drives governments to open up remote areas, then very little is to be gained by suggesting that nations stop building roads, or that property rights be made more secure, or that population control be implemented, or that government corruption be rectified, or that the powerful logging interests be reigned in. The only way to confront deforestation is to focus on its *final cause*.

The separation of mechanistic from teleological explanations allows us to focus analytical attention and policy formulation on willful intent by policymakers. It is no longer adequate to discuss 'bad' policies, or weak governments, or the insecurity of property rights. Indeed, the identification of final causes allows us to see that governments must *intend* that deforestation occur — otherwise they would stop it. In other words, deforestation serves the purposes of the government. It is not a matter of bad policy, or of innocence as to why deforestation occurs, or even of incapacity to change deforestation practices. Rather, deforestation serves the purposes of the state and its government.

Careful assessment of deforestation in the developing world would reveal that most governments know precisely what they are doing, and why they are doing it. If this is the case, then it is a very different challenge to tell governments that they should stop seeking to earn revenue from their forests, or that they should not try to solve the land hunger problem. On the other hand, this realization opens up other avenues for assisting governments to deal with deforestation. Perhaps land hunger can be addressed by other policy reforms? Perhaps we need to be more sensitive in our discussions with policymakers about the costs of deforestation? It is not very helpful to plead with such individuals that deforestation is contributing to global warming; nor is it useful to ask them to save those forests — or to preserve biodiversity — while failing to help with the very real problem of land hunger. In other words, deforestation is less about 'forestry' than it is about economic policy in general, and landuse policy in particular.

GETTING INSTITUTIONS RIGHT

Our concern here is the relationship between tenure and sustainability. I would now like to place the problem in a slightly broader context by suggesting that we cannot look at tenure institutions in isolation from the other institutional arrangements in the countries of concern to us here.

If we start from the realization that deforestation happens not by accident or neglect but because governments intend for it to happen, then we gain a certain clarity on a problem that has been blamed on a number of disparate causes and circumstances. As above, it certainly brings a different perspective to discussions with government officials who may be understandably reluctant to admit the obvious. If we assume that some governments genuinely seek to reverse decades of deforestation, then it will be necessary to insist that these new intentions must be accompanied by a serious change in *de facto* and *de jure* circumstances. While we may well find that governments express concern about deforestation, they are very often unwilling or unable to do much to stop it. This disjuncture between words and deeds is not lost on most observers and generates, in time, a level of cynicism that must be rectified.

Unless there is an institutionalized anchoring of environmental policy, real progress is certain to be elusive. Part of this institutionalized anchoring must be in terms of the rules of land use — property regimes. That is, we must start with the legal arrangements that define land-use practices in general, and forested landuse in particular. These legal arrangements indicate who may exercise decision control over the way the land is managed, and hence such legal arrangements are the essence of what we mean by the terms-ownership of land.

Consider the private ownership of a forested plot. We say that the owner has the *right* to exercise managerial control over that land and all others (non-owners) have a *duty* to respect the integrity of the ownership interest of the individual with rights. All rights require correlated duties; the essence of a right for one party is a duty for all other parties.

Under this legal arrangement, if the private owner chooses to exercise the right of ownership by undertaking widespread deforestation, others who may be offended at this have no legitimate basis to object. Should a political movement arise to protest this action the owner would be able to claim that his actions were protected by his right of ownership. In the absence of a change in the law, those who found this action unacceptable would have no recourse.

While the institutional dimension of private ownership seems clear, things are not always as clear as they may seem. The Endangered Species Act in the United States can prevent the cutting of trees essential to habitat preservation for certain endangered species on private land. Thus, the presumptive rights of private landowners to undertake actions that may constitute deforestation are now restricted; deforestation is against the law in some places. And by 'being against the law' we mean that a judicial structure stands ready to enforce legal relations. While trite in some respects, it is not uncommon — especially in the developing world — to have laws that no one expects to be enforced. To *have* laws is not necessarily to *live* by laws; laws are only meaningful if they are enforced. That is what I mean by the 'rule of law'. The point is not one of merely having laws, but having institutional structures in place to force the unwilling to follow the law.

Of course it is one thing to force a private landowner to follow the law; it is a very different matter to force a government agency to follow the law. In the U.S., government agencies are constantly being sued to force them to follow the law. The U.S. Forest Service is sued by some environmental groups to force it to manage the national forests in keeping with certain multiple-use laws; the Environmental Protection Agency is sued by another environmental group to force it to reconsider its standards for 'clean' water; the U.S. Department of Agriculture is sued by yet another group to force it to monitor pesticide applications more closely; and the Corps of Engineers is sued by yet another group to prevent it from violating wetlands being protected by some state department of natural resources. All of these are illustrations of what it means to have an institutional structure based on judicial oversight.

Returning to the problem of deforestation, we need to focus very briefly on the rule of law as it pertains to property relations. The majority of the world's forested areas are on common-property land or on government land (state property). By state property I mean land where ownership and control over natural resource use and management rest in the hands of the state, and the management responsibility is assigned to government agencies. National forests and national parks are examples of state-property regimes. The state may either directly manage and control the use of state-owned natural resources through government agencies, or it may lease the natural resource to groups or individuals who are given usufruct rights for a specified period of time. State-property regimes remove managerial discretion from the user and situate it, instead, in government agencies.

When enforcement is present — when there is the rule of law — national parks and forest preserves ensure that the natural resources under such management regimes will be conserved for future generations. To be successful, such regimes require governmental structures and functions that can match policy pronouncements with meaningful administrative capacity. The more frequent situation, unfortunately, tends to be that of grand policy pronouncements about protecting forests, and then a lack of serious enforcement consistent with the declared intentions. This can happen because of an absence of knowledge about proper use, or it can arise because of inadequate funding to make timely enforcement decisions. More seriously, deforestation occurs in such property regimes when those with political connections manage to regard the national forests as their own private domain, despite the official declarations of intent to protect forested areas under a state-property regime. As indicated previously, it is not the pronouncements of government that matter in the domain of resource degradation and deforestation; rather, it is the real *intentions* that give meaning to the search for final causes

Beyond the domain of state property, much deforestation occurs on land that is under common-property regimes. Here intentions matter as well. In many common-property regimes there has been a breakdown in compliance with the accepted management rules by those who are legitimate co-owners of the regime. If economic opportunities elsewhere in the local economy are limited then there will be insufficient capacity to absorb the increased population of those who are legitimate users of the natural resources under the regime of common property. Moreover, if spreading privatization in the land base of the surrounding area precludes seasonal adaptation to fluctuating resource conditions — a problem of particular importance in semi-arid grazing regimes — then excessive harvesting of a local forest resource may be necessary for survival by members of the group. This problem represents a form of disintegration of the *internal authority* of the property regime.

The pressure on common-property regimes arises for the same reason that state-property regimes are under pressure — the inability of the government to solve the fundamental problem of insufficient economic opportunity beyond the forest. This is exacerbated by the fact that governments often hold common property in low esteem. Many governments disregard the interests of those segments of the population dependent upon common-property regimes and so external threats to forested areas in common-prop-

erty regimes will not receive the same governmental response as would a threat to private property. This problem is really no different from the situation in which the government is unable — or unwilling — to enforce the management rules on its own forested areas (state-property regimes). With common-property regimes the willingness of the government to protect forest resources in common property is partly explained by the government's perception of the political and economic importance of those dependent upon the common areas. If those threatening village forests enjoy political favor from the state then the protection of common forests will be indifferent at best. This pressure represents a disintegration of the *external legitimacy* of the property regime.

When that happens, a common property regime (or a state-property regime) becomes a *de facto* open access regime, with the logical implication that aspiring users are free to behave as they wish without regard for the interests of those dependent upon the natural resources (Bromley, 1991). In essence, when governments fail to take actions that may stop deforestation, they are sanctioning the idea that a nation's forested area is simply an open access regime, available to whoever desires its bounty. Thus, deforestation persists.

CONCLUSIONS

The fundamental issue in our concern for sustainability and natural resource tenure is that in many settings, forest cover and the associated biodiversity is seen as an impediment to economic development. Indeed, forest cover is at the extensive margin as that concept is normally applied. At the same time, the past two decades have seen extraordinary attention to land use and land cover in the poorer nations as the extent of the world's forest cover has become an international issue. No one was paying attention when, in the early history of the United States, large tracts of land were denuded of forest cover in the most savage and wasteful manner.[7] As the European immigrants moved west across the new nation, magnificent trees fell in their wake. This was, at the time, regarded as 'progress'.

Today, inhabitants of nations seeking 'progress' are told, instead, that the trees must be left standing, and that biodiversity must be preserved. When they are told that by representatives of the developed world — places where old-growth timber is the rarest of natural assets — they are not amused. And who can blame them? Global climate change and the press for biodiversity have combined to bring extraordinary public scrutiny to land use matters that are properly issues of national sovereignty. But then, traditional ideas of national sovereignty in the face of global implications are outdated.

Returning to the epistemological issues, understanding the *final causes* of deforestation adds, I believe, clarity and promise to the struggle over sovereignty with respect to natural resource use in the developing world. The cause of deforestation is no longer a mystery, and it is no longer a problem that arises because of the uncontrollable acts of millions of poor and scattered peasants and loggers throughout the tropics. When we realize that deforestation occurs because governments wish for it to happen, we can begin a policy dialogue with a much more focused set of participants. If those in the developed world wish for tropical deforestation to cease, then it is clear to whom the necessary economic incentives must be directed for that to happen. And it is no longer credible for the governments in the tropics to wring their hands in frustration — protesting that they know not what to do about the problem.

[7] *Parts of the upper Midwest are still referred to as the 'cut-over' region.*

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Summaries

Dans les pays en développement, les défis concernant la durabilité et les régimes de propriété sont liés à l'aspect opérationnel de la notion de durabilité et la clarté des modèles de causalité quand aux raisons de la persistance de la dégradation des ressources. La présente étude porte tout d'abord sur les aspects opérationnels de la notion de durabilité. Elle présente ensuite un échange de points de vue sur les explications traditionnelles de la dégradation des ressources en général, et de la déforestation en particulier. Il est important de souligner le fait qu'une politique de ressources significative nécessite une explication plus cohérente des raisons de la persistance de la dégradation en tant que sérieux problème de politique. Ce n'est qu'alors qu'il sera possible de commencer à formuler des réponses politiques appropriées à ce sérieux problème.

Los retos que enfrentan los sistemas de sostenibilidad y propiedad en el mundo en desarrollo están relacionados con el contenido operativo del concepto de sostenibilidad, así como con la claridad como se manifiesten los motivos por los que persiste la degradación de los recursos. En el presente estudio, ante todo pergeñaré los aspectos operativos del concepto de sostenibilidad. Luego volveré al tema de las explicaciones convencionales en cuanto a la degradación de los recursos en general y a la deforestación en particular. Pondré de relieve que las principales políticas de los recursos en el mundo en desarrollo están a la espera de una explicación más coherente en cuanto a por qué la degradación persiste como un serio problema de políticas. Sólo entonces será posible comenzar a formular respuestas de políticas apropiadas a este serio problema.

Respect and Reciprocity as Key Elements in Arctic Sustainable Use Strategies

Milton M. R. Freeman[1]

This paper contrasts state systems of renewable resource management (exemplified by the government system found in Canada) with indigenous systems that mediate resource users' relationship with their food species in the North American Arctic and Subarctic regions. A number of issues are discussed, including the importance of adopting appropriate terminology to describe indigenous conservation strategies, and the part played by the notion 'respect', which is seen to suffuse indigenous relationships with the total environment. The way in which reciprocal relationships — between members of society and between people and non-human persons (animals) — engage with sustainable use strategies is also discussed.

Introduction

Within the Arctic regions, resource management issues appear to have occasioned tension and conflict over the years (e.g., Feit 1984; Freeman 1986; Paine 1992; Beach 1997). Such conflicts result from quite different world views possessed by the residents of the north on the one hand, and populations living in metropolitan or urban centres that are geographically and culturally far distant from the indigenous communities. These widely different perceptions have been described in relation to the opening of an Alaskan herring fishery to non-local fishers: *"As far as the non-native fishermen are concerned, each person has as much right as any other to harvest the herring. After all, they say, the Yup'ik fishermen don't own the fish. For Nelson Islanders. however, rights to the fish do in fact belong to them in the sense that they have relied on the herring for generations and have a social relationship, not to mention moral obligation to them. Nelson Islanders view rights to the herring as inalienable, conferred by knowledge of them and prior use, not by some democratic notion of individual rights or freedoms..."* (Fienup-Riordan, 1990:183).

However, it is in the metropolitan regions where most of the decisions in respect to arctic resources are made, although fortunately in some jurisdictions this balance of political power is now shifting northward. Parenthetically it should be mentioned that both in the north and in the metropolitan populations to the south, there is no unified view of how, and for what purposes, northern resources should be managed. Both within and outside the north there are individuals who view the region as a storehouse of great wealth to be exploited for the common economic good, as well as those holding the opposite view, that the Arctic regions should remain pristine – an unspoiled wilderness. Governments, both in the north itself and elsewhere, continue having difficulty finding a satisfactory balance between their responsibilities to protect the environment and their prerogative of obtaining (even maximizing) economic rents from the land and its resources.

This paper will not discuss resource and environmental management conflicts existing outside of the northern regions themselves, but will concentrate attention upon the dissonance existing between indigenous northerners and state managers of the living resources. Although focused more particularly upon the Canadian Arctic, the situation described occurs more generally throughout the circum-polar north – and indeed, elsewhere in the world – where the goals and values of rural indigenous peoples in varying degrees conflict with the world view of non-northern urban peoples.

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Having begun this paper by referring to tension and conflict, it should be mentioned that because of political transformations occurring in some northern jurisdictions, past conflicts are now giving way to greater mutual understanding and cooperation (Jacobs and Mulvihill, 1995; Notzke, 1995; Usher, 1995). Implicit in this change is an appreciation that in addition to state management systems of regulating resource use, there continue to exist other systems having allowed human and non-human populations occupying a common habitat to satisfactorily mediate their interactions by means of indigenous (or traditional) ecological knowledge and management systems (variously referred to as: IK, TEK or TEKMS; see Freeman and Carbyn, 1988; Johnson 1992; Inglis, 1993). Thus, in these jurisdictions, efforts at a more co-operative form of management (or co-management) is coming to replace the state management system.

Indeed, so profound are the differences between indigenous and state-management systems, that the English-language (and doubtless other European languages) terms used by state managers to describe what they are doing are frequently considered by the indigenous users to be quite inappropriate for describing indigenous ecological relationships. These important cultural differences will be discussed later in this paper, but at this stage it is sufficient to observe that the IUCN Arctic Sustainable User Specialist Group (SUSG) considers the need for appropriate terminology of sufficient importance to make it one particular focus of its programme.

TWO APPROACHES TO THE ISSUE OF SUSTAINABLE RESOURCE USE

There are many starting points for the current discussion, and here only two will be mentioned. The first one, because it will be well-known to all, and the second, because it directly follows from the IUCN Bratislava workshop on sustainable use in May 1998. The first point of departure is Garrett Hardin's 1968 seminal essay on the so-called *tragedy of the commons.*

Hardin's essay remains important in practice – although as a hypothesis it is seriously flawed in content – because of its enduring influence on the thinking of many wildlife managers and advisers, and teachers of future wildlife and fisheries professionals. Thus, despite its errors, Hardin's essay remains part of the intellectual tradition that has been transmitted to large segments of the current wildlife management and environmental protection bureaucracies. Unfortunately, because of the highly specialized and compartmentalized world in which professionals of all types live and work, specialists have little time to discover or absorb the knowledge generated by experts working outside of their own narrowly defined disciplinary specializations.

Thus, what Hardin had to say in his 1968 essay is still accepted as scientific truth by many natural scientists trained in the past twenty-five years. Unfortunately, the shortcomings of Hardin's essay, well-described in the non-biological science literature, remain largely unknown by those making important management decisions. The seriousness of this information breakdown derives from the fact that inappropriate management decisions affect not just wildlife populations, but also communities of people whose total well-being may depend upon informed management decisions being made. If resource economists, sociologists, political scientists, and legal scholars cannot succeed in having their research findings read by other professionals, then how much more difficult it must be for indigenous resource users to communicate the reasons for their own concerns. It is not that indigenous resource users do not have theories or credible empirically based understandings, but rather, that they do not (for the most part) chose to publish their knowledge in biological science journals.

Hardin (using the example of herders grazing animals on a common pasture) stated that individuals pursuing their own economic self-interest will inevitably make decisions in an effort to increase their personal gain that eventually result in the destruction of the commons upon which they and others jointly depend. As a solution to this tragedy, Hardin postulates two solutions: either convert the commons to private property or have the state manage the grazing system. As plausible as such conclusions and recommendations might appear, Hardin's analysis made no mention of the many examples where commons' users have successfully avoided the over-use of common resources without the exercise of either privatization or state control. The relevant literature that would have better informed Hardin's essay was published in journals that Hardin (a biologist) was unlikely to read. For example, a decade before Hardin wrote his essay, the economist H.S. Gordon had described the same herding situation that Hardin had based his essay upon, but with greater attention to historical accuracy: "*the manor developed its elaborate rules regulating the use of the common pasture, or 'stinting' the commons: limitations on the number of animals, hours of pasturing, etc., designed to prevent the abuses of excessive individualistic competition.*" (Gordon, 1954:135; see also, Cox,1985.)

Gordon (1954) was equally aware that such rules for curbing individuals' excessive use of common resources also existed in indigenous societies.

A considerable body of scientific literature now provides detailed descriptions and analyses of the institutional arrangements that variously exist in human societies in order

to regulate unbridled self-interest and that, as a consequence, makes orderly social life possible (e.g., NRC, 1986; McCay and Acheson, 1987; Feeny et al., 1990; Ostrom, 1990; Bromley, 1992). This is not to deny that unsustainable resource use also occurs, nor that some individuals do engage in self-serving and anti-social behaviour. It is also true that non-local individuals or groups may have little incentive or interest in maintaining the sustainability of other peoples' resource base.

However, the examples frequently cited to demonstrate such unsustainable resource use are quite often examples that characterize frontier development, colonial economies, and other examples of *laissez-faire* industrial (or state) capitalism, situations in which pre-existing indigenous property rights are dismantled or ignored or are not enforceable (Berkes, 1996:94-95). Such situations occurred when, for example, sixteenth century European colonists or mercantile interests in the 16th century came upon Greenland right whale stocks and Steller's sea cow, or the great auk and the buffalo in more recent historic times.

The situation postulated by Hardin, and indeed exemplified by the frontier situation, occurs when there exists open access to a resource. This is a situation where the presence of abundant resources without any enforceable regulatory controls placed on their exploitation either encourages more resource users to access the resource or increased levels of exploitation to occur, both of which circumstances negatively impacts the resource stock. This situation contrasts with the one found in most settled human societies, in which users' relationship with local resources is mediated by institutional arrangements that effectively regulate human use of the resource. The nature of these checks upon unlimited use will be discussed later. However, at this time it is sufficient to observe that indigenous peoples are known to have locally enforceable and culturally appropriate institutions to rationalise resource use: "*The connection between the land and the group lay in knowledge, naming, travel, foraging, and residence. There were no attempts to alter or partition the landscape, or to appropriate sections or features of it into private hands in a manner that would exclude other members of the group. The land and its resources were in effect the common property of the group, meaning that no member could be excluded from access. To the extent that people articulated their relationship with the land, they saw themselves as belonging to it, rather than it to them*" (Usher, 1984:396).

The second starting point for this discussion, as mentioned earlier, was the IUCN Bratislava workshop. At Bratislava, workshop participants concluded that the replacement of customary tenure systems by government (state) management regimes has to a great extent had detrimental effects upon conservation of biodiversity. The workshop also concluded that where well-defined tenure and access rights have been devolved to the local user-community level, sustainability of resource use has been significantly enhanced.

Implicit in the findings of the Bratislava workshop was the understanding that there exists two (or more) differing systems of resource regulation in operation, one being the state management system based upon western science-based understandings, and the other(s) based on quite dissimilar bodies of thought about the nature of resources and how they should be conserved. What follows is an examination of the ideological bases of these two systems, where the state management system will be exemplified by that existing in Canada, derived as it is from English law.

THE CANADIAN STATE MANAGEMENT SYSTEM OF WILDLIFE MANAGEMENT

THE NATURE OF SCIENCE-BASED MANAGEMENT

It is important to emphasise that resource management policies cannot be understood (or successfully implemented) without reference to existing systems of property rights or tenure, which in turn reflect the fundamental political arrangements found in society (Usher, 1984:389). This points to one of the basic problems associated with the science-based state management model of resource management, namely that biologists providing the advice (and who thus significantly influence the decision-making process) think of their work as being essentially technical in nature. As a technical problem, management is to be understood and problems solved by application of specialized scientific expertise thatexists and functions entirely outside the social or ideological context in which resource use actually occurs (Osherenko and Young, 1989:118).

Biologists' research and expertise is generally focused very heavily upon a single species (whether cod, caribou, or Canada geese). Even if the approach to understanding the single species is considered 'ecological' (i.e., by looking at other biological interactions in the target species' environment) it largely excludes from analysis the human species' varied and sometimes subtle – but nevertheless significant – interactions. Thus very little appreciation is gained about important factors influencing the sustainability of the resource/resource-user complex. Furthermore, there is a tendency for many wildlife and fisheries professionals to perceive of the resource as being scarce rather than abundant. Indeed, if continuing abundance was the normal state of affairs, the managers' work would have less importance – because no technical problem requiring their expertise

would be deemed to exist.[2] If no management problem is seen to exist, then there is always the danger that financial resources and departmental attention will be diverted elsewhere (e.g., Freeman, 1989).

The problem for science-based managers in this age of professional and bureaucratic specialization derives from the fact that each species and ecological system is unique, as are the cultural beliefs and social institutions of the diverse human societies interacting with these bio-resources. Thus a unified theory or universally applicable system of resource management is impossible to achieve, even if some practitioners believe or act as though such a rigorous basis does in fact underpin their advice and practice (e.g., Freeman, 1985; Feit, 1988).

THE LEGAL AND CONCEPTUAL BASIS FOR STATE MANAGEMENT PRACTICES

In Canada, the Crown [the State] owns the land and resources, which (in the case of the land) it transfers to private interests (whether corporations or individuals) or to sub-national political entities (provinces or territories) in ways and amounts that are believed by the government of the day to advance the national interest.[3]

Thus in Canada, all rights to land and resources derive from the Crown [State]; the claims of indigenous peoples to these rights are based upon their traditional use and occupancy of these resources and lands prior to the assertion of sovereignty by the Crown. As all interests and rights to land and its resources derive ultimately from the state, the state retains the right to expropriate lands and resource entitlements at any time – with payment of due compensation. The fact that such entitlements act as compensation implies that they possess value as commodities. Yet wildlife and fishery resources only have economic value once they have been removed from the wild and are in someone's possession (although licences giving individuals and corporations rights to exploit these as-yet unpossessed resources may also be bought and sold).

The notion that an item becomes a commodity or property only after it has been subjected to human labour is common in western thinking. Thus, by extension, wild nature – not yet subject to human labour – is not property, nor does it have an actual commodity value. Yet the state does have an interest in realizing rent or economic benefit from its inventory of natural resources, so it will exercise its authority and seek to achieve these particular economic objectives. Thus access to fish and wildlife will be permitted to certain users who are then licenced to kill, capture, and hence possess these living resources, whereupon the resources come to possess commodity values that the state will tax. Or the state may itself chose to capture these wild resources – for example, by enclosing them in parks – thereby being itself in a position to derive rent from various public and private interests who now seek to benefit from the enhanced economic value of the (improved) landscape. However, none of these users, whether engaging in consumptive or non-consumptive use of the animal resources, are unregulated, with the ultimate management responsibility over these resources remaining with the state.

If living resources are not amenable to these forms of appropriation and use, they remain as common property (or more properly, common-pool resources), meaning that such resources are not owned, but are available for anyone to use. Until the use of such resources is subject to 'enclosure' – by government regulation or international treaty – they are resources for the free taking. The prevailing view among resource managers and conservationists is that the existence of common property/common-pool resources is not an ideal state of affairs, and that such resources should be converted into an 'owned' resource whose use can be regulated, rather than remaining as a free good.

INDIGENOUS PERCEPTIONS OF NATURAL RESOURCES

In contrast to these Euro-American perspectives that conceive of or seek to convert wildlife into commodities or property, indigenous resource users in North America hold quite different conceptions. Indeed, the fundamental Euro-American distinction between people and resources (or between humankind and nature) is either lacking or is much less marked in indigenous world views than it is in mainstream society (hence the attraction that Amerindian cosmologies have for New Age and deep-ecology thinkers). Nor do many indigenous thinkers see much utility in the disarticulated systems of knowledge that characterize western thinking and that seek to understand reality through recourse to various and separate fields of specialization (such as economics, law,

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[2]Rarely, but sometimes, the issue of over-abundance of wildlife does present itself ,for example, when environmentally destructive herbivores such as elephants, rabbits, or koalas threaten biodiversity or peoples' livelihoods.

[3]In this regard, Canadian and U.S. political philosophy differs, in that Canadian governments are under less political pressure to transfer public lands to private ownership than occurs in the U.S. (Macpherson, 1978; Young, 1981)

politics, biology, etc.). Nor for indigenous societies are such distinctions as individual (private) or supra-local (state) property rights the basis of mediating the rational use and disposition of living resources: "*There were absolutely no boundary lines. No one claimed to own any portion of the land. No boundary lines whatsoever. No one claimed to own any land before the coming of the white man*" (Philip Moses, in Fienup-Riordan, 1990:222).

In the indigenous tradition, people lived in socially and territorially defined groups, with group members enjoying the rights and ability to access and dispose of living resources in these territories according to socially sanctioned norms. The local environmental resources were considered communal resources, with shared access, benefits, and responsibilities subject to access limitations by the defined group only if such limitations were considered necessary to maintain social harmony. Thus, when Inuit hunters placed personal identification marks upon their harpoons for use in collective whale hunts, such marks were not there for the purpose of claiming ownership of the carcass or priority in its disposition, but rather to signal the hunters' participation in a socially important cooperative activity. Thus it would be incorrect to see such property marks as indicative of competition among users or as a means of excluding others from benefitting from the hunt, for the products derived from a successful whale hunt were shared among all members of the community, not just among the participating hunters (Freeman et al*.,* 1998:29-34, 73-74).

THE QUESTION OF TERMINOLOGY

Earlier, it was mentioned that the IUCN Arctic SUSG includes in its research agenda the critical examination of terminology used by western science-based management and conservation professionals. The need for such a critical examination, and the question of encouraging use of culturally appropriate words and concepts, is because the language of wildlife management reflects the agrarian origins of European cultures and languages that have invented and codified the science and practice of wildlife management (Ingmar Egede, cited in Freeman et al., 1998:163). Indeed, the very notion of wildlife, "*is not an objective description but a cultural statement of the relationship of people and animals (and habitat) in an agricultural, settler heritage. It appears to have no direct equivalent in aboriginal languages* (Usher, 1995:203; see also, Asch, 1989:211-212).

Thus, the use of the term, 'wildlife', presupposes the existence of some other contrasting manifestation of animal life, and the term, 'wilderness', stands in opposition to some entity that might be considered tamed land. The term, 'stock', (as applied to fish or whales) implies a bounded or owned aggregation of animals, which whilst appropriate in the case of pastoral or agricultural animals, is quite inappropriate in the case of nearly all the animals hunted and fished in the Arctic.[4]

Similarly, the notion of harvesting animals to some hunters raises images of farmers tending their crops and eliminating competitor species (weeds or vermin) so as to maximize their eventual yields. Such notions are not only considered inapplicable in a practical sense, but more importantly, are quite inappropriate in a moral sense too (as discussed below).[5]

Perhaps most inappropriate of all is the term, 'management' itself. Derived from a Latin root, *manus,* managing implies manipulating or using human agency to exert control over some event or thing. However, hunters do not conceive of their relationship with the animals they hunt as corresponding in any way to this controlling or dominating form of interaction. The notion of "*dominion [domination] over nature*" is a Judeo-Christian teaching derived from a pastoral way of life, and stands in opposition to a far more ancient system of belief that continues to be held by many hunter-gatherer societies today. It is very common to hear hunters speak of the outcome of the hunt being a result of the animals offering themselves to the hunter, rather than the hunter outsmarting the prey (e.g., Feit, 1988:77; Fienup-Riordan, 1990:45, 72; and Freeman et al., 1998:55-56). The key to being successful as a hunter relates more to attitude than technique, attitudes that are manifestly respectful, humble, and generous (Wenzel, 1991:138-139).

As a consequence of these concerns expressed by many (but not all) indigenous northerners, the terms 'conserva-

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[4]*Conceivably a population of fish in a lake having no inflowing or outflowing streams could properly be considered a (bounded) stock.*

[5]*Other reasons for concern about inappropriate terminology have also been expressed. For example, a resolution from the Ecopolitics IX Conference (held in Darwin, Australia, in 1995) stresses "the unacceptability of the term 'wilderness'" as it is popularly used, and related concepts such as, wild resources, wild foods, etc. These terms have connotations of* terra nullius *and, as such, all concerned people and organizations should look for alternative terminology which does not exclude indigenous history and meaning (cited in Posey and Dutfield, 1997:35).*

tion' or 'stewardship'[6] are used here in preference to the terms, 'management', when referring to indigenous practices that seek to mediate community use of local resources. Indeed, it seems likely that the community of users (a kin-based social group occupying a particular territory) was the basis of stewardship, for non-members of that community were constrained by social norms from freely accessing local resources – although in dire situations, non-community members' evident need removed these constraints. Thus, in contemporary management terms, open access was ordinarily avoided and conservation could be achieved.

INDIGENOUS SUSTAINABLE USE STRATEGIES

At this point in the discussion, where indigenous cosmological beliefs have been introduced – including the belief that animals are non-human persons rather than 'wildlife' – there is a need to qualify what is understood by stewardship and conservation. For example, non-indigenous notions about conservation quite often require that hunters and fishers limit the size of their take to ensure that hunting and natural mortality combined do not exceed the increase in the population that results from reproduction and immigration. There is some indication that such a calculus did indeed occur in some indigenous groups taking some animals, for example, the Cree Indian use of beaver (see Feit, 1988:78). However, in this case, the beaver is a highly territorial animal; it also constructs very obvious lodges that can be examined by hunters needing to determine the number of young beaver that are surviving, from which a useful understanding of beaver population numbers and structure in a particular territory can be obtained. In contrast, the situation with migratory seals, geese, caribou, or anadromous fish, all of which spend most of each year outside of the hunter's effective hunting territory, makes satisfactory demographic analysis much more problematic. Under such circumstances, no meaningful account can be taken of non-local changes affecting the overall population size.

It is for such reasons, that a numerical basis for effecting resource conservation made little sense in the past and may make little sense to many Arctic hunters today: *"[government scientists] keep telling us that the animals are decreasing in numbers. They can even tell you how many animals there are, but nobody knows how many animals are really left... we can never believe it when we are told the animals are decreasing because we know how the animals and environment work up here"* (Peter Alogut, in McDonald et al., 1997:60).

Yet some system, even if non-quantitative, for insuring the sustainability of the human/non-human relationship is required – if socially disruptive over-use of resources is to be avoided. A number of social institutions and cultural norms have consequently been adopted over time, and certainly in those earlier times were very likely to have had adaptive significance in maintaining this important relationship. The important question, however, is whether such adaptive institutions that appeared to function in the past remain effective today (for ensuring sustainable resource use) in the face of changed circumstances – which include far greater technological ability to take animals for food and other uses.

Included among these institutional arrangements are prescriptive norms of appropriate conduct. One such norm is that hunting, fishing, or gathering resources is carried out in response to need: in the absence of need, no such activities are undertaken. Of course, need is not only current or immediate need, for at certain seasons there may exist the need to gather and store supplies for predictable scarcity that will invariably occur later in the year.

A second such related norm is that waste[7] of food should be avoided; this encourages widespread sharing, with the consequent reduction in the need of others to take food animals when co-resident community members have recently been successful in their own food quest. Northern ethnographies are rich with references to people emphasizing the importance that attaches to generosity and ensuring that others have access to available food at all times; such importance is still very much in evidence today (e.g., Freeman et al., 1998:32-41). The widespread sharing of food, maintained by the norm of generalized reciprocity, clearly has significance for the well-being of all members of society

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[6]*The challenge of finding culturally-appropriate terminology can be difficult. In regard to the Inuit [Yupiit] residents of southwest Alaska, Fienup-Riordan (1990:48) has noted: "*everywhere the emphasis was on the real kinship between the people and the environment. Stewardship, not to mention ownership, of resources is taken with a grain of salt, as the real power is not the people, but in the continuing relationship between humans and the natural world on which they depend".

[7]*The term 'waste' will mean different things in different cultures. A non-indigenous person is likely to see a partially flensed whale on the beach as being a 'waste' of food and therefore morally bad. However, Inuit would consider this same happening as morally bad only if none of the carcass were used for food. Meat and other edible tissues left on the carcass are not being 'wasted', as other non-human persons (e.g., gulls, foxes, crustacea — and through the recycling of all organic matter — eventually seals and whales) obtain needed food from the carcass. (See also Fienup-Riordan, 1990:174-175.)*

at all times, for any hunter can experience misfortune at some time or another; it is at such times that institutionalized sharing serves as an effective social security system.

A third such norm is to limit the physical disturbance of the animal population when taking from it, which can be expressed as always being mindful of the consequences of the act of taking. Thus, for example, James Bay Cree have many rules governing their important collective goose hunts (e.g., Craik, 1975; Berkes, 1982; Scott, 1987) and egg collecting (McDonald et al., 1997:59). Similar concerns about the negative impacts of disrespectful treatment of geese also exist among the Inuit (e.g., Fienup-Riordan, 1990:175-178).

A fourth prevailing belief is that success in the hunt will result because the hunter (and in some cases, others in the hunter's family or community) show respect toward animals. Respect includes not abusing an animal and reducing to a minimum the suffering an animal may experience by not being killed quickly (Fienup-Riordan, 1990:172, 184-187). In the Hudson Bay region it is reported: "*It was Inuit law not to abuse or play with animals, and even today, I'm really afraid to break those laws. I've taught my children and grandchildren not to abuse them either. Also we are taught not to wound an animal if we aren't going to eat it...*" (Matilda Sulurayok and John Kaunak, in McDonald et al., 1997:6).

Some traditions associated with hunting also have practical value. For example, some Canadian Inuit believe there is an exact place (just behind the ear) to harpoon or shoot a seal so that the animal is aware of its approaching death (which tradition demands; Freeman, 1990:9). A blow to this part of the head effectively and immediately immobilizes the animal and thus minimizes the animal's chance of being lost to the hunter.

THE IMPORTANCE OF RESPECT AND RECIPROCITY

In summary, these various attitudes toward food animals (and indeed, to all non-human persons) can be summed up by reference to the notion 'respect'. "*The word respect is key to understanding wildlife and environment. If there is no respect then environmental problems arise...respect toward nature is needed in order to have food and a good living...respect for the environment therefore is very important...we know that lack of respect can cause a lot of changes*". (Lucassie Arragutainaq, in McDonald et al., 1997:5).

Respect is considered basic to maintaining a healthy relationship between human and non-human persons with whom the environment is shared. In earlier times it was entirely appropriate to consider this relationship as having religious significance, and indeed early anthropologists working with northern peoples described the relationship in religious or magico-religious terms (e.g., Speck, 1935:72). To many hunters today, the relationship continues to remain a sacred one, suffused with spiritual importance (e.g., Tanner, 1979; Brightman, 1993; Freeman et al., 1998:53-56).

The generalized reciprocity that ensures that members of society will always receive food when in need extends to non-human persons as well. The hunters and their families have obligations to show respect to those non-human persons that supply their food and other necessities, and in turn, the non-human persons reciprocate by being willing to be taken by worthy human persons. The many ways of demonstrating this worthiness through respect to the non-human persons has been mentioned earlier, and includes such conservation-enhancing behaviours as for example, limiting the offtake to quantities required to satisfy legitimate needs and reducing wasteful practices by other means. Wasteful practices can be reduced by developing skill as a hunter, thus reducing the numbers of animals wounded but lost to the hunter through escape. Clearly then, the benefits to the human community by having high skill levels developed by hunters also contributes to the conservation of the food animals. Reasons such as this support the growing realisation that safeguarding biodiversity requires that cultural diversity also be protected.

However, this need for respect requires not just appropriate action, but also appropriate thought. So it is inappropriate, when setting out on a hunt, to believe that one is going to be successful, or that the taking of the animal will be easy or quick, or that a particular number of animals will be taken. Such thoughts imply or presuppose that animals lack volition or the ability to decide for themselves whether to present themselves to the hunter (Fienup-Riordan, 1990:169, 172-3; Turner, 1991; Freeman et al., 1992:56-60). Inappropriate behaviour, in the past as well as at present, will certainly predispose the animal to avoid being taken by that particular hunter: "*If we start thinking that we are superior to the animals things can go wrong. We have to be very careful how we decide about our animals, or anything that belongs to nature. We have to say things right and be true every time we talk about our nature. If you start guessing, things can go very wrong*". (Lucassie Arragutainaq, in McDonald et al., 1997:67).

Utilizing the food from the hunt in an appropriate manner is considered pleasing to the animal that has offered itself for that purpose (Wenzel, 1991:139). This understanding results in the prevailing belief among hunters that food animals must continue to be hunted to remain healthy and abundant, for only by so doing can the hunter demonstrate respect through the exercise of appropriate hunting rituals

and food-sharing practices. Another reason why some hunters do not believe that reducing their hunting will be effective in assisting recovery of a scarce animal population is because animals, as non-human persons, possess a spirit *(inua)* that has to be released after death before another animal can become a vital being. It therefore makes no sense, when animals become scarce, to stop hunting them (see Fienup-Riordan, 1990:72-74, 171).

THE BASIS OF SUSTAINABLE RESOURCE USE IN THE ARCTIC REGIONS

Sustainable use of resources has a long history in the Arctic, based on community-based indigenous systems of tenure. However, because all Arctic regions have in recent times come under western science-based state management systems, the story that is more often told is of resource shortage, over-exploitation, and the danger of species extinction. Although resource depletion may occur in some localities, it remains moot whether this is *despite* state management systems being in place, or *because* such systems are in place (at the expense of the pre-existing communal systems displaced by the state). In some cases, talk of resource overuse is puzzling to the actual users who – being close to the resources and in good communication with other resource users – do not perceive these problems: "*As Inuit, we have knowledge about animals vanishing for periods of time. From the Elders, we know... all the [marine] mammals, including beluga whales are like that. One day there are too many of them so they vanish for a period of time and come back later on*" (Simeonie Akpik, in McDonald et al, 1997:6).

"*Elders say that any kind of animal moves away for a while but, according to the government, animals are in decline. To the Inuit, they have moved, but not declined...From what I have heard, there used to be lots of walrus here. Now there isn't, but they're not gone. They have just moved...in our community there is a place called Ullikuluk where there hardly used to be any walrus. Now, there are many. The government says they became extinct when really they have just moved*" (Peter Alogut, in McDonald et al., 1997:46).

According to a team of social scientists studying the sustainable use of marine mammals, there are five important tests that need to be met for such use to be sustainable over time (Young et al., 1994). These five conditions are:

1. User groups must share common social and cultural bonds that satisfy a variety of non-material aspects of everyday life.
2. User groups should operate within a reasonable distance of their residential community and within an identifiable territory.
3. Hunting practices must be socially reproducible over time, meaning that local knowledge (including rules and beliefs) is ordinarily passed down from generation to generation within the same community.
4. Hunting practices must be valued by community members multi-dimensionally, meaning such practices should have, *inter alia,* historical, social, economic, cultural, and dietary significance.
5. Recognizing that changes to the environment (e.g., carrying capacity) may occur irrespective of human-derived off-take, monitoring of the human/non-human complex needs to be effective so that equitable changes to ongoing practices can be made.

Other common property researchers (e.g., Becker and Ostrom 1995) have similarly devised a series of institutional responses needed to provide the regulatory means to ensure resource use is regulated at sustainable levels (see Table 1).

Finally, it is generally agreed that any institutional means developed to provide an effective mechanism to ensure sustainable resource use must be seen by the users to be equitable or just. This gives encouragement to those who promote co-management regimes as a progressive development in the Arctic (and in other regions, e.g., Zimbabwe; see Thomas, 1994) in the search for sustainable resource use practices.

Table 1: Threats and Solutions to Sustainable Use Practices (after Ostrom, 1990; Becker and Ostro, 1995)

Challenges	Solutions	Details
Free-riding	Limiting acesss	Territory and user(s) clearly defined
Accountability	Fairness/Equity	Allocation of resources reflects users' investment in use and stewardship
Changing Conditions	Local users' input utilized	Those having most knowledge of local resource, environment, and social conditions influence rule changes
Monitoring	Users involved	Users (or those hired by users) monitor environmental, resource, and user community behavior
Enforcing	Penalties	Graduated sanctions applied by user community (might include using external agencies e.g., courts)
Internal Conflicts	Equitable dispute settlement mechanism	Quick and cost-effective local institutions preferred
External Conflicts	Outsiders' recognition of users' regulatory legitimacy	Governments to ensure that users' legitimacy is safeguarded from international challenge

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Summaries

La présente étude compare les systèmes publics de gestion des ressources renouvelables illustrés par l'exemple du Canada, avec les systèmes locaux gérant la relation des utilisateurs de ressources avec leurs espèces alimentaires dans les régions de l'Arctique et du Subarctique de l'Amérique du Nord. Un certain nombre de questions y sont analysées, y compris l'importance d'adopter Une terminologie appropriée pour décrire les stratégies de conservation des autochtones, ou le rôle joué par la notion de «respect» qui semble imprégner les relations des autochtones avec l'environnement entier. L'étude traite également de la manière dont les relations réciproques (entre les membres de la société et entre les hommes et animaux) concourent avec les stratégies d'utilisation durable.

Este trabajo presenta el contraste entre los sistemas estatales del manejo de los recursos renovables (por ejemplo, el sistema gubernamental que encontramos en Canadá) y los sistemas de los nativos, que ajustan su relación como usuarios de los recursos a sus especies comestibles en el Ártico norteamericano y en las regiones subárticas. Se desarrollan unos cuantos temas, entre ellos la importancia de adoptar una apropiada terminología en la descripción de las estrategias conservacionistas de los nativos, así como el papel que cumple el concepto "respeto" que evidentemente reviste las relaciones de los nativos con todo el medio ambiente. Asimismo se habla sobre el modo como las relaciones recíprocas –entre los propios miembros de la sociedad y entre la gente y los vivientes no humanos (animales)– se amoldan a las estrategias del uso sostenible.

Trees, Tenure, and Sustainability: An Economic Perspective

Espen Sjaastad[1]

Unsustainable use of forests and woodlands leads to environmental problems such as soil erosion and loss of biodiversity. Deforestation will generate price incentives that will limit future deforestation as well as promote tree planting. Responses will be institutional as well as technological. The presence of important public goods does, however, indicate a need for conservation beyond this automatic response. Implications of tenure for sustainable forest utilization depend on: whether forest clearing represents an investment or a divestment if land is expected to become increasingly scarce; and the compatibility between public and private interests. Provision of more secure rights may increase incentives for sustainable forest utilization, but may also increase conversion of forests to agricultural land. Appropriation of rights through tree planting may enhance agricultural sustainability, but may also reduce the value of natural forests. Rights appropriation through clearing will increase deforestation when land is expected to become more valuable. A clear understanding of these relationships must precede policy initiatives; in the absence of such an understanding, specific policy measures may be counterproductive.

Introduction

Much of the environmental degradation occurring in the world can be traced to the misuse or destruction of forests and woodlands. Trees assist in cleaning and recirculating air and water, controlling erosion, and mitigating floods. Species extinction, largely due to the destruction of forest habitats, is today approaching the rates encountered during the great extinctions of prehistory. Through agricultural expansion and industrial logging, lush forests are transformed into barren wastelands. And trees are a potentially important weapon in the fight against global warming (see e.g., Quammen, 1998).

The processes that drive deforestation and degradation are complex and numerous. Commonly identified causes include population growth, poverty, and the unfettered machinations of the global market. New roads and railways often provide the medium through which these forces operate. Rather than physical access, this paper focuses on legal access to forest resources, and economic predictions of how such access affects the use of trees. The variety and complexity of problems do not allow for great detail; broad brushstrokes are used in an attempt to complete a bigger picture.

Public Goods, Private Goods, and Sustainability

The array of products and services furnished by forests and woodland can be divided into two broad groups: private goods and public goods. The former group includes goods such as timber, fuelwood, and fodder; the latter typically includes goods such as biological diversity, carbon sequestration, scenic beauty, and soil conservation. As conventionally understood, one person's consumption of a public good does not reduce the amount available to others (Samuelson, 1954). Over the last three decades, the problem of non-excludability has increasingly become embedded in the con-

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cept of public, or collective, goods (the problem that individuals will gain from such goods even when they do not contribute towards its provision) (Olson, 1965).

Both rivalry in consumption and excludability are matters of degree. The enjoyment I derive from a mountaintop view or a night in the wilderness may at some point be reduced, as more and more of my fellow consumers stumble into my path. And if the soil erosion caused by tree felling on a hillside farm affects only a single downslope neighbour, the problem can conceivably be bargained away quite easily. But if erosion impairs water quality for an entire downstream community, collective action problems may ensue.

Since public goods generally are not exchanged in markets, the challenge lies in finding ways of aggregating individual desires, insufficient by themselves, to some point where demand ensures provision of the goods. This is by no means a simple task, as both theory and history can affirm. Many of the problems of forest destruction and degradation spring from the incapacity simultaneously to provide both private and public goods, and the neglect of the latter in our pursuit of the former. The often regional, international, and even global ramifications of the destruction of these goods may obstruct effective collective action, even as the importance of avoiding such destruction increases with scope (Kolk, 1998).

The degree of incompatibility between private and public goods will, of course, vary. Whereas the value of some public goods depends simply on the maintenance of aggregate biomass or tree cover, the value of others is more directly tied to a particular ecology and environment. The objectives of eco-tourism and nature conservation generally correspond. And even sensitive forest environments can support limited extraction of minor forest products such as fuelwood and fodder. Problems of sustainability mainly arise where private and public interests collide.

An important question regarding the concept of sustainability is the degree of substitution allowed in a given definition; (the substitution of man-made for natural capital, or the substitution of one type of natural capital for another). The presumption that what needs to be sustained is the total value of capital stocks, or even the aggregate value of natural capital stocks, takes for granted the notions that the value of products and services lost to us is measurable and can be reclaimed through an increase in the value of other goods.

The uncertainty that attends the long-term effects of environmental destruction, and the impossibility in many cases of undoing what has already been done, should perhaps caution economists to accept a stronger definition of sustainability, where at least some functions and goods are seen as irreplaceable. Thus, the 'disutility' imposed on us by species extinction cannot automatically be justified by some vaguely equivalent increase in our standard of living elsewhere. Nor is the conversion of forests and woodlands to agricultural land necessarily sustainable, even when the resulting land use is.

That being said, there is no moral or ecological imperative that dictates that forest resources should be frozen at current levels; after all, most agricultural land has once been forest, and food insecurity remains the critical problem in many poor countries. Nor is there any doubt that afforestation and natural regeneration in many cases can replenish most forest goods, and in some cases all these goods. The issue of sustainable provision of goods from forests and woodlands can thus be seen to have two sides. On one side, the issue concerns the conservation or sustainable use of existing forest resources. On the other side, there is the problem of afforestation — the enrichment of degraded forests and woodlands, and the establishment of plantations and tree gardens. Both of these problems are profoundly influenced by the peculiar economic calculus of the forest, dealt with in the next section.

THE PROBLEM OF INFINITE RETURNS

Forest owners, managers, and economists are fond of discussing the merit of specific management options such as planting or thinning or pruning. These investments are often marginal. Trees require a long time to mature, and the pursuit of such delayed returns will generally be justified only at low interest rates.

But forests tend to emerge and grow regardless of such measures. There may be opportunity costs associated with the use of land. And if the owner wishes to retain rather than sell harvesting rights, secondary capital will eventually be needed. Beyond this, no investment is necessary. In contrast to the marginal returns to forest management, average returns to labour and secondary capital will often be high (Baardsen and Eid, 1990). And the landowner who leaves his forest to its own devices will, as John Stuart Mill might have said, grow richer in his sleep.

Natural forests do not owe their economic potential to human effort. These resources, like gold, are made available to us at no cost, providing us with an infinite rate of return on our non-existent investment. Moreover, unlike gold, most forests automatically re-emerge in some form after harvesting.

Thus, the landless settler will have no incentive to nurture the fertility of the soil on his *swidden* (plot of land) as long as virgin forest is available nearby. And the multinational logging firm will have no incentive to cultivate its own timber as long as mature natural stands remain available —

in a neighbouring province, a different country, or on another continent. Rather than forward, into the future of the land on which he stands, the inclination of the rational agent is to look sideways onto unused land.

This would not be a problem, were it not for the fact that — even under conditions that favour natural regeneration — many of the public goods previously supplied by the forest fail to re-emerge. Nor has humanity yet found feasible ways of producing all these goods or to replicate their services. But given a choice between provision of goods for which exclusion is possible, such as timber, and goods for which it is not, such as biodiversity, rational agents will almost inevitably prefer the former.The higher the profits to be made from clear-cutting, the stronger is the incentive to do so. Barring rigorous and coercive protection or control, this incentive may in some cases be so great that it is questionable whether conservation or sustainable use are at all possible. Whenever the goods produced through forest clearing are of high economic value but forest land is regarded as abundant, the provision of private land rights to shifting cultivators or the conversion of logging concessions into long-term leases isunlikely to alter the balance. State protection through creation of national parks and reserves may represent the only viable solution. Unfortunately, State ownership and protection entails its own problems, and experiences to date are not encouraging. Conflicts will often exist within government administrations concerning financial versus environmental objectives. And to disregard the needs and claims of local populations may be counterproductive; illegal use of resources is generally more destructive than legal use (Hyde et al*.,* 1996). State property is one of four property rights regimes identified by Bromley (1989a, 1991), but less than 5 per cent of the world's tropical forest are today under state protection (Pimm et al., 1995). In some countries, the state claims official ownership of all land, but the *de facto* rights structure is one where traditional institutions govern access to and use of land or where open access prevails. The other three regimes are discussed below.The above points are relevant only insofar as tree felling provides immediate returns through, for example, marketable timber to the logging operation. This need not be the case. In the conversion of forests to agriculture — often reported to be the most serious cause of deforestation (Myers, 1992) — trees may be viewed as a nuisance to the settler rather than a pot of gold. Forest clearing here represents an investment rather than a divestment; it is not the value of the forest itself that leads to its clearing but the promise of the value of what follows (Grøn, 1931; Angelsen, 1995, 1998). This problem also is examined in later sections.

TREES, PROPERTY RIGHTS, AND TENURE SECURITY

As documented in a number of separate studies (see Bruce, 1989, and various writings in Raintree, 1987 and Fortmann and Bruce, 1988) rights to trees may be complex and confusing. Rights may include the right to fell, the right to prune, the right to plant, the right to browse, the right to harvest fruits, the right to sell — or the right to do these things in a certain measure or at certain times. How rights to trees are allocated may depend on their location, their function, their age, their species, or how they came to exist, as well as the gender and status of potential rights holders. It is entirely possible that different people may hold different rights with respect to the same tree.

Such arrangements are generally found only within those tenure structures classified as common property, often along with similarly complex rights to the myriad forest resources that exist alongside the trees. Common property broadly denotes a network of rights and duties where a well-defined group of users exploit resources according to a commonly accepted set of rules. Constraints may apply to the permitted time of extraction, the amount extracted, the frequency of visits, etc. In addition, duties may apply in terms of contributions to the maintenance and care of the resource. Such arrangements may vary widely, with respect to a number of variables. Of particular importance, given potential free-rider problems, is the question of the mechanisms that compel people to abandon strictly selfish behaviour in favour of cooperative adaptations.

At the most decentralized level are self-enforcing mechanisms such as superstitions and taboos. Hence, one may encounter the belief that a bolt of lightning will strike down any person who dares to harvest such and such an animal prior to a specified time of year, or that evil spirits will visit whoever cuts an inviolable species of tree. Such mechanisms often lend themselves to common sense explanations — the need to allow for seasonal regeneration, or the need to preserve a species of particular rarity and ecological importance. At the other extreme are coercive sanctioning mechanisms enforced by a central authority — elected bodies or traditional leaders. In general, the more centralized and authoritarian, the more costly will be enforcement of duties. But coercive mechanisms may also be more durable, and may permit a smoother and more rapid adjustment to new problems (see e.g., Baland and Platteau, 1996).

Throughout the world, access to forest resources is often granted through structures that fall within the definition of common property. Given the interdependence of users, common property arrangements will often be able to take account of those public or non-exclusive goods whose

scale may coincide with the commons itself, such as wildlife populations and erosion control. If the denial of certain individual rights is essential for sustainable use, common property regimes may provide a 'good' that private rights, by definition, are incapable of supplying. Recent literature has given us a better understanding of the factors that make such property structures work: autonomy, homogeneity in culture and interests, limited size (see e.g., Ostrom, 1992).

Common property is distinct from open access (Ciriacy-Wantrup and Bishop, 1875). The problems associated with unrestricted access to natural resources were, famously, explored by Gordon (1954) and Hardin (1968). Though the papers described in their titles a '*common property resource*' or a '*commons*', both dealt with the over-exploitation and eventual decline of natural resources to which access was unrestricted. It has since often been taken for granted that open access must lead to over-exploitation and resource degradation, but this is not true. Although open access always, from a static economic perspective, will lead to suboptimal levels of resources extraction, such extraction need not exceed the yield of the resource. Stevenson (1991) distinguishes between unrestricted and restricted open access; in the latter case there is a clearly defined group able to exclude outsiders, although no restrictions apply within the group. In such cases, stable and sustainable resource use may prevail.

Nonetheless, open access leads to two related problems. First, there are reduced incentives to abstain from excessive extraction of existing resources, because environmental costs are dispersed; second, the incentive to contribute to investments will be reduced because the returns to such investments are dispersed. (If we regard non-extraction as an investment, the two problems basically merge into one.) As noted, both of these problems are already considerable for many forest resources, and open access may accentuate them. Beyond over-exploitation and wider concerns related to biodiversity or carbon sequestration, the problem of freedom to convert public forest resources to agricultural land is that settlers will fail to take into account the reduced availability of forest products and services to other community members.

Forests are sometimes described as common pool resources (Berkes, 1996; Ostrom and Schlager, 1996) — resources for which exclusion is prohibitively costly. Private property rights are individual, exclusive, and transferable. If we think of private rights to forest resources in terms of parcels divided by locational boundaries, exclusion poses few problems. Again, exclusion is a problem only in terms of those public goods of which the forest is a potential supplier. One attraction of private property is the security it lends to investments in private goods — the person who plants a tree can be reasonably assured of harvesting it. But in terms of conserving or producing public goods, private property provides no guarantees; when we assign private rights to natural resources, we are providing rights only to those resources for which exclusion is feasible. And because private property rights tend not to rely on or generate collective action mechanisms, public goods will be neglected. It could in fact be argued that sustainable management of forest resources held under private rights exists mainly in those cases where public goods are absent, where legal restrictions severely proscribe the exercise of such rights, or where most forms of commercial land utilization are infeasible.

Insecurity of tenure, crudely defined as the risk of losing land, is a key issue in prudent use of resources (Bruce, 1989; Barrows and Roth, 1990). The conventional analysis simply assumes that more security is better, since it improves internalization; agents are more likely to enjoy the benefits or suffer the consequences of their own actions. And it is true that increased security, or an increased duration, of rights may lead to more long-term, sustainable use of forest resources. This may be the case when both land and forest products are scarce and valuable, and where the incompatibility between private and public interests is a trivial consideration. Even in a static perspective, however, the assertion that security of tenure promotes sustainable forest utilization may be flawed.

Consider a scenario where agricultural fields are surrounded by natural forest. Increasing transportation costs will at some point render the conversion of forest to agricultural land unprofitable. In this scenario, the clearing of land represents an investment to be recouped through subsequent agricultural incomes. The question is, how much agricultural land will be cultivated and how much forest will remain with differing levels of tenure security? The answer, at least under open economy assumptions, is that since increasing security will provide greater expected future returns, larger transportation costs can be justified and more deforestation will ensue. Security will provide greater incentives to invest, but the investment in this case is deforestation.

Note that this conclusion does not necessarily apply to a comparison of usufruct rights, where a farmer is guaranteed income from crop cultivation for as long as such cultivation takes place and private property rights under conditions of shifting cultivation (Angelsen, 1998). Private, secure rights to fallow land would lead to greater clearing only if certain other investments are profitable under private ownership and not under usufruct that is, if increased security implies a technological change. Otherwise, if fallowing is an optimal strategy, and the clearing of fallow land is as costly as the clearing of natural forest, the extensive margins will be identical.

The general notion that increased returns to farming will cause deforestation contradicts the common assertion that agricultural intensification can relieve pressure on forest resources. This assertion would seem to rely not only on a closed economy, but also some sort of target income among rural populations (Angelsen, 1998). Greater expected per-area returns to agriculture, whether these spring from greater tenure security, price increases, or superior technologies, will generally lead to agricultural expansion.

The above discussion largely relies on a static perspective. The question of security gains relevance only to the extent that rights already to some degree are specified. In a frontier scenario, rights to uncleared land will more often be absent or restricted to the ability of members of a defined group to exclude outsiders; the scarcity value of the forest will not justify the cost of specifying and protecting more precise property rights (Hyde et al. 1996). Also, this perspective not only disregards the costs of imposing and enforcing changes in property rights, but also neglects endogenous mechanisms of rights formation (Bromley, 1989b; Sjaastad and Bromley, 1997). There is a need to consider these issues in a more dynamic context.

RIGHTS APPROPRIATION

Trees are related to the appropriation of land rights in at least two major respects: land rights are frequently appropriated through the felling of trees (clearing of land); but land rights are also often established through the planting of trees (fixed improvements). Thus, temporary and insecure rights may be established through the clearing of land, and then later enhanced through the planting of trees.

Increasing land value is an essential variable in two leading and related theories of the dynamics of land use and land rights. The starting point of Boserup's (1965) theory of induced technical change is that population growth will lead to increasing scarcity of land, and thus raise its value — particularly in relation to labour. Incentives will therefore exist that favour the substitution of labour for land, and more labour-intensive land use will ensue. Because of its focus on agricultural technology, one might expect this theory to assume relevance only on land where forests and woodlands already have been cleared for agriculture.

If transportation costs influence the feasibility of clearing land at increasing distances from a given centre, however, changes may occur at both the intensive and extensive margins. First, because of increasing distance between the centre and the extensive margin, there will be incentives to substitute farm-grown products for those previously supplied by the natural forest. Second, if there is a perceived limit on forest resources, the scarcity value of remaining forest resources will increase as the extensive margin expands, providing further incentives for substitution but also for sustainable use of natural forests. Such an increase in value may cause a transition from open access to common property, at some point halting expansion of the agricultural frontier altogether. Deforestation creates its own response in terms of increased value of forest products, leading to institutional as well as technical changes (Hyde et al., 1996; Brouwer et al., 1997).

On-farm production of tree products may be particularly tempting whenever tree planting is seen to enhance security of tenure, as is the case in many traditional societies. The prospect of increased security may vastly inflate the expected returns to such investments (Sjaastad and Bromley, 1987). From an environmental viewpoint, this would seem to be a happy state of affairs, since increased on-farm tree planting may relieve pressure on natural forests. But things are not always the way they seem.

On-farm tree planting as a rights appropriation strategy may certainly contribute to increased sustainability of agriculture. And, when forest boundaries are specified and enforced, tree planting may lead to reduced pressure on the natural forest. But if the desire for increased tenure security leads to increased tree planting, then the value of natural forests will decline. And common sense tells us that humans tend to take better care of things that they value highly. If forest area is variable rather than fixed, then on-farm tree planting and an associated reduction in demand for natural forest goods may in fact lead to deforestation.

The above conclusions related to tree planting may be reversed, however, if increasingly secure claims to land are considered socially unacceptable. Rules and norms that dictate that tree planting (or, more generally, any fixed improvement) enhances claims to land may be countered by rules and norms that see such enhanced claims as an affront to the community at large. This would seem to beg the question of how tree planting came to be regarded as a rights appropriation strategy in the first place; but such tensions may develop whenever rules are applied outside the context in which they evolved. If, for example, tree planting on crop land is seen to enhance individual rights, then tree planting on communal grazing land may effectively be banned. One particular manifestation of the problem is found in India, where tree planting by the State has been resisted by local communities who see such planting as contributing to the attenuation of traditional, communal land rights (Nagothu, 1998a).

Theories of induced institutional innovation (Demsetz, 1967; Ruttan and Hayami, 1984) apply Boserup's logic to land tenure rather than land use. The costs of statically inefficient property rights will be too small to justify institutional

change when land is relatively abundant. As land becomes scarce and more valuable, increasing incentives will exist to identify and create institutions that increase internalization and reduce rent dissipation. A gradual transition from open access to private, secure land rights is hypothesized.

The exact manner in which new institutions emerge is a matter of some concern. Anderson and Hill (1990) and Mendelsohn (1994) describe processes whereby most or all of the potential gains from institutional change are squandered in a 'race' for property rights; due to a competition for larger shares of a limited good, rent is dissipated through wasteful or opportunistic strategies of appropriation and protection. The resulting prescription is government action to avoid costly opportunism and costly bargaining or disputes — "*cutting the Gordian knot*", as McCloskey (1975) puts it. Acceptable appropriation strategies need, however, not be wasteful. Again, the planting of trees in order to attain more secure rights is a case in point (Sjaastad and Bromley, 1997).

The acquisition of rights through clearing of land is wasteful insofar as the value of public goods is neglected. But this applies also to clearing of land under conditions of stable land rights. Will the acquisition of rights through clearing lead to more deforestation than would occur under secure, private rights? The answer is no, if land values remain — or rather, are expected to remain — constant; clearing of land makes sense only as long as expected benefits exceed costs, and these will not differ in the two scenarios. But under conditions of increasing land scarcity, rights acquisition through clearing is a typical opportunistic strategy (Angelsen, 1995, 1998; Clark et al., 1993); settlers will clear land in expectation of increased rent in the future. Thus, after the Peruvian government in the 1980s decided to give title to farmers who cleared land, between 70 and 80 per cent of newly colonized land was abandoned every year (Lohmann and Colchester, 1990).

An extension of the Indian example mentioned earlier, where communities resist State-organized planting of trees, is the illegal tree felling in State-controlled forests by such communities. Since land in India officially has been classified according to tree cover, the removal or decimation of such cover may in reality lead to the transfer of land from one category to another; and in the resulting category, local communities may enjoy non-forest rights that they do not possess in the original category. Paradoxically, whereas the overall value of land may decline, its value to local users will rise (Nagothu, 1998b).

CONCLUDING REMARKS

Increasing deforestation and scarcity of forest products will generate price incentives that will serve to limit future deforestation as well as promote tree planting on farms and plantations. Responses will be institutional as well as technological. In the microeconomic view of things, institutions emerge as a result of changes in relative values rather than the other way around. This view does, however, tend to neglect the difficulties posed by goods that are not exchanged in markets, and sheds no light on the potential role of the State in supplying or destroying these goods.

The implications of rights regime, tenure security, and appropriation strategy for sustainable forest utilization will depend on factors related to whether forest clearing represents an investment or a divestment, whether or not land is expected to become increasingly scarce, and the compatibility between public and private interests. In short, provision of more secure rights may increase incentives for sustainable forest utilization, but may also increase conversion of forests to agricultural land. Appropriation of rights through tree planting may enhance agricultural sustainability, but may also reduce the value of natural forests relative to conditions where such appropriation is unacceptable. Rights appropriation through clearing will increase deforestation when land is expected to become more valuable.

A knowledge of basic relationships does not automatically lead to ready-made policy guidelines. Traditional rules of tenure and rights appropriation are often complex. The main conclusion must be that a clear and comprehensive understanding of such rules, as well as of the forest resource and its potential uses, must precede policy initiatives; in the absence of such an understanding, specific policy measures may be counterproductive.

Given time and stability, however, one would expect communities to develop systems that conserve rather than destroy resources upon which they depend. This is why institutions created by a process of self-organization from below generally are considered both more robust and more flexible than those imposed from above. This would seem to imply a decentralization of control of forest resources to local organizations. Increased local control is a stated policy objective in Tanzania, Nepal, and India, but true self-governance does not always result from such statements (Lohmann and Colchester, 1990; Nagothu, 1998). Also, the mechanisms on which successful common property institutions rely are often complex and require a long time to evolve. They are thus not easy to create or recreate, as the dismal record of village woodlot projects in the 1970s and 1980s would appear to confirm (Bruce and Noronha, 1987). Perhaps the greater emphasis should be on bolstering and preserving communal institutions that have not already been destroyed.

The problem of population growth has received much

attention. Without denying the influence of absolute increases in population, many of the problems linked to destruction of forests and woodlands are also related to power and powerlessness. It is often displacement caused by infrastructure projects or large-scale plantations that send landless settlers into the tropical forest. If such projects were avoided — that is, if these settlers had been given tenure security in the areas where they used to live — then forest conversion would decline.

Finally, as Berry (1990) notes, it is futile to construe problems of environmental degradation in terms of guilty producers and innocent consumers. Thus, I could conceivably trace a line from my own craving for red meat, through the greasy steam in a local hamburger palace, to the tropical rancher who just cleared another hectare of virgin forest. Paradoxically, the most verbal demands for conservation tend to emanate from societies with a proclivity for conspicuous consumption. But no elected government will ever legislate against long-term increases in consumption.

In recent years, pressure from consumers in general and environmental groups in particular has, among other things, contributed to debt-for-nature swaps, ecological certification of wood products (green labels), conservation policy breakthroughs within countries rich in sensitive environments (Kolk, 1988), and international negotiations on net greenhouse gas emissions. The challenge here lies in devising solutions that not only promote conservation and sustainable resource use, but that also locate the undeniable and attendant costs among those who can afford and are willing to incur them. In reality, only a part of the collective action problem associated with the sustainable use of forests is located in and around the forest itself.

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Summaries

L'utilisation non durable des forêts et des bois débouche sur des problèmes écologiques tels que l'érosion des sols et la perte de la biodiversité. La déforestation entraînera des encouragements des prix, ce qui limitera les déforestations futures et favorisera la plantation d'arbres. Les réponses seront aussi bien institutionnelles que technologiques. La présence d'importants biens publics indique cependant qu'il est nécessaire de procéder vers cette conservation au-delà de cette réaction automatique. Les implications du régime foncier pour une utilisation durable des forêts dépendent d'une part, de la question de savoir si le défrichement représente un investissement ou une perte si l'on prévoit une raréfaction des terres et d'autre part, de la compatibilité entre les intérêts publics et privés. Garantir des droits plus sûrs peut non seulement multiplier les incitations pour une utilisation durable des forêts, mais aussi intensifier la conversion des forêts en terres agricoles. L'appropriation des droits à travers la plantation d'arbres peut augmenter le caractère durable de l'agriculture, mais peut par ailleurs diminuer la valeur des forêts naturelles. L'appropriation des droits par le biais du défrichement peut intensifier la déforestation lorsque l'on prévoit que la terre acquerra plus de valeur. Il convient donc de bien appréhender ces relations avant de prendre les initiatives de principe, faute de quoi, les critères retenus pourraient s'avérer contre-productifs.

El uso insostenible de selvas y bosques conlleva a problemas medioambientales como la erosión de los suelos y la pérdida de la biodiversidad. La deforestación generará incentivos en los precios, los cuales limitarán la futura deforestación y al mismo tiempo promoverán la plantación de árboles. Las respuestas serán institucionales así como tecnológicas. La presencia de importantes bienes públicos, no obstante, indica la necesidad de una conservación más allá de esta respuesta automática. Las implicaciones de la tenencia para la utilización sostenible de la selva dependen: de si el desmonte de la selva representa una inversión o una pérdida caso que se espere que la tierra vaya haciéndose gradualmente más escasa, y de la compatibilidad entre los intereses públicos y privados. El otorgamiento de derechos más firmes podría incrementar los incentivos para una utilización forestal sostenible, pero también podría aumentar la conversión de las selvas en tierras de cultivo. La apropiación de derechos mediante la plantación de árboles podría mejorar la sostenibilidad agrícola, pero pudiera también reducir el valor de las selvas naturales. La apropiación de derechos mediante el desmonte aumentará la deforestación cuando se espera que la tierra se va haciendo más valiosa. Una comprensión clara de estas relaciones puede ser el preámbulo de iniciativas para formular políticas; si falta esa comprensión, las medidas específicas para políticas pudieran resultar contraproducentes.

Returning Their Rights: A Case Study of Namibia's Communal Areas

Ben Fuller[1]

This paper presents a case study on the links between tenure and sustainable use in Namibia. At the beginning of the decade the country emerged from a century of colonial rule during which the tenure systems of indigenous Namibians were placed under severe stress. Key aspects of this stress were rapid depopulation and alienation of territory coupled with the gradual loss of rights to and control over the benefits of many resources. The effect of these processes was deleterious to any attempts at sustainable use of resources. Since independence in 1990, the government has sought to restore rights to its indigenous majority. This process, however, has only been partially successful. The main area of success has been to enable the creation of conservancies in Namibia's communal tenure areas. Conservancies have had rights over one crucial resource restored, and have also been given control over another new resource, tourism.

Tenure in the Namibian Context

Namibia contains a number of ecological zones, and for a small population, a wide number of ethnic groups.[2] While many of these groups have occupied fixed areas for some time, there are also strong traditions of movement, consisting of people and goods, within the country.[3] Given this variability and mobility, it is therefore difficult to assume that tenure simply refers to rights over a fixed and specific piece of real estate. Even in areas of the country, such as the Northern Mahangu Belt[4], where people are strongly attached to a specific piece of agricultural land, it is common to find people with tenure rights to pasture lands tens if not hundreds of kilometres distant. Hence, in the Namibian context, it makes sense to consider tenure as a set, or for want of a better term a 'regime', of resources such as water, agricultural land, grazing rights, hunting rights, rights over specific trees, and fuelwood. Each of these resources can have its own rules regarding access and use. Namibia has a number of ecological zones and thus the actual distribution of re-

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[2] *Current estimates of the population range from 1.6 to 1.7 million people. With over 800,000 square kilometres of land this makes Namibia one of the most sparsely populated countries on the planet. The number of ethnic groups is problematic. The main indigenous language groups, which are roughly congruent with ethnic entities, are Otjiherero, Oshiwambo, Rukwangali, Silozi, San, and Nama/Damara. Each of these groupings contains a number of sub-groups many of whom see themselves as distinct ethnic and geographic entities. In addition, Afrikaans has been adopted by one indigenous group as its main language.*

[3] *See (Fuller, 1993; Hayes et al., 1998; Lau, 1990), for an extended discussion of the extent and significance of these movements.*

[4] *This is an area from Ruacana in the West to the Easternmost part of the Caprivi extending as far South as the northern edge of the Etosha Pan. Throughout much of this area dryland agriculture is possible.* 'Mahangu' *is the local word for pearl millet, the staple crop of this area.*

sources – hence, their relative importance from a local perspective – will vary from location to location.

Aside from this broadened definition, there are two principles that are of importance. The first is the existence of mutual intelligibility between most local tenure regimes. There appear to be certain principles that are universally understood and recognised; a good example is over the use of water for human consumption versus the use of water for stock consumption. In other instances, however, there appears to be enough overlapping similarity so that a newcomer to the system does not have to relearn the system from the ground up. A good example of this aspect is the designation of the resident with the longest continuous time at a specific waterhole as being the 'owner' of that resource. Given his knowledge he is in a position to determine how many people with stock can utilise the waterhole.[5]

The second major principle concerns how one accesses a tenure regime and the pathways to using the resources within. The main way to accomplish this is to become a member of the community. Generally, the procedure is to ask permission from the local headman. He or she may give this permission, but usually before this happens there are a series of consultations and negotiations.[6] Implicit within the permission to join a community is the principle that 'one needs to live', hence there must be access to the resources that allow one to survive. This access may not, at first, be as extensive or as open as that for longer-term residents, but there is room for these rights to expand as the new member becomes increasingly integrated into the community.

NAMIBIA'S COLONIAL PERIOD

Tenure arrangements of Namibians have gone through a number of severe shocks during this century. Two waves of settler immigration fostered by successive colonial powers took vast amounts of territory out of traditional tenure regimes. The first wave of colonial settlers under the rule of Germany went from the late 1880s through the beginning of the First World War. This wave was coupled with the massive depopulation of indigenous Namibians in the southern three fourths of the country between the years of 1904 to 1911.[7] The second wave came after South Africa took control of the country during the First World War and lasted into the early 1960s. The end result of this influx was that close to 6300 commercial farms totalling just over 36 million hectares – an average of 5,777 ha per farm – were created. This represents approximately 52 per cent of agricultural land.[8] All of this land was transformed into freehold tenure and over the course of the South African period was heavily subsidised. It should also be noted that during this period an increase in the number of multiple land holdings took place so that there are now approximately 4,200 actual owners of these farms.[9] These landowners represent 0.26 per cent of Namibia's population of 1.6 million, and the concentration of half of Namibia's agriculturally viable land into this small number of hands has, since independence, been a major factor in the frequent cries for land reform.[10]

During the process of settler colonialism, indigenous tenure regimes also underwent severe changes. Of course, indigenous Namibians lost territory – not surprisingly something close to 36 million hectares. In addition to losing land, there was the loss of rights to any other resources that were either on or in this land. On the territory that they retained, indigenous Namibians also suffered an erosion of rights to many other resources. In the early 1920s, for example, the process by which traditional leaders could allocate land was changed. A Magistrate in the local district was required to verify all land allocations. This rarely happened in practice, and as a result the majority of land allocations after that time were 'illegal' and could have their validity challenged.[11] Of other rights eroded, three in particular deserve mention. Firstly, the right to hunt game was taken away, and all game was designated as property of the state. Secondly, on newly commercialised farms the rights of farm workers to own and graze a small amount of stock was taken away. This violated a key aspect of indigenous tenure regimes whereby people with the rights to live at a place had access to the resources that would allow them to live. A consequence of this withdrawal was to move stock on to Native reserves, many of which were already seen as overcrowded.[12] Thirdly, a sys-

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[5] *Fuller(1993, 1998) discusses this matter at length.*

[6] *See Fuller and Turner, 1995 for a discussion of how some of these negotiations occur in different areas of Namibia.*

[7] *Roughly the area from 19^0 to 29^0 South Latitude, or that part of the country that today lies South of the Etosha National Park. Some estimates of this carnage state that over 65 per cent of indigenous Namibians living in this area were killed.*

[8] *Werner (1998).*

[9] *Werner (1998).*

[10] *Some of the implications of the land reform issue are discussed in Fuller (1998).*

[11] *See Fuller and Turner, (1995) for a discussion.*

[12] *See Fuller, (1993) for a discussion of the effects of colonial policies on indigenous management systems.*

tem of restrictive permits, coupled with practices and laws that denied commercial credit to blacks, made the operation of businesses, even in Namibia's communal areas, a difficult task for indigenous Namibians.[13]

The effects of this disenfranchisement had what we now realise are predictable effects on sustainable use among Namibia's indigenous peoples. Tenure and resource access regimes were placed under severe stress. As management horizons became shorter the resource based constricted, and greater numbers of people were removed from productive activities. The State lost legitimacy in the eyes of most Namibians, especially after apartheid was imposed in the late 1940s. As a result, sustainable use decreased, with the overuse of wildlife in particular being seen, in many circles, as desirable. The State, largely through the vehicles of apartheid, was seen by indigenous people as regularly stealing from indigenous people. Hence, poaching, or stealing from thieves, was not viewed as morally wrong.

POST-INDEPENDENCE PERIOD

After independence in 1990, the State regained its legitimacy, and in many areas rights and freedoms have been restored. Yet, for residents of Namibia's communal areas, the restoration of rights has been slow.[14] At independence a new ministry responsible for land administration – the Ministry of Lands, Resettlement and Rehabilitation (MLRR) – was created. In 1995, the Agricultural (Commercial) Land Reform Act was passed. This Act had provisions for the transfer of commercial farmland over to the state so it could resettle landless and needy people. While approximately 310,00 ha. of land has been purchased in this way, there are problems with the process both from the point of view of acquiring land and how to create conditions that foster self reliance among settlers.[15] A National Land Policy was adopted in 1997, and the Communal Land Reform Act has recently been released from Cabinet for comment by other branches of government, specifically the Council of Traditional Leaders. As a result, little has changed for most residents of communal areas with regards to their tenure rights. Surprisingly, there have been no repeals of any of the apartheid-era legislation that restricted indigenous tenure regimes – the repeal of such legislation is due to be included in the upcoming Communal Land Reform Act.

CREATING CONSERVANCIES

Despite the slow pace of land and tenure reform in Namibia, there are strong pressures towards sustainable use of Namibia's resources. There is a provision in the Constitution stating such. Hence, there has been some movement to foster sustainable use in Namibia. The leader in this movement had been at the Ministry of Environment and Tourism (MET). In the early years of the decade, the MET, through its Department of Environmental Affairs, began the lengthy process of drafting policy, convincing policymakers, and proposing legislation to allow for the creation of conservancies in Namibia's communal areas. They borrowed a model of conservancies as practised by the CAMPFIRE programme in Zimbabwe. Two major changes, however, have been made to the model. First, the locus of funds raised through a conservancy[16] go to the conservancy itself, and not to a district or regional councils. It was hoped that this would create a more direct link between community residents and the benefits arising from a given conservancy. Second, the role of traditional leaders in conservancies is not necessarily guaranteed. Each conservancy is required to have regular elections of its managing committee, and there are no positions specifically designated for traditional leaders.

In 1996 the Nature Conservation Act of 1975 was amended to make it legal for residents of Namibia's communal areas to form and operate conservancies. The amendment required that all conservancies in communal lands first have clearly demarcated boundaries. Once these were established, members of a conservancy would then have the right to benefit from both wild game and tourism activities within the specified area. In addition members of a conservancy are able to establish management plans for both of these resources. (It should be noted that commercial farmers have had the right for over 20 years to establish conservancies and thus benefit from game and tourism.)

The process by which conservancies were created proved to be lengthy. Not only were communities required to educate and organise themselves around the idea of a conservancy, they also had to negotiate their boundaries

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[13] *I do not go into the laws and controls that were enacted under South Africa in the pre-apartheid and apartheid times. The literature on this subject is voluminous and well known.*

[14] *Both Fuller and Abate, 1997 and Werner, 1998 discuss this issue in greater detail.*

[15] *See Fuller, 1998 and Blackie, 1988 for an analysis of the strengths and weaknesses of the resettlement system.*

[16] *A conservancy can be either a single community or a collection of communities. Given that most game in Namibia ranges over vast areas, the trend has been for groups of communities to coalesce into a single conservancy.*

with neighbouring communities, with assistance from officials of MET. As a result, the first four conservancies in communal areas were formally declared early in 1998. Thus far there appears to be some success as recent reports indicate that these conservancies have generated close to US$ 150,000.[17] Proponents of this movement state that this is only an indication of the great potential conservancies have for generating funds for communities that were previously kept underdeveloped by apartheid policies. It needs to be mentioned that many of the areas in Namibia considered to have very high potential for generating income through tourism are in communal areas. The irony is not lost on those who were forced into these areas from what is now the commercial farming lands.

Given that conservancies are so young in Namibia, it is difficult to say with conviction that they actually lead to sustainable use. Certainly, by returning the legal rights to resources, in this case wild game, to residents of communal areas has reintroduced a sense of ownership. The new legislation has also added a new resource, tourism, to the constellation of resources that make up the tenure regimes of many indigenous Namibians. In areas where there are no conservancies, one hears discussions among local residents about how they have the 'right' to benefit from tourism activities. In areas where there are conservancies, one notices that people are more aware of the benefits of managing their resources. The fact that some conservancies have been able to pay out funds to their members is well-known, and is a strong incentive for poor rural Namibians to consider forming conservancies. There are also indications that poaching has decreased on conservancies. And, in communities where conservancies have either been formed or are well advanced in their formation, there are generally higher levels of involvement by all segments of the community in other development initiatives.

Another positive sign is the way in which local residents have adopted the community-based structures of conservancies for their own needs.

- Members of one conservancy felt strongly that the rights given to them by the amendment of the 1975 Act were too limited. Therefore, their constitution, which has been approved by the government, also included the right to manage other resources such as grazing, water, and land. It remains to be seen if this extension will have legal validity. It is also interesting to note how this conception of resources also mirrors the notion of tenure as given at the beginning of this paper.
- This same group has also used the conservancy, and its immediate predecessor, a farmers' union, to engage in donor management. Numerous donors and NGOs were active in their area, and the farmers' union insisted, with backing from the community, that these different programmes co-ordinate their site visits and programme activities to ensure that development efforts did not act at cross purposes. In addition, limiting the number of visits left more time for community residents to pursue their normal daily activities.
- Another community was eager to form a conservancy some years ago, but got tired of waiting for the government to pass enabling legislation. Hence, they formed a trust in 1994, which gave them the legal foundation for creating a mutually beneficial arrangement with a local tour operator. This community has since been formally registered as a conservancy.

That communities in communal areas are taking hold of the model and adapting it to their own needs was foreseen by one of the 'importers' of this concept.[18] The management of conservancies and, increasingly, resources such as water and land uses such as grazing and forestry, is in keeping with the policies of the various ministries already charged with the community-based management of these resources. In areas where conservancies are already established and functioning, an expansion of local peoples' management responsibilities will lead to their becoming major players in the management of these other resources. I shall return to this issue in the last section.

IS IT THIS EASY?

From the above it would be easy to draw a hasty conclusion that by restoring tenure rights to certain resources through the vehicle of conservancies sustainable use of those resources has been (will be) achieved. Certainly, as discussed below, confirming (or in this case re-confirming) tenure rights does not necessarily bring about sustainable use.

The first point to consider is that long preparation times are required. In the areas where conservancies have been established, there have been extensive efforts by NGOs and, since independence, donor agencies, to mobilise communities for some form of self-directed development. In Northwest Namibia, where two conservancies have been registered and numerous others are in formation, NGOs such as

[17] *Brandt, 1998.*

[18] *Chris Brown, Personal Communication.*

Save the Rhino Trust and Integrated Rural Development and Nature Conservation (IRDNC), have been in operation since the early 1980s. In the area around Tsumkwe, in the former Bushmanland, the site of Namibia's first registered conservancy, the Ju | hoasi Development Foundation has also been in operation for a similar period of time. In the Caprivi, the site of the conservancy at the Salambala Forest, the Living in a Finite Environment Programme (LIFE), a joint initiative by the World Wildlife Fund and USAID, has been in operation since the early 1990s. Also IRDNC has been active in the Caprivi for a number of years.

While over the long term the activities of some of these organisations may not have focused directly on conservancies, they have focused on issues of conservation and community mobilisation. These are crucial points. Due to the work of these groups, the idea of conservation does not first have to be argued before a conservancy is formed. Indeed, in Northwest Namibia, there had already been success in efforts to protect and manage game.

My second point is that these groups have been assisting residents with training in different aspects of community organisation. In a post-apartheid world this is a major pre-requisite for successful community-based development. Policies implemented under apartheid sought to diminish the skills of non-whites, and as a result, many rural communities do not have the capacity to create effective local organisations. Hence, the work that has gone on for other projects, which also included components of capacity building, has been important. Given that the places where conservancies have been created have a long history of involvement by NGOs and donors, it remains to be seen how successful other areas that have had less of this historical background will fare.

Thirdly, in addition to the work of NGOs and donor programmes, there also needs to be the implicit acquiescence of the community in listening to and adopting the message. In parts of the Northwest that are seen as model communities with regard to conservancy organisation, the author was privy back in the mid-1980s to discussions that took place among residents themselves on the need to organise locally to foster development. As a result, organisations that worked in the area were able to demonstrate the benefits of tilling fertile soil. This is one factor in the receptivity of communities to the message of conservation and sustainable management.

Lastly, we can look by contrast at the commercial areas of the Namibia. Certainly, providing settler farmers with secure freehold tenure did not guarantee sustainable use of their resources. Namibia's commercial farms are severely affected by bush encroachment, a phenomenon linked directly to poor management practices. Bush encroachment takes approximately 14 million ha out of livestock production and is estimated to cost the Namibian economy over N$100 million per year in lost income to commercial farmers.

ISSUES FOR THE FUTURE

It is too early in the development of conservancies in Namibia to come to any hard conclusions, so I won't. Rather, I will point to a number of issues that conservancies will face in the near future.

- Will there be a hostile legal and/or policy environment? Above, I have noted how two different ministries within the Namibian government have been responsible for legislation and policies that affect rural conservancies in Namibia's communal areas. In fact the matter is a bit more complex because resources such as water and grazing land are under the brief of a third ministry, the Ministry of Agriculture, Water and Rural Development (MAWRD). This division can have deleterious effects on conservancies if one ministry proposes policies or legislation that contradicts what another is doing. This has almost happened as early drafts of the Communal Land Act actually removed rights of community property. Community property is, however, a cornerstone of the idea of conservancies. When this removal came to light, high level negotiations between the MLRR and the MET were held to resolve the matter. Once the new text of the Act is made public it will be possible to ascertain how successful these negotiations have been.
- The problem of less fortunate conservancies will be an issue that will come to the fore. So far it appears that tourism will be a significant money earner for conservancies. Tourism is Namibia's fastest growing sector. It is expected to be the second largest contributor to GDP by the end of the decade. Many of the recently established conservancies already have lucrative tourist operations within their border, and these operations must now by law negotiate with the communities to establish mechanisms for how benefits from the tour operations will flow back to local residents. A significant draw for tourism is game viewing and hunting, which can be a source of profit. Yet, not all conservancies will be in areas that are well endowed with either tourist and/or game resources. It is likely, therefore, that a differentiation between better off and worse off conservancies will emerge. It may therefore be necessary to develop strategies for supporting less profitable conservancies.

- The issue of distribution of resources could be troublesome. As conservancies develop, grow and become profitable, there is always potential for dissatisfaction among members if distributions of funds do not meet expectations. That disputes might arise should be expected.
- Conservancies will be well placed to manage an array of resources. As noted above, the there are a number of Ministries with responsibility over basic resources in Namibia's communal areas. It is also true that each Ministry has its own plan for the devolution of fiscal and managerial control over these resources to the community level. Established conservancies can be well placed to take over these functions. In addition, other Ministries – Basic Education and Culture, Regional and Local Government, and Housing – also have plans for varying amounts of local control over their functions. It is possible that conservancies can expand into these areas as well.
- Can they get off the donor bus? Until now, and for the foreseeable future, there has been a healthy input of donor funds into the establishment and operation of conservancies. In order for these groups to be sustainable, this support will have to end at some point. Determining when that point will be and how to lead these young organisations up to it will, of course, be the crucial issue in the coming years.

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Summaries

La présente étude est une étude de cas sur les liens entre le régime foncier et l'utilisation durable en Namibie. Au début de la décennie, le pays sortait d'un siècle de colonisation au cours duquel les systèmes fonciers des autochtones namibiens ont subi des épreuve difficile. Les principales difficultés étaient le dépeuplement rapide et l'aliénation du territoire, associés à la la perte progressive des droits de contrôler et de jouissance des bénéfices de nombreuses ressources. Ces processus ont eu un impact négatif sur toutes les tentatives faites en vue d'une utilisation durable des ressources. Depuis l'indépendance en 1990, le Gouvernement a cherché à restaurer les droits des la majorité autochtones, mais cette tentative n'a eu qu'un succès mitigé. Cependant, il a été possible de créer des aires de conservation dans les zones de régime foncier communautaire de la Namibie. Des droits sur une ressource capitale ont été restitués a ces zone de conservation. Elles ont également obtenu le contrôle d'une nouvelle ressource: le tourisme.

Este trabajo presenta el estudio de un caso en Namibia sobre los vínculos entre la tenencia y el uso sostenible. Al inicio de la década, el país estaba emergiendo de un siglo de dominio colonial, durante el cual los sistemas de tenencia de los nativos namibianos fueron sometidos a una fuerte compulsión. Como resultado provino una rápida despoblación y enajenación del territorio, junto con una gradual pérdida de derechos y de control sobre el disfrute de muchos recursos. Como consecuencia de todo este proceso se dio la destrucción de todo esfuerzo dirigido al uso sostenible de los recursos. A partir de la independencia en 1990, el Gobierno ha tratado de restaurar los derechos de su mayoría nativa. Sin embargo, este proceso ha resultado solo parcialmente exitoso. Lo positivo de todo esto ha sido la creación de juntas de conservación en las zonas de tenencia comunitaria de Namibia. Estas juntas han recibido derechos sobre una importante serie de recursos y se les ha entregado también otro nuevo recurso: el turismo.

Mare Closum as a Management Tool in Fishing Societies

Arne Kalland[1]

Sea tenure is a matrix of institutions defined and enforced on many levels from the formal rights and licences issued by the state and local authorities and enforced by the police, to more informal regulations made by the villagers and sanctioned through gossip, social ostracism, and so on. Community-based fishing territories are still poorly understood, and we do not yet know under which conditions exclusive territories best facilitate sustainable use. Certainly, sea tenure constitutes only a part of what might be termed resource management, and as such the existence of community-based tenure is hardly a sufficient condition for sustainable use of natural resources. But in tandem with enlightened policies regarding credit, marketing, subsidies, and recruitment, exclusive fishing territories and the establishment of institutions through which the fishermen gain a direct influence over management issues, will undoubtedly help in bringing about sustainable use of resources, particular as to stationary species. Open access is beneficial only to the more powerful fishermen who with large efficient vessels can fish one area after another.

In 1609 the Dutchman Hugo Grotius published his book *Mare Liberum,* which subsequently had a strong influence on the western conception of the sea and its resources. Among other things, Grotius said that the fish in the oceans were as inexhaustible as the air we breathe, and limiting access to an inexhaustible resource was, for him, a nonsense. Grotius's book came to be the cornerstone of the emerging ideology about the freedom of the seas that came to characterise western Europe and North America.

At about the same time that Grotius was writing, Japanese feudal lords (whose main interest in relation to fisheries was to collect taxes and secure corvée labour for the coast guard) divided up their coastal waters and gave these to specially defined fishing villages. Old customary law was partly incorporated into the new regime, and an ideology of the closed ocean (*Mare Closum*) was firmly established.

It was no coincidence that a Dutchman should have expressed an idea about the freedom of the seas. The Netherlands had emerged as a naval power, and her fishermen and whalers roamed the seas, often close to the shores of foreign countries. The concept of *Mare Liberum* was as expeditious to an emerging capitalist-imperialist power, like the Dutch, as *Mare Closum* was to the Japanese feudal lords. The country had recently emerged from a bloody civil war, and lords were consolidating their positions — of which closing the sea was one of a number of measures taken.

Two lessons can be learnt from this. Firstly, the predominant interests shaping developments in the seventeenth century were political and economic: ecological considerations hardly played a part at all. If these developments had any ecological impact, positive or negative, they were merely accidental. It will be argued that this is also the case regarding many indigenous management regimes today. Thus, if we are to understand resource management, we cannot look at the situation only from a narrow ecological framework, but we have to put the whole question about marine resource management into a larger context, as McGoodwin (1990:108) does when he defines management as:

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"*any people's practice, whether conscious or unconscious, intentional or inadvertent, active or passive, recognized as resource regulation or not, that has the effect of limiting the mortality of marine resources resulting from fishing effort.*"

A number of institutions influence fishing effort, and thus the relationship between a population and its resources, and they are not necessarily designed specifically with conservation in mind. Key socio-cultural variables determining the fishing effort are:

- the number of fishermen;
- the efficiency of their technologies;
- time spent on fishing activities;
- ownership of the means of production;
- access to credit institutions;
- modes of distribution of the catch;
- the extent to which knowledge and information is shared or kept secret; and
- prevailing values and conventions (Kalland, 1995).

Resource management is therefore much more inclusive than the term 'sea tenure' defined by Ruddle and Akimichi (1984:1) as "*the ways in which fishermen perceive, define, delimit, 'own' and defend their rights to inshore grounds*". Care should be taken not to conflate sea tenure and resource management, which unfortunately is done frequently by both administrators and scholars. Consequently, fishery policies often turn out to be a patchwork of ill-defined efforts, frequently canceling each other. For example, strict quota and licensing policies are often found together with liberal credit and subsidies policies – causing overcapitalization in the fisheries (Kalland, 1995).

The second lesson is that the freedom of the seas should not be seen as the 'natural' state of affairs. Contrary to what was long believed by both fishery experts and social scientists, it is itself a concept derived from various historical, cultural, economic, and political processes. Open access is only one way of managing the sea among many others. Indeed its management form is that of an extreme *laissez-faire* policy; at the other extreme, we find the *Mare Closum*, where access to marine resources is strictly regulated. It is safe to say that, influenced by the ideology of the freedom of the seas, western powers had a *laissez-faire* attitude toward fisheries until development of fishing technology reached a point where it was obvious to everyone that something had to be done in order to avoid total ecological collapse. The remedy was to close the seas in various ways.

The depletion of fish stocks were allegedly an example of "*the tragedy of the commons*", a term coined and made popular by the biologist Garrett Hardin (1968) but first expressed by the fishery economists Scott Gordon (1954) and Anthony Scott (1955). The root of the problem is, according to these scholars, the common property character of fish stocks. They argue that as long as a resource is open to all, no one will be motivated to conserve since, as stated by Gordon (1954:135), "*the fish in the sea are valueless to the fisherman, because there is no assurance that they will be there for him to take tomorrow if they are left behind today*". It was assumed that the fishermen were themselves unable to formulate regulations and establish institutions to secure sustainable use of the marine resources. On the contrary, fishermen were believed to do their utmost to take as much as possible before others did *"Freedom of the commons brings ruin to all*"(Hardin, 1968). As a solution to this 'problem' Scott proposed sole ownership, which he defined *as "complete appropriation of all of a natural resource in a particular location*" (1955:117). Lawmakers and bureaucrats found this suggestion appealing as it centralised control.

According to Christy (1973:29-43), there are three kinds of regulation aimed at reducing fishing efforts:

1. Those that aim directly at the maritime resources, such as total quotas, minimum fish size, fishing seasons, and prohibited areas.
2. Those related to fishing gear, such as minimum mesh size, the size of boats and engines, and so on.
3. Those regarding the number of nets and lines per boat, the number of boats through licensing, in addition to the introduction of fees and taxes.

INDIGENOUS MARINE TENURE REGIMES

The "*tragedy of the commons*" model rests on assumptions (1) that people are 'economic animals' who seek to maximize economic profit; and (2) that the commons has no relation to a community that can formulate rules and can sanction undesired behavior. These assumptions are unwarranted but must be empirically verified in each case.

When Hardin wrote his seminal paper, few studies existed about local management regimes in fishing communities.[2] This situation has changed, partly as a response to Hardin's challenge. A number of anthologies fully or partly

[2]*It was the exception rather than the rule that monographs on fishing peoples discussed the relationship between human populations and marine resources. One reason for this neglect might have been that western scholars were blinded by the western perception of the sea. It was taken for granted that the sea and its resources were open for all to exploit and few scholars had the vision to question this widely held notion.*

dedicated to local marine resource management regimes have appeared since the mid-1980s (e.g. Lamson and Hanson, 1984; Ruddle and Akimichi, 1984; McCay and Acheson, 1987; Berkes, 1989; Cordell, 1989; Pinkerton, 1989; Ruddle and Johannes, 1985, 1990; Crean and Symes, 1996) in addition to monographs and a large number of articles.

The critique of the "*tragedy of the commons*" model has followed two main lines. At the theoretical level a number of authors have pointed out that the model rests on the confusion between:

"*common property as a theoretical condition in which there are no relevant institutions ('open access') and common property as a social institutions ('the commons') ... In true common property situations, use-rights are shared co-equally* and *are exclusive to a defined group of people*" (McCay and Acheson, 1987).

At the empirical level it has been important to document that fishermen are not merely isolated, maximizing individuals but are able social engineers who have established well-functioning management institutions. Over the years there has appeared an impressive array of case studies on the basis of which Hviding and Jul-Larsen (1995) have concluded that community-based management "*may seem to be the rule rather than the exception*".

These management arrangements take many different forms, although they all in one way or another seek to limit fishing effort. Some of them resemble modern regulations aimed at reducing fishing efforts and most, if not all of the methods mentioned by Christy above, have been reported also from pre-modern and pre-industrial societies (Johannes, 1978). Several authors have commented on the similarities between indigenous and 'scientific' means of resource management (e.g., McGoodwin, 1990; Hviding and Jul-Larsen, 1995). Pre-modern Japan is a case in point. For centuries licenses have been required in order to operate certain types of gear; the number of fishing boats and nets were restricted; some of the fisheries had closed seasons; sanctuaries were established both permanently and temporarily; enhancement programmes were launched; and fees and taxes were imposed on fishing activities. Religious beliefs also limited fishing efforts, with perhaps 10 per cent of the potential fishing days being lost to festivals in addition to long periods of defilement following deaths of close relatives (Kalland, 1995).

Nonetheless, notions of exclusive fishing territories have received much more attention in the scholarly literature. Such territories at the local level have been reported from all parts of the world, both in industrial countries such as Japan, the United States, and France, and from developing countries. Reports are particularly numerous from the western Pacific area – from Japan in the north to New Zealand in the south – but have also been reported from Africa (particularly along the west coast), Europe, as well as from North and South America. Even in regions where the ideology of the freedom of the seas is believed to be strong (as in the United States and western Europe), research has uncovered various indigenous means to limit access to sea space. Frequently these arrangements remain informal, at times they even contradict formal law.

Dyson-Hudson and Smith (1978:22) have defined 'territory' as '*an area occupied more or less exclusively by an individual or group by means of repulsion through overt defense or some form of communication*". Such occupancy can be short-term as when a fisherman *de facto* monopolizes a particular area during a fishery, or more permanent as when a corporation has publicly endorsed rights to sea space as an estate. Individuals' temporary acquisition of space, a phenomenon that some anthropologists have labeled 'temporary property rights' (Forman, 1967, 1970) and 'temporary territorial claims' (Cordell, 1977), is fundamentally different from a corporate estate and is better termed 'spacing'.[3] Spacing deals with how fishing operations are carried out that is how a fisherman can monopolize a considerable part of a good fishing spot by maneouvering his boat and laying his gear in such a way that others are effectively excluded, or by deceiving his competitors through skillful manipulation of information.[4] All fishing societies have unwritten rules – and some have written as well – about spacing in order to avoid conflicts and to preserve individual integrity on the fishing grounds.

It will therefore be useful to adopt a more precise definition of territory than that proposed by Dyson-Hudson and Smith, and I will follow Godelier who regards territories as a social relationship and thus belonging to the realm of production. His definition (1979:138) makes no mention of the exclusiveness and the abilities to defend territories against intruders, however, and adding this element to his definition we can say that:

"*the term 'territory' is used to designate a portion of nature and space that is claimed by a given society, this*

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[3] *Ingold makes a similar distinction between 'tenure' and 'territoriality'. Whereas the former is a mode of appropriation, territoriality is seen as a "mode of communication, serving to convey information about the location of individuals dispersed in space" (Ingold, 1986:133).*

[4] *Although such behaviour may reduce overall fishing effort, it is seldom motivated by conservation but rather to catch more fish than the competitors – and thus win in a zero-sum game where prestige is the prize.*

society guaranteeing all, or only some, of its members stable rights of access to control and use of all or part of the resources found therein, and which it (the society) is capable of exploiting and defending against intruders, either alone or by bringing in external agents". (Text in Roman is added to Godelier's original definition.)

TERRITORY AS AN ESTATE

As defined above, a fishing territory can be seen as an estate for a corporation. Defined as "*a social group whose members act as a legal individual in terms of collective rights to property, a common group name, collective responsibility, or other common interests*" (Keesing, 1976:552), a corporate group can be an important integrating force that may impose strong claims on its members regarding the well-being of its estate. A territory can denote an estate of various scale, from the national State (which resembles the open access situation in many ways) down to the territories of small communities and in some cases even to a group of individuals (private ownership).

In many areas of Oceania territories are formed of estates composed of clans and lineages. This is the case, for example, in the Micronesian islands: Ulithi, Lamotrek, Truk, and partly Yap (Sudo, 1984), in Kiribati (Zann, 1985), on Tanga (Bell, 1946/47), in the Solomon Islands (Baines, 1985; Hviding, 1996), in Ponam in Papua New Guinea (Carrier, 1981; Carrier and Carrier, 1983), among the Yolgnu in North Australia (Davis, 1984, 1985), and in the Torres Strait (Johannes and MacFarlane, 1991; Nietschmann, 1985, 1989). Such estates are also known outside this region among the Tlingit and Haida in southwestern Alaska where clans or house groups hold rights to salmon rivers or sections thereof (Langdon, 1989). Jul-Larsen (1980) reports from Mali that five patrilineages divided the Bouna region along the Niger between them. From Zäire, van Leynseele (1979:178) writes that the fisheries, the pools, and the islets were the private property of family groups controlled by the eldest of several brothers and that each of the brothers occupied an islet or separate section thereof with his family and dependants. Here we see the contours of a segmentary system more fully described by Johannes and MacFarlane (1991) from the Murray Island in the Torres Strait and by Zann (1985) for Kiribati where the sea tenure systems in remarkable ways resemble that for land tenure among the Tiv in Nigeria (Bohannon and Bohannon, 1968).

Many of the clan and lineage territories are embedded in larger village territories, but villages can also be the primary corporations related to sea territories. This is the case, for example, in Palau, Ponape, and Satawal in Micronesia (Sudo, 1984), in certain localities in the Maluku (Bailey and Zerner, 1992), along the northern shores of Papua New Guinea (Polunin, 1984; Wright, 1985), in pre-colonial Philippines (Lopez, 1985), among some crayfishers in New Zealand (Levine, 1984), among lobster fishermen in Maine where 'harbor gangs' *de facto* define sea territories (Acheson, 1979, 1988), among several Indian tribes on the northwest coast of Canada (Newell, 1993), and in Åland, Finland (Pipping, 1973). In Japan sea territories formed estates for fishing villages until the first national fishery law of 1901 transferred them to newly created fishing cooperative associations (FCA), which have acquired rights to distribute fishing licenses issued by the fishery authorities among its members.[5] The FCAs can, on behalf of their members (who are all supposed to be active fishermen), negotiate entry rights *vis-à-vis* other FCAs (often on a mutual basis or against payment of fees) or enter into leasehold agreements and even sell parts of their territories to industrial developers.[6] Today the FCAs can, to a large extent, block access to their territories and their resources to non-members and, if necessary, the FCAs receive support from external sources to defend their estates. Which brings us to the important question of how sea territories are defended.

DEFENDING TERRITORIES

A number of ways of defending one's territories have been reported in the literature, such as cutting lines and nets, confiscating gear and catches, physical violence, social ostracism, taboos, gossip, fines, arrests, and court rulings (e.g., Acheson, 1979, 1988; Kalland, 1981, 1991, 1995; Levine, 1983; McGoodwin, 1980, 1990; Zann, 1985). One important factor is to what extent the corporate groups receive assistance from external agents in defending their rights. Not sur-

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[5] *Most commonly there is one FCA to the village, but occasionally several villages form one FCA. FCAs may also share a territory. There is a rich literature on Japanese sea tenure in English. Half the volume edited by Ruddle and Akimichi (1984) deals with Japan, as do three papers in the volume edited by Cordell (1989). See also Befu, 1980; Howell, 1995; Kalland, 1981, 1990, 1995, 1996; and Ruddle, 1987.*

[6] *Often, the FCA leaders are under immense pressure to sell to private or public interests, although the authorities hesitate to expropriate outright (Befu, 1980).*

prisingly, where traditional territories have been recognized by the authorities, the fishermen are in a better position to bring in external agents to keep intruders out, such as they sometimes do in Japan (Matsuda and Kaneda, 1984). This means that the Japanese FCA does not need to spend much energy on enforcement; nor is there much scope to expand at the expense of its neighbours.[7] This may cause a rather inflexible situation ill-suited to meet the fishermen's needs to adjust to fluctuating resources, new technologies, demographic changes, and market integration. In Japan, corporate groups have for centuries tried to solve this problem by the institution of 'guest fishing' where fishermen obtained access to their neighbours' territories, often against a percentage of the catch (see below). Similarly, among the northwest coast Indians, chiefs would lease out fishing spots to outsiders (Newell, 1993:41).

Territories that are not recognized by the authorities may be more flexible in this regard. Territories without external protection might be defended only as long as members of the corporate group find the rewards worth the costs. Dyson-Hudson and Smith (1978), who employ an ecological model developed in ethology and sociobiology to discuss the existence of territories among hunter-gatherers and pastoralists, suggest that territories only exist where the costs involved in defending them are considerably less than the rewards. This implies that territories ought to be found where the resources are rich and predictable, a situation that allows a large population to remain in a limited, and thereby easily defendable, territory. Cashdan (1983), however, observed the opposite situation among the San in the Kalahari. Concepts of territories were strongest where the resources were dispersed and unpredictable. In order to account for this situation she makes a distinction between 'perimeter defense' and 'social boundary defense'. In the latter case people defend the boundaries of their social groups by being more or less willing to accept outsiders as new members. She postulates that the energy used under social boundary defense is independent of the size of the territory, unlike for perimeter defense where there is a such a correlation. Hence, she suggests that social boundary defense occurs where a group needs large territories that are impossible to defend at its perimeter.

Several authors have tried to find a correlation between ecological factors and the existence of fishing territories using cost-benefit models developed to analyse territoriality among hunter-gatherers. Among them is Acheson who in a series of publications analyses territoriality among Maine lobster fishermen. In order to do so he distinguishes between 'perimeter defended' and 'nucleated' territories (Acheson, 1975). In the western part of the researched area he did not find clear sea borders, but the fishermen nevertheless had a strong sense of territoriality close to a nucleus – which might be a harbour, a settlement, or a particular fishing ground – but this grew weaker as one moved toward the periphery where the sense of 'ownership' of a territory was almost extinct and fishermen from several harbour gangs fished together (Acheson, 1979, 1988). In the eastern part, on the other hand, the sense of territoriality was equally strong throughout the territory and the fishermen would vigorously defend the borders. The reasons for this difference is, according to Acheson, partly related to ecological conditions. Whereas it is costly to defend exclusive perimeter defended territories in the west where only the areas close to the harbour are defended, the topography in the east makes it easier to defend the borders and expell intruders.

Levine (1983, 1984) has also based his arguments on a cost-benefit model when analysing the existence of exclusive territories among crayfishers in New Zealand. He found that the village without any concepts of territory was located far from the fishing grounds, which made it difficult for the fishermen to defend it. In the second village defence was easier since they had six miles of coast to themselves, which generated a nucleated territory. The third village had its fishing area close at hand and operated – due to the lack of harbour facilities – fast and flat-bottomed boats making it easy to catch intruders. Perimeter defended territories were the outcome of this situation (Levine, 1984).

However, like Acheson, Levine finds the cost-benefit model inadequate for a full understanding of the situation, and he tries to establish a connection between the form of territory and social relations on land. He argues that where there is strong cooperativeness on shore, there is open access to the sea, while there is territorial defence if the community is atomistic. But the direction of causation is reversed in Sweden where Löfgren (1979) states that open access caused conflicts on shore.

[7] *In reality the FCAs try to solve conflicts without bringing them to the attention of the authorities, and the FCAs are in continuous contact with each other either directly or through the prefectural FCAs to this effect. Only in severe cases of poaching will the coast guard be called.*

TERRITORIES AND SUSTAINABILITY

Given that the relations between the existence of territories and their defensibility are inconclusive, attempts to relate territories to other social or ecological parameters have not been any more successful. Levine's study from New Zealand, for example, makes it hard to argue for a simple correlation between culture and territory. And Durrenberger and Pálsson (1987:511-512) conclude categorically that "*the differences [between open access and territories] have nothing to do with the mobility of the prey*", as they observe that both cod and lobster fishing have been found with both management regimes.

Although no correlation can, at present, be established between the existence of defended territories, on the one hand, and species, fishing gear, cultural differences or community connectedness on shore on the other, we cannot conclude that territories do not have any value whatsoever in terms of conservation. We should *a priori* be able to suggest that the existence of territories, in certain situations, would be a more efficient means of limiting fishing efforts. Studies from Japan suggest that the presence of territories are more effective in aiding the management of demersal rather than pelagic fish. Pelagic species stay within a territory only for a limited period of time, and attempts to limit fishing efforts within one territory can be offset by larger catches in another. With stationary species a community seems to be in a better position to manage their resources properly. Short (1989), writing from Hokkaido, found that territories were ideally suited to husband the sea urchin, which was both stationary and visible. They had a monopoly on this species within their area, and the fishermen involved imposed stricter regulations on this resource than that required by prefectural regulations. On the other hand, where the fishermen had no monopoly, as was the case with flatfish, their gillnetting focused "*on maximization of immediate economic gains, with little concern for long range management considerations*" (Short, 1989:384).

Thus, for a large number of species, allocating exclusive territories may not alone solve the problem of over-fishing, but community-based territories might, nevertheless, make it easier to impose and find acceptance for other types of regulations, such as limiting fishing efforts, limiting the size of the prey, imposing minimum net-mesh size, and so on. With large territories, such as the national ones, there are too many competing interests to accommodate and too long lines of communication from the fishermen (at least the marginalized ones) to the decision makers to make regulations effective. Fishermen, who find that the regulations do not benefit them, may choose to circumvent or deliberately break them.

With smaller territories, based on lineages, villages or other groups of fishermen, people are in a better position to influence the resource base on which their future rests, whether the territories are formally recognized and supported by the State or not. Community controlled territories enhance the efficiency of sanctions, not least because activities at sea cannot be isolated from those on land. With a territory held as an estate, the Japanese fishing associations have the formal conditions required for a successful collective management of the commons. Among these conditions are – as McCay and Acheson (1987) pointed out – visibility of common pool resources; feedback on the effects of regulations; widespread understanding and acceptance of rules; the values expressed in these rules; and the backing of these rules by socialization and strict enforcement. The social costs of breaking locally sanctioned regulations tend to be higher than for breaking regulations imposed by distant bureaucrats, particularly when these regulations are seen by the villagers as detrimental to their interests.

Sustainable use of natural resources does, on the other hand, not always imply economic and social sustainability of communities. Territories can very well reduce fishing efforts, but small community-based fishing territories are in many cases clearly maladaptive from the fishermen's point of view. Rigid regulations do not necessarily have much relevance for catching capricious fish; the fish may follow different routes from one year to the next; not all the territories provide opportunities to fish year-round; some territories are more productive than others, and so forth (Kalland, 1991). Commonly fishermen have to follow their prey over considerable distances or, if they are confined to small territories, they have to invest in several types of gear, most of which are used only occasionally. There are few possibilities for specialization under such circumstances and the situation may lead to heavy overcapitalization in the fisheries. Narrow territories can also be an incentive to go beyond the outer borders to fish in the open access zone, thus increasing the risks of accidents. It is no coincidence that the fishing village with the most severe accidents in my area of study was the village with the narrowest fishing territory (Kalland,1995).

Japanese fishermen have tried to cope with this situation in several ways. The small village territories given by the feudal authorities, more for the purpose of administrative convenience than for sound resource management, did not meet the needs for flexibility, and through negotiations, or by systematic poaching in order to be able to claim customary rights, fishermen sought acceptance for 'guest fishing' (*iriai* or *nyugyo*) inside territories of neighbouring villages. (The parallel to strategies employed by modern fishing nations is striking.)

As an illustration, Shingu, where I have conducted fieldwork, had in 1891 rights to use from one to four types of technology in the waters of three other villages. The same villages had the right to use two or three technologies in Shingu's water. Frquently there was a direct exchange of rights as when two villages fished sand lance within each other's territories. In other cases different rights were traded. The concept was further refined and expanded, and by 1926 Shingu used between 31 and 35 technologies in these three villages and had obtained rights to fish within the borders of another two. For some of the villages more than half the catches in the 1920s were taken inside the territories of other villages (Kalland, 1991, 1998).

After World War II the FCA territories were reduced in outward projection and amalgated, thus leaving several villages in charge of one territory and opening more of the water space to all the fishermen in the perfecture. At first sight one might therefore get the impression that the territorial system gradually became diluted. To draw such a conclusion is, however, premature. Villagers still recognize old borders within the amalgated territories and trade access rights to each other's sections (Kalland, 1981). The fisheries within the territories are, in other words, still regulated by the local fishing cooperative associations (FCAs) concerned. Moreover, the fishermen's unique position to protect their interests against intruders – a situation that Ruddle (1987:87) calls a major drawback since FCAs can stop most projects that would harm these territories – has gained new significance in recent years. It has been possible to claim compensation for disruption caused to their fishing grounds, and some cooperatives have received large amounts of compensation from industries for polluting their waters. Exclusive rights have also protected fishermen's involvement in the important business of aquaculture. A feature of aquaculture in Japan is the cultivation of many small plants (for fish), seashells, and seaweed. Such resources are mostly owned by individual fishermen or jointly by several, and usually operated as a side-activity to ordinary fishing.

Conclusion

Regulations and limited entry in western industrialized countries have in recent years been a response to ecological crisis. There can be little doubt that traditional institutions as we find them in some non-western countries may be based on similar ecological considerations in particular cases (e.g., Johannes, 1981; Anderson, 1975; Sakiyama, 1984), but there is no reason to believe that regulations throughout the world are a response to ecological factors. Although Acheson found that lobster taken inside perimeter-defended areas in Maine were larger than those caught in a nucleated area (1979) and I elsewhere have argued that the stable catches in Japanese coastal waters during the last sixty years are partly as a result of exclusive territories (Kalland, 1990, 1996). Polunin (1984) and McGoodwin (1990) argue – correctly, I think – that customary sea tenure regimes might in certain circumstances even work against conservation. It is wise to remember that customary tenure regimes are multi-functional (Hviding and Jul-Larsen, 1995), that is, they might have many different objectives of which sustainable use is only one.

Sea tenure is a matrix of institutions defined and enforced on many levels: from the formal rights and licences issued by the state and local authorities and enforced by the police, to more informal regulations made by the villagers and sanctioned through gossip, social ostracism, and so on. Community-based fishing territories are still poorly understood, and we do not yet know under which conditions exclusive territories best facilitate sustainable use. Certainly, sea tenure constitutes only a part of what might be termed resource management, and as such the existence of community-based tenure is hardly a sufficient condition for sustainable use of natural resources. But in tandem with enlightened policies regarding credit, marketing, subsidies, and recruitment, exclusive fishing territories and the establishment of institutions through which the fishermen gain a direct influence over management issues will undoubtedly help in bringing about sustainable use of resources, particularly with regard to stationary species. Open access is beneficial only to the more powerful fishermen who, with large efficient vessels, can fish one area after another.

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Summaries

Le régime propriétaire des eaux maritimes est un ensemble d'institutions définies et appliquées à plusieurs niveaux allant des droits et licences officiels délivrés par les autorités locales et centrales et imposés par la police, à des réglementations moins formelles mises en place par les villageois eux-mêmes et dont la violation est sanctionnée par le biais de commérages, ostracisme social etc. La question des territoires de pêche communautaires n'est pas toujours bien comprise, et nous ignorons quelles conditions sont les plus aptes à faciliter l'utilisation durable des territoires exclusifs. Il est évident que le régime propriétaire de la mer ne représente qu'une partie de ce que l'on pourrait appeler «gestion des ressources». Il en découle donc que l'existence d'un régime foncier à base communautaire est une condition insuffisante pour une utilisation durable des ressources naturelles. Mais, parallèlement à des politiques claires concernant les crédits, la commercialisation, les subventions et les recrutements, les territoires de pêche exclusifs et la mise en place d'institutions permettant aux pêcheurs d'exercer une influence directe sur les questions de la gestion vont, sans aucun doute, favoriser une utilisation rationnelle des ressources, en particulier pour ce qui est des espèces stationnaires. L'accès ouvert ne profite qu'aux pêcheurs les plus puissants qui, grâce à leurs grands bateaux performants, peuvent pêcher d'une zone à l'autre.

La tenencia marítima genera una serie de instituciones que están especificadas y obligan por ley en muchos ámbitos: desde los derechos y licencias formales emitidos por el Estado y por las autoridades locales y protegidos por la policía, hasta las normas más informales elaboradas por los lugareños y sancionadas a través del chismorreo, el ostracismo social y quién sabe cuántas cosas más. Poco se comprende todavía a los territorios de pesca con base en la comunidad, y aún no conocemos en qué condiciones los territorios exclusivos facilitan al máximo el uso sostenible. Desde luego, la tenencia marítima constituye solo una parte de lo que pudiéramos llamar manejo de recursos, y, como tal, la existencia de la tenencia con base en la comunidad es una condición apenas suficiente para el uso sostenible de los recursos naturales. Sin embargo, alineados con las esclarecidas políticas relativas al crédito, mercadeo, subsidios y reclutamiento, los territorios exclusivos de pesca y el establecimiento de instituciones mediante las cuales los pescadores obtienen una influencia directa sobre los problemas del manejo, indudablemente ayudarán a lograr el uso sostenible de los recursos, particularmente en cuanto a las especies estacionarias. El acceso abierto es beneficioso únicamente para los pescadores más poderosos que, provistos de grandes y eficaces barcos, pueden fanear en una zona y en otra.

The Dilemma of Embeddedness Under Scarcity

Stig S. Gezelius[1]

This paper is based on comparative research on communication between State authorities and civil society organisations in fisheries management. It presents a comparison between the Norwegian and Newfoundland advisory and decision-making systems. It is argued that, in a situation of resource scarcity, civil society embededdness of central State management faces a contradiction between securing civil society influence and State legitimacy on the one hand, and preserving united interest organisations of heterogeneous industries on the other. This dilemma implies that embedded management systems in heterogeneous industries, such as in the North Atlantic fisheries, potentially threaten the political basis of embededness itself. The paper describes how the two management systems in different ways are adapted to and have responded to this dilemma following scarcity and crises in the North Atlantic groundfish fisheries.

State and Society Relations on Fisheries Management

Concepts and Method

As large-scale social institutions have arisen in an attempt to control fluctuations in the North Atlantic fish stocks, resource scarcity has increasingly become a question of managing institutional strain. This essay, which is a comparative study of Norway and Newfoundland, addresses some central dilemmas facing institutions of both State and industry as they seek to co-operate in fisheries management. The central question of this essay relates to what determines the level and form of State embededness in a heterogeneous industry in a situation of resource scarcity. In order to analyse this, we need to ask what ends the relevant State and civil society actors seek to gain by their institutional suggestions and solutions.

The concept of 'embedded autonomy' (Evans, 1995) has been suggested as an institutional path to successful industrial development, that will, slightly adapted for our analytical purposes, be the starting point for analysing the problem of co-operation between the State and industry in resource management. Embedded autonomy is a situation of coherent bureaucracy combined with "*institutionalised channels for the continual negotiation and re-negotiation of goals and policies*" (Evans, 1995:12). This seemingly somewhat contradictory concept holds the argument that the virtues of a Weberian bureaucracy are not necessarily being perverted by close links between the State and civil society. On the contrary, such links often prove to be valuable sources of information as well as conditions for successful implementation. Firstly, embeddedness increases and secures the information flow between the State and civil society, and thereby strengthens the basis for rational deci-

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sion-making. Secondly, it ensures legitimacy among key social actors for State governance and decisions (Valdés-Ugalde, 1996:296). Evans (1997) joins Robert Putnam in his critique of Joel Migdal's (1988) view that a weak organisation of civil society is a necessary condition for a strong State.[2]

Both cases in this study are instances of what Evans calls embedded autonomy, but they are different forms of it. Hence we are in need of somewhat more fine-graded concepts. Internal coherence of the bureaucracy is a precondition for making decisions independent of specific interest groups. When in this essay we are talking about 'degrees of autonomy', it refers to the extent to which the actual *decision* of the State is likely to directly reflect the view of a civil society organisation, disregarding the range of interests this organisation encompasses. The less influence the organisation(s) of the industry has on the final decision, the more autonomous the role of the State. The concept of embeddedness refers, as in Evans's book (1995), to the institutionalised channels of communication between the State and civil society organisations. Furthermore, I will define the *level* of embeddedness as the degree to which these channels provide the civil organisations with influence on the final decision. In this respect, it stands as opposed to State autonomy.[3] In the case of resource management, it can be distinguished between two layers of embeddedness. Firstly, there is the degree to which the *knowledge* of the user groups feeds into the resource assessment process providing the legitimate knowledge base of the decision. Secondly, there is the degree to which directing of advice and voicing of interests directly influence the decision itself. The dilemma described in this essay mostly relates to the latter.

Besides the concepts mentioned above, I make use of the distinction between 'horizontal' and 'vertical conflict.'[4] In this essay, this concept will simply refer to the distinction between conflict *expressed* as conflict between agents in the industry and conflict, intra industrial or other, *expressed* as conflict between the industry, or parts of the industry, and the State. A central premise in this essay is my argument that intra industrial conflict can be expressed both as horizontal and vertical conflict, dependent on the level of embeddedness of the management system. State autonomy tends to verticalise intra industrial conflicts, whereas State embeddedness tends to horizontalise them, an argument we will return to in more detail.

The essay is based on data collected during fieldwork in Norway and Newfoundland during 1997 and 1998. Aside from written material, these data include formal and informal interviews as well as observational data collected during a four months stay among inshore fishermen. Time was split between two fishing communities, one in Norway and one in Newfoundland. Two months were also spent, one in Norway and one in Newfoundland, making observational data in advisory fora such as FFAW advisory meetings, an FRCC hearing, and a meeting in the Norwegian Regulatory Council. Interviews were undertaken with local, regional, and national representatives of the fishermen's unions and government managers.

Declining Resource or Unsteady Institutions?

The introduction of new dragger and purse seine technology during the 1950s and 1960s increased the human fish-catching capacity in a way that is commonly recognised as having affected the ecological sustainability of the North Atlantic fisheries. Catches of what was once considered the world's largest fish stock, the Northern cod of the Grand Bank off Newfoundland, tripled from the late 1950s to the late 1960s, then declined rapidly through the 1970s, reaching zero in 1992 when a now six-year-old moratorium was announced (Harris; 1990; Gezelius, 1996). In 1997, 21 out of 52 stocks considered by the FRCC, were closed to direct fishing and most other stocks faced a quota decline from 30 to 90 per cent (FRCC. 97.R.3: 1). The closures include all major groundfish stocks. The management of the fish stocks,

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[2] The perspective taken by Migdal emphasises the conflict of interest between the State and central civil society actors in questions related to distribution of power. Furthermore, he seems to leave out the possibility of mutual empowerment as an outcome suggested by authors such as Evans (1995, 1996), Lam (1996), Ostrom (1996) and Robert Putnam (Evans, 1997). Migdal seems less categorical on this point in State Power and Social Forces *(Migdal et al., Eds. 1994), mentioning the need for legitimacy (pp. 15) and the possibility to appropriate existing social forces and symbols in order to establish a new pattern of domination (pp. 25). Other contributors to this edited volume hold the view that links between the State and civil society is (at least potentially) fruitful in order to establish efficient State management (Kohli, 1994; Chazan, 1994:279).*

[3] This aspect of the definition is not entirely faithful to Evans's own use of the concept. However, the definition used in this paper is merely an analytical tool. There is no intention of entering into a discussion of the general fruitfulness of Peter Evans's concept.

[4] Used by Vestergaard, 1997.

and thereby of the harvesting sector, in eastern Canada is a federal responsibility, while the province is responsible for the processing industry. The fish crisis of the Grand Bank of Newfoundland has cast hundreds of small fisheries dependent communities into what must be termed a situation of crisis. According to the Canadian Department of Fisheries and Oceans (DFO), approximately 40,000 fishermen and plant workers were put out of work in the years following the 1992 cod moratorium (DFO, 1995). This situation has made fisheries management a highly sensitive political matter in Newfoundland, and the atmosphere between the DFO, which has a Regional Director General (RDG) located in Newfoundland, and the fishermen has been loaded with much pessimism and distrust. DFO scientists have, in particular, received harsh criticism. This was due to the now generally recognised explanation that dramatically overestimated stock size and ignored warnings from inshore fishermen during the late 1980s. These was the key factor in the collapse of the fishing stock (Steele et al., 1992).

The collapse of the Newfoundland groundfish fisheries has largely wiped out what has traditionally been called the offshore fleet (vessels 100 feet and over).[5] A large increase in the prices of snow crab in the early 1990s actually provided significantly increased income possibilities for the vessels with a crab license. However, the vast majority of the Newfoundland fleet, the vessels under 35 feet, has been excluded from this fishery, except for a small share granted under so-called temporary permits. The major conflict in the Newfoundland fisheries in recent years has been about the distribution of crab.

Approximately at the same time, Norway too suffered a serious decline in its groundfish fisheries, and particularly the Norwegian arctic cod, which is Norway's most important fish stock. However, things seemingly returned to normal within a few years.[6] The resource crises, or assumed resource crises, in the late 1980s and early 1990s, resulted in new management regimes, which again brought up political, social, and organisational challenges.

The period of the industrial expansion in the Norwegian fisheries during the 1950s and 1960s, which Mikalsen (1982) refers to as the 'industrialisation phase' in Norwegian fisheries, was followed by a collapse of the Atlanto-Scandinavian herring fisheries in the late 1960s. This collapse paved the way for scientifically based resource management, which was to expand in the thirty years to come. However, this did not severely affect the inshore fleet, which from the early 1980s was subjected to some gear restrictions and shorter closed seasons, until the collapse of the cod fisheries in the late 1980s (Holm, 1996; Hoel et al., 1991). Restrictions mostly affected the purse seine and trawler fleets. In the Norwegian arctic cod fisheries, there were no direct catch restrictions up to 1975, only access restrictions for the trawler fleet, and no effective catch restrictions beyond the Norwegian Exclusive Fishing Zone (EFZ) of 12 nautical miles (Sagdahl, 1992).[7] After the establishment of a 200 nautical miles Exclusive Economic Zone (EEZ) in 1977, the management of this stock was the shared responsibility of Norway and Russia under bilateral agreement. However, not until the years 1979 and 1980 was the total allowable catch (TAC) of this stock reduced to a level significantly influencing the amount landed. Furthermore, Norwegian fishermen using passive gear,[8] largely meaning the inshore sector were allowed to continue fishing after the TAC had been caught, a system that lasted up to 1988. Not until 1989 were the majority of Norwegian fishermen affected by real catch restrictions. From that time onwards, they were no longer allowed to overfish the Norwegian share of the TAC. This measure was introduced partly after pressure from Russia (Hoel et al., 1991). As Sagdahl (1992) has pointed out, an important political safety valve was thereby closed. Distribution since 1989 has been a zero sum game among different fleet sectors. Stricter regulation has been imposed for several fisheries, such as coalfish and mackerel, since 1990.

The cod quotas are divided firstly between seasons, secondly between groups of vessel sizes, and thirdly between individual vessels as either maximum quotas or vessel quotas. The latter, as distinct from the first, provides a guaranteed quota. This new management regime has turned the conflict between vessel groups, and particularly inshore versus offshore, into a constant challenge to the decision-making institutions.

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[5] *The number has decreased from 73 in 1990 to 23 in 1997 (Fisheries Statistics DFO web site: <http://www.ncr.dfo.ca/>)*

[6] *It is important to stress that the knowledge component of these descriptions is highly problematic. The state of the fish stocks, the history of the fish stocks, and the causes and consequences are all disputed issues. Perhaps most important is the continual gap between the knowledge of science and the knowledge of fishermen, an issue very much relevant to the discussion of embeddedness.*

[7] *Even though, according to Sagdahl, other governement policies in actual fact restricted the activity of the inshore fleet.*

[8] *Gear other than dragger technology and purse seine, generally gillnet and hook and line equipment.*

A challenge to the State in both these cases is to provide, and in the case of Newfoundland rebuild, a scarce common good in a situation of overcapacity in their harvesting sectors. The high levels of industrial diversity and heterogeneity of interests produce what Evans calls a 'demand overload."[9] Strain following overcapacity in the harvesting sector can either be put on the resource by abolishing the zero sum situation[10] and thereby provisionally easing the political tension, or it can be put directly on the decision-making institutions by undertaking the task of zero sum distribution. Institutions for co-operation between the State and the industry, it is argued, are more than means of providing a collective good. They are strategies for dealing with the conflicts arising from this task, and they are marked by this fact. Both States use regulatory measures such as access restrictions, quotas, licenses, gear restrictions, and closed seasons and areas, all implemented with formal surveillance and enforcement. We are in this context dealing with States as 'custodians' (Evans, 1995:78) : however, it is custodians with a need for political legitimacy and survival. The decision-making systems in various ways reflect this need, in addition to meeting their more explicit task of managing the industry.

ORGANISING THE INDUSTRY: FISHERMEN'S UNIONS

The harvesting sectors of Norway and the island of Newfoundland are by and large organised as single interest organisations with both the inshore and offshore sectors included.[11] Both have positions as main voices for the fish harvesting industry, both are the main harvesting sector consultant for the government in deciding fisheries regulations, and both are generally regarded successful and influential fishermen's organisations.

The Newfoundland Fishermen, Food and Allied Workers Union (NFFAWU) was formed in 1970 as an amalgamation of the Newfoundland part of the Canadian Food and Allied Workers Union, organising plant workers, and the Northern Fishermen's Union (Macdonald, 1985:47). The NFU had only been established the year before. There was no legal provision for fishermen's collective bargaining in Newfoundland until 1971, which is part of the explanation why a durable large-scale union of fishermen came late[12] on the island (Macdonald 1985:29). In 1987 it joined the Canadian Auto Workers, becoming the FFAW/CAW.[13]

The establishment and organisational up-building of the union as well as the struggle for collective bargaining rights, which was granted in the Fishing Industry (Collective Bargaining) Act of 1971,[14] were carried out solely upon the initiative of the union itself, and not without resistance. Neither the Fisheries Association of Newfoundland and Labrador (FANL), organising the fish processors of the province, nor the provincial government saw the union as being in their interest. However, from 1976 onwards, the union negotiated wages and fish prices for all categories of union members, which include both the inshore and offshore sectors as well as plant workers (Macdonald, 1985:49-67).

Also the FFAW's role as an advisor on management issues has become institutionalised. The FFAW is now a major consultant to the government in the preparation of manangement plans for the Newfoundland fisheries, and also participates in the delegation of advisors fotowards the conflict of interest between fish buyers and processors, NAFO (Northwest Atlantic Fisheries Organization) has, from the outset, been oriented mainly towards the political authorities. The process of organising the industry took place during a period when the policy arena was expanding into

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[9] *Lecture August 6, 1998.*

[10] *In the case of the Norwegian cod, this is hard to do because the TAC is set in international negotiations, as are most other Norwegian TACs, coalfish excepted. The same is true of the Newfoundland stocks being managed by NAFO, but this is not the case for the Northern cod, snow crab, herring, and a number of other important stocks.*

[11] *In 1988 Norway a few Norwegian inshore fishermen formed the Coastal Fishermen's Association, which has so far not gained political influence. Crew members on factory ships and part of the trawler fleet are organised in The Norwegian Seamen's Union (Norsk Sjømannforbund) (Hallenstved. 1995, Sagdahl, 1992). Newfoundland has had a few local co-operatives.*

[12] *The only large-scale organisation of fishermen prior to the NFFAW was the Fishermen's Protective Union , established in 1908. Even though it existed as a trading company until 1977, it had not been a political force since the 1920s (Macdonald, 1985: 28-33).*

[13] *FFAW:* We Began With Fish.

[14] *The FFAW organises both fishermen and plant workers and negotiates both wages and fish prices. In Norway prices are negotiated by law-protected sales organisations, owned and controlled by fishermen. They are historically closely linked to the Fishermen's Association, but these links have in recent years been weakened by changes to the Raw Fish Act (Holm, 1996). Norwegian plant workers are organised separately in Norsk Nærings- og Nytelsesmiddelarbeiderforbund.*

management plans for the Newfoundland fisheries, and also participates in the delegation of advisors for the Canadian representative in Northwest Atlantic Fisheries Organization.[15] The consultative system will be elaborated on in the section, Formal Decision-Making Structures.

The story of the Norwegian Fishermen's Association is very different with regard to co-operation with the government, and to some extent bears evidence of the government's wish for one single fishermen's organisation. The Norwegian Fishermen's Association, which organises both owners and crew, was formed in 1926, when local fishermen's organisations on a county level merged under a national umbrella. As distinct from Newfoundland, this step into forming a national interest organisation was initiated by an organisational committee appointed by the government, led by the current Director of Fisheries and consisting, apart from him, solely of fishermen.[16]

Whereas the up-building of the FFAW was largely oriented towards the conflict of interest between fish buyers and processors, the Norwegian Fisherman's Association has, from the outset, been oriented to a great extent towards the political authorities. The process of organising the industry took place during a period when the policy arena was expanding into State policy (Hallenstvedt, 1982:56).

The Main Agreement of 1964 provides the guidelines for income support to the fishing industry. Even though the agreement sought to improve profitability in the entire industry and not only the harvesting sector, the State chose the Norwegian Fishermen's Association as the single partner to this agreement (Hallenstvedt, 1976: 361, 1982: 248-253). The importance of this agreement has decreased significantly in the past five years as most of the financial support to the industry has been abolished. But as State regulation of fish harvesting has gained ground, the Norwegian Fisherman's Association has been granted a major role in the main advisory body for the government's regulatory policy, the Regulatory Council.

After the central offshore organisations[17] were included as group organisations in the 1960s (Hoel et al., 1991: 92), the Norwegian Fishermen's Association gained significant influence as the organisation representing the entire harvesting sector, including both inshore and offshore, owners and crew. This influence has been achieved at the cost of severe internal tensions, which we shall return to.

THEORETICAL OUTLINE OF THE EMBEDDEDNESS DILEMMA: COMMON SOLUTION, CONTRADICTORY RATIONALES

The degree to which channels of communication provide civil society with a means of influencing a decision, in other words the level of embeddedness, is dependent on the industry's ability to come up with *unitary advice.* This means, on the one hand, that the State is faced with advice as clear and consistent as possible, and, on the other hand, that this advice can be legitimised as representing the entire industry. The more fragmented the input, the more dominating the State's role as arbitrator becomes, and the more autonomous the decision made. Fragmented industry advice both demands and legitimises an autonomous State. Finally, unitary advice representing the entire industry demands a unitary organisational structure and willingness to establish institutions for internal arbitration of intra industrial conflict. A system with a large degree of embeddedness, once established, provides an incentive for the industry to continue to come up with coherent advice, because it maintains the embeddedness that limits the uncertainties affiliated with autonomous State arbitration.

If we shift our focus from the causes to the consequences of embeddedness and autonomy, we assume that the major information and voicing efforts will be directed toward what is regarded as the central decision maker. Paradoxically, this means that the more autonomous the State, the larger the *amount* of civil society input into the State bureaucracy. This will reflect the fact that the various interest groups have little to gain from influencing the positions of a unitary association. They have more to gain from approaching the State directly. This increase in amount of input, paradoxically, tends to reinforce the process of disembeddedness of which it itself is a reflection. Firstly, because of its fragmented nature, an increase in heterogeneous input demands and legitimises State autonomy. Hence it is unlikely to improve or perhaps even sustain the institutionalised channels of communication. Secondly, voices from a fragmented industry can be ignored at rather low political costs. However, autonomy, by verticalising intra industrial conflict, weakens the basis of organisational fragmentation in the industry, as will be addressed below.

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[15] NAFO, 1995, DFO fisheries management plans.

[16] This process had, however, not been entirely a harmonious one.Seven years earlier the fishermen had turned down a governmental proposal to establish a law-based fishermen's organisation with State-appointed secretaries, but with little regard to the organisations already established by the fishermen (Hallenstvedt, 1982: 35).

[17] Notfiskarsamskipnaden,Fiskebåtredernes Forbund og Norske Trålrederiers Forening.

THE RATIONALE OF THE INTEREST ORGANISATION

From the interest organisation's point of view, one can assume that it has an interest in the embeddedness of the State. Influencing governmental decisions is a core task of the fishermen's unions of both Norway and Newfoundland. In Norway the union was largely established upon such a task. Furthermore, influence in the decision-making process provides an incentive for people to organise and stay organised. It legitimises the union's use of the members' time and money. It is reasonable to assume that the Norwegian Fishermen's Association has managed to stay united largely due to (but, paradoxically, also in spite of) its central position in the decision-making process. The temptation for a homogeneous interest group, such as the offshore sector, to break out is severely reduced by the likeliness of being excluded from central decision-making forums. However, there is an important contradiction inherent in this mechanism which we shall turn to next.

What seems less obvious, is that civil society organisations have an interest in the autonomy of the State, particularly in matters of intra industrial conflict. This is based on the assumption that actors responsible for the unity of the organisation *want to prevent intra industrial conflict from getting a horizontal expression*. The larger the influence of the union, the more important it is for each interest group to influence the position of the union. The more important it is to influence the union's position, the more intense the internal negotiations, and thus the more intense the horizontal expression of internal conflicts of interest will grow. This will be particularly true of zero sum distribution games, such as quota share-outs. Furthermore, a large degree of influence by the union demands a very *specific* recommendation. The less specific the recommendation made, the more important is the State's role as arbitrator, and thus the State's autonomy. But the more specific the recommendation made, the harder it is to blur intra organisational conflicts of interest. Thus, a large degree of State embeddedness does not only provide an incentive for interest groups to stay united, but also releases tensions horizontally potentially threatening the unity, and thus the influence, of their organisations. These tensions similarly might threaten the positions of the organisation's elected leadership. State autonomy, on the other hand, provides the opportunity of letting horizontal conflict potentials get vertical expressions, and thus secure the organisation's survival. Finally, the more embedded the decision, the larger the civil organisation's share of responsibility for unpleasant consequences, foreseen or not, of the decision made. This might potentially undermine the legitimacy of the union.

THE RATIONALE OF THE STATE

We also assume that State actors have an interest in autonomy. Firstly, we expect that embeddedness without autonomy threatens to undermine the legitimacy of the bureaucracy, and hence the status of the bureaucrats, in society at large. Secondly, we assume there is a need to protect certain decision-making domains of the State, even though on single issues it could be convenient to give it up. In the long run, letting go of autonomy could provide an unpleasant precedent. Thirdly, we assume that bureaucratic socialisation favours attitudes of State autonomy.

Perhaps less evident than the point above, we assume that State actors have an interest in embeddedness as well. This is based on the assumption that State actors *want to prevent horizontal industrial conflicts of interest from getting a vertical expression*. The larger the autonomy of the State, the more important it is for industrial interest groups to influence the State as decision-maker. Hence, the State will be faced with demands of increasing strength, increasing heterogeneity,[18] and thereby increasing conflict with one or more interest groups. Furthermore, the more autonomous the State actors, the larger their share of responsibility for unpleasant consequences, foreseen or not, of the decisions made. In sum, the level of political heat is likely to increase with the level of autonomy. Political heat threatens the political survival of the bureaucracy's political leadership, and in the long run, one would expect, the career opportunities of the responsible bureaucrats.

What we end up with is a situation where, on the one hand, the State and civil society organisations have a common interest in some form of embedded autonomy. While, on the other hand, the State's *rationale* for wanting embeddedness is largely an equivalent to the union's rationale for wanting State autonomy, namely the need for reducing their risks and costs following intra industrial conflict. In this respect there is a conflict of interest. None the less these contradictory rationales may provide a basis for State/society co-operation, even though they may frequently create tensions.

[18] *Because the different interest groups would address the State agencies directly rather than through the union.*

	Embeddedness	**Autonomy**
Interest Organisation	*Provides influence:* • Incentive for membership • Provides legitimacy of union's resource use	*Vertical outlet for intra industrial conflicts* • Eases intra organizational tensions • Prevents organizational fragmentation
State	*Horizontal outlet for intra industrial conflict:* • Eases political tensions • Secures political survival of political leadership	*Preserves State as independent power:* • Protects State domain againt unpleasant precendents • Secures overall legitimacy of bureaucracy • Consistent with bureaucratic socialisation

Figure 1: Actors' Rationales for Wanting State Embeddedness and State Autonomy

The dynamics of this dilemma are described in Figure 2 at the end of the paper. In the following we will examine how the State and civil society agents have undertaken balancing these contradictory interests in Norway and Newfoundland.

FORMAL DECISION-MAKING STRUCTURES

FORMAL STRUCTURES OF THE NORWEGIAN FISHERIES: EMBEDDEDNESS UNDER THREAT?

Management of the Norwegian stocks is based on independent scientific research carried out under the institutional umbrella of the International Council for the Exploration of the Sea (ICES). Advice is given by ICES committees which contain one expert from each member country apart from ICES committee chairmen. ICES's Advisory Committee on Fisheries Management (ACFM) directs advice to the Regional Fisheries Commissions (such as the Russian/Norwegian fisheries commission), and to national fisheries administrations (Fløistad, 1990:3-4). Norwegian interest groups, including State agencies, do not formally have any direct say in this process. No observers or media are granted access to the ACFM meetings, and Fløistad (1990: 25) has concluded that this process is relatively little influenced by political interests.

Approximately 80 per cent of Norway's fishing is from stocks shared with other countries (Hoel et al., 1991: 89). Most TACs and national quota shares are therefore decided in bi- or multilateral negotiations with Russia, the European Union, Poland, Iceland, the Faroe Islands, and Greenland (St meld, nr 48 1995-1996). The Norwegian Fishermen's Association is represented in the Norwegian delegation in these negotiations, and not, as for their counterparts, merely as observers. Other representatives for the industry are occasionally included (Hoel et al., 1991). The Fishermen's Association also particpates in the committee[19] that prepares the Norwegian line of policy in the negotiations (Hoel et al., 1991b:10).

After the Norwegian share of the TAC has been decided, the Director of Fisheries prepares the December meeting of the Regulatory Council. The Regulatory Council was established through an amendment to the Sea Fisheries Act in 1983, and replaced the earlier Licensing Committee and the Regulatory Committee (Hoel et al., 1991b). According to the new instructions given by the Department of Fisheries in 1997, the Regulatory Council directs its advice directly to the Department of Fisheries.[20] With the exception of the Director of Fisheries, government organisations are only granted access as observers.[21] The Council directs advice

[19] *Formerly known as Sjøgrenseutvalget.*

[20] *Previously, advice was directed to the Director of Fisheries, which again directed advice to the Department of Fisheries (*Instruks for Reguleringsrådet 1991*).*

[21] *Norwegian Department of Fisheries:* Instruks for Reguleringsrådet 1997.

concerning fisheries regulations under the Sea Fisheries Act of 1983, which includes all harvesting regulations, (except access restrictions), based on the separate Law of Participation of 1972. The Fisheries Association has five out of eleven votes (members) on the council. The Director has one vote; the processing industry,[22] two votes; the Norwegian Seamen's union has one vote as do the plant workers[23] and the Sami Parliament.[24] The Regulatory Council directs its advice, upon consensus or by vote, directly to the Department of Fisheries, which then makes the final decisions. In this context, it is important to note that the Regulatory Council does more than just voice the different views in the industry. It is an attempt to bring the different interests together in order to reach unitary advice. It is an advantage for the participants to reach some kind of consensus, which is also most often the case. If consensus cannot be reached, the views are communicated to the Department of Fisheries with a record of the votes, thus giving the department the possibility of following majority advice.[25] Because no one has a majority in the Council, this system gives the participants an incentive to resolve intra industrial conflicts at this level, rather than taking the risk of State arbitration, over which they have less influence. Hence it prevents these conflicts from getting a vertical expression. The advice of the Regulatory Council is almost always, even though not automatically, followed by the Department of Fisheries. This more or less institutionalised practice of following the Council's advice is important in order to keep the political pressure off the central State administration and to let the industrial conflicts be expressed horizontally. On the other hand, it limits the autonomy of the Department of Fisheries as it provides the industry with a basis for criticism in the relatively few cases where the Council's advice is not followed.

The organisational structure of the Fishermen's Association has the hallmark of an organisation aimed at reaching decisions. It has local bodies on community level with a small executive committee of local fishermen and meetings for the members on issues of relevance to them. Decisions made by the Executive Council or the Annual Meeting, by a majority of votes, are brought further up to county level where decisions are made by a majority of votes in the Executive Council or the Annual Meeting. Decisions here are then brought to the National Committee, which is the central decision-making body of the Fishermen's Association, or the National Meeting held every two years. Decisions are made by a majority of votes. The National Committee consists of representatives from the counties as well as the group organisations, and decides the union's position in the Regulatory Council.[26] The geographical representation is in a majority, giving inshore fishermen much influence. However, the offshore sector has influence also through their geographical representation and by having retained their autonomy and administrative capacity (Hoel et al., 1991: 13-14).[27] Work on county level is also co-ordinated through the Co-operative Councils, one for northern Norway and one for southern Norway.

The major point here is that democratic decision-making procedures have been duplicated all the way down to local level, making conflicts of interest manifest at all stages of the decision-making process. Consequently, the Norwegian Fishermen's Association does live under a more or less constant threat of losing groups of members. The offshore sector has maintained its organisational structures and frequently gives reminders that continued membership is not a matter of course. Moreover, the Norwegian Coastal Fishermen's Association, which was established by some inshore fishermen in 1988 as an alternative to the Norwegian Fishermen's Association, may have the potential of providing a challenge over time as it provides an alternative for frustrated inshore fishermen. Matters of regulation and distribution are often accompanied by heated media debates where geographical or functional groups criticise their own organisation.

In 1994 the Fishermen's Association decided upon general guidelines for distribution of quotas among gear types and vessel sizes (inshore/offshore).[28] By doing this they managed to forward a unitary recommendation on an extremely controversial issue in the fish harvesting industry. Government decisions on quota distributions have generally been in line with this recommendation. Opening up this discussion in 1994 was a risk, and no doubt put severe strain on the organisation, but once an agreement was reached, the Fishermen's Association had achieved two things: firstly, it put the issue of distribution at least partly to rest, and secondly, it gained major influence over the government's

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[22] *Fiskerinæringens Landsforening.*

[23] *Norsk Nærings-og Nytelsesmiddelarbeiderforbund.*

[24] *Norwegian Department of Fisheries:* Instruks for Reguleringsrådet 1997.

[25] Referat fra møte i Reguleringsrådet 2. og 3. des 1997.

[26] Lover Norges Fiskarlag 1996, *personal communication Norwegian Fishermen's Association.*

[27] *See also Norwegian Fishermen's Association, 1996 and 1996 (c).*

[28] *For details see* Landsmøtebok Norges Fiskarlag, 1994:7-*10.*

stake. This recommendation has admittedly been a significant relief to the Department of Fisheries.

The level of embeddedness in the Norwegian central State management system is achieved at the cost of internal tensions in the industry that threaten to undermine the very existence of the corporate system, namely a unitary Fishermen's Association. A fragmented organisational structure of the harvesting sector could very probably reduce the possibilities of reaching consensus in the Regulatory Council, provided they are all going to be included. If organisations are excluded, such as the Coastal Fishermen's Association is at present, the basis of an embedded system would to an even larger extent be undermined as the advice would not represent the entire industry. A possible outcome would be a more autonomous State with more vertical conflicts.

FORMAL STRUCTURES OF THE NEWFOUNDLAND FISHERIES: TOWARDS EMBEDDED MANAGEMENT?

By the end of 1992, the year of the cod moratorium, the Minister of Fisheries and Oceans, John Crosbie, announced the establishment of the Fisheries Resource Conservation Council (FRCC), beginning in 1993 (Parsons, 1993:483). FRCC has since taken over most of the tasks previously performed by the now abolished Canadian Atlantic Fisheries Scientific Advisory Committee (CAFSAC). The scientific research has, before and after the moratorium, been carried out by DFO's own science branch, but the establishment of the FRCC has meant a new and much more open advisory process. The role of CAFSAC, as is the role of the FRCC, was to transform scientific evidence into policy advice,[29] which was directed to the Atlantic Directors General of the DFO (Newfoundland, Maritimes, and Quebec). CAFSAC was composed of senior scientists and senior managers in DFO's bureaucracy, and as distinct from the FRCC, the CAFSAC advisory process was a process of strictly internal scientific peer review. During the 1980s the industry was questioning both CAFSAC's competence as well as its political independence, and complaining that the fishermen's own observations were not communicated.[30] The CAFSAC scientific advice was at two points reviewed by independent scientists appointed by DFO,[31] and once, in 1986, by a commission initiated by Newfoundland inshore interests (Harris, 1990; Parsons, 1993; Steele et al., 1992; Finlayson, 1994; DFO personal communication).

Consultations with the industry were undertaken through a system of advisory committees. The main institutions in this process were a number of inter-regional advisory committees. The Atlantic Groundfish Advisory Committee (AGAC) was responsible for the Northern cod among others, and was the largest and best known. The committee was chaired by the federal Assistant Deputy Minister for Atlantic fisheries, and also included regional senior DFO officials, representatives from the fishermen's unions and the processing industry, provincial government officials, and others. All matters concerning management, including TACs, were open to discussion. At the lower level, there were, and still are, the regional advisory committees, such as the Newfoundland Groundfish Advisory Committee, consisting of DFO officials, provincial government representatives, and representatives from the fishermen's unions and the fishing companies, including the processing sector. The two highest stages of the advisory process[32] were government internal (Steele et al., 1992:60-61; Apostle, 1995:239; Parsons, 1993:463-465; NORDCO, 1981).

Scientific advice from CAFSAC proceeded to the inter-regional advisory committees, except when the stock was of interest to only one region. In the latter case, it proceeded to the regional advisory committee. Advice from the advisory committees was forwarded to Atlantic Directors General Committee, which, in turn, forwarded its advice through the federal bureaucracy to the Federal Minister (Parsons, 1993:464).[33]

It has been argued that this structure favoured the DFO because it controlled all the information aspects of the decisions in the 'black box of science', hence creating an unequal balance of authority in the committee structure (Steele et al., 1992:61-62). Furthermore, information on matters such as biology and economy was largely the responsibility of a DFO internal Working Group supporting the inter regional advisory committees (Parsons, 1993:464; Apostle,

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[29] The above goes for the stocks managed by Canada. All stocks straddling the 200 miles limit, apart from 2J3KL cod, are assessed by the NAFO Scientific Council, in which CAFSAC used to participate (Steele et al., 1992:60). The FFAW participates in the group of advisors for the Canadian representative (NAFO, 1995).

[30] This scepticism is still observed in my interviews and observations among Newfoundland fishermen.

[31] The Alverson Task Group in 1987, a response to the NGO initiative the year before, and the Harris Review Panel in 1989.

[32] The federal Provincial Atlantic Fisheries Committee and the Atlantic Fisheries Minister's Conference.

[33] For a more detailed description of the earlier advisory institutions, see Parsons, 1993.

1995). The advisory process, both the scientific and the regional/functional, was much influenced by governmental officials and institutions. In that respect it was similar to the current Norwegian advisory system. On the other hand the structure and strategy of the Norwegian Fishermen's Association has enhanced the embeddedness of the management system in a way that the FFAW has not, as will be described below. The steps towards increased embeddedness in the Canadian Atlantic system have largely been taken by governmental reform.

The Northern cod moratorium triggered a latent vertical legitimation crisis in the management of the Canadian east coast fisheries. Perhaps the most vital legitimising factor for State resource management — rational science — had almost totally lost its credibility in the industry.[34] At present, at least three important steps have been taken in order to increase the participation of the industry in the processes of knowledge production and decision making.

Firstly, the FRCC was established to largely take over the functions of the CAFSAC and AGAC advisory system, which was abolished in 1993 (Charles, 1997). The plan was to start with groundfish and then move on to include pelagic and shellfish species. However, the FRCC still only deals with the conservation of groundfish not distribution of quotas. The regional advisory committee system still remains, with members such as the Newfoundland Small Pelagics Advisory Committee (SPAC) and sub-regional advisory meetings for crab and lobster. The regional Newfoundland Groundfish Advisory Committee consults on issues such as sharing of quotas, but it has lost much influence since the establishment of the FRCC.[35] The members of the FRCC are appointed by the federal Minister of Fisheries and Oceans, and the FRCC directs its advice to him. Decisions are made by consensus. It has a maximum of 14 members with 'an appropriate balance between 'science' and 'industry'' (FRCC, 1998: A4). Apart from the 14 members from science and industry, the council includes 'ex officio' DFO members (presently two), and one delegate from each of the Atlantic Provinces plus the Northwest Territories. The provincial delegates, however, are not asked to officially endorse the Council's recommendations. As distinct from the AGAC system and the Norwegian Regulatory Council it is not chaired by a department official and members are appointed as individuals on merit and standing in the community, not as representatives of organisations or interest groups. Independence has been one way of dealing with the previously mentioned 'demand overload' problem.

"I guess the thinking of the day was that the Groundfish Advisory Committee, that forum...they had really led us down the path where you know, in the face of a fair amount of information, both scientific and industry, of stock declines, we had maintained quotas over and above where they should have been. And the reason why we maintained the quotas over and above where they should have been was because we had advisory system that was really driven on 'how do I get my piece of the pie', right. And, so he wanted to separate the management of the fishery and the allocations of stocks from, you know, from the first decision of how much should be allowed to be taken...No-one in the industry or in the department knows what the decision is going to be, so the day the advice is given to the Minister, it is made publicly. So it limits the amount of lobbying that can be done there, right." (Member of the FRCC, personal communication,Spring 1998).

As distinct from CAFSAC, the FRCC has an open scientific and advisory review process, and it also includes non-scientists, such as fishermen, as members. The Council travels around the coastline arranging open public hearings, giving individual fishermen and unions direct communication with the Council. As compared to both AGAC and the Norwegian system, this is an extremely decentralised consultation process. Generally, one might say that the role of the DFO as well as that of industrial corporations has been significantly downplayed in this new arrangement, to the extent that the advisory process has been somewhat de-politicised. The FRCC has probably meant a more independent and open advisory process, and this has very likely been part of the intention. The advice of the FRCC is, with extremely few exceptions, adopted by the Minister. Institutionalising the adoption of FRCC advice has (provided that the FRCC is generally recognised to be an independent advisory body)[36] the potential of, not horizontalising intra industrial conflicts, but directing them against a non-political target.

"Q: Could it also have been a way of moving some of the responsibility for, let's say, tough...

A: Oh, yes absolutely I'm certain of that, I'm certain of that. Which is why you know people now say when, you know, I'm sure Minister Anderson is probably frustrated in some cases with the Council's recommendations. I don't think we made any recommendations since the Council's been in existence that haven't frustrated one or other Minister... But at the end of the day, he can when there is a

[34] *For an analysis of the knowledge gap and conflict between inshore fishermen and DFO scientists, see Finlayson, 1994.*

[35] *FRCC 1998, FRCC, Personal communication; DFO,Personal communication; DFO Management Plans*

[36] *The data collected during fieldwork suggest that it is.*

tough decision like the Northern cod, you know, when we decide not to re-open Northern cod, and a row gets up and says 'the Goddamn FRCC'. Well the Minister's got a flack jacket you know and it's the FRCC. So I think yes, you know, absolutely that's part of the reason why it's still in existence anyway. I'm not sure that the initial... that was one of the primary reasons for starting it... But now, I think part of the reason why it is being maintained is that it gives the Minister that distance and that he can say that 'if you don't like it, then blame the FRCC, my hands are tied and I can only implement'. We are a bit of a scapegoat, put it that way." (FRCC member, personal communication, Spring 1998).

Secondly, in the groundfish fishery the different gear sectors have also been more directly included by their submission of Conservation Harvesting Plans (CHP). These plans are supplements to traditional measures such as quotas and licensing and include provisions such as minimum mesh sizes, by-catch provisions, small fish protocols, catch monitoring, and seasonal closures, in order to minimise by-catch and harvest of small fish. They do not deal with quotas or direct quota distribution. The CHPs are submitted by the industry, but need approval from the DFO before fishing is allowed (DFO Groundfish Management Plan, 1997; Charles, 1997; Pers. Com, FFAW Administration).

Thirdly, fishermen have been given a voice in the process of data gathering through the Sentinel Survey project, which includes both inshore and offshore fishermen.[37] The Inshore Sentinel Survey project was started in 1995,[38] and has been built into a network involving inshore fishermen and DFO scientists covering the Newfoundland and Labrador coast. Fishermen participating in this program are trained in the basic skills of scientific data collecting at the Marine Institute of the Memorial University of Newfoundland. The fishers then use traditional fishing gear on traditional fishing grounds for the collection of data.[39] The Sentinel Survey has contributed to giving the inshore fishermen a legitimate voice in the stock assessment debate. On the other hand, the views of the fishermen are often at variance with the conclusions of the scientists. In the 1998 cod stock assessment, the observations made in the Inshore Sentinel Survey of the 2J3KL cod gave many fishermen a more optimistic view than the one held by the DFO science branch, which was conducting the acoustic surveys. Both the value of the acoustic method and the skills of the researchers are questioned among fishermen, and this doubt is also frequently voiced in public meetings and hearings. Even though the debate between scientists and fishermen is less heated and more of a dialog than a few years back, the atmosphere of public hearings and conferences still bears traces of mistrust.[40] The question remains as to whether these new measures of embeddedness have been sufficient to resolve the legitimation crisis. The general mood among Newfoundland fishermen at present suggests not. But on the other hand, these institutional changes could very reasonably be considered as experimental steps in a new direction, the first steps on the long road toward the re-establishment of confidence between fishermen and scientists, industry and federal government. These three changes (besides the establishment of an independent Fish Harvester's Certification Board) probably *have* eased some of the large vertical conflict potential in the Newfoundland fisheries. However, as we turn to the Fishermen's Union, it will be argued that intra-industrial conflicts constitute a barrier to State embeddedness in the Newfoundland fisheries.

As compared to the Norwegian Fishermen's Association, the FFAW has a significantly simpler organisational structure. Very generally, one can say that while the Norwegian Fishermen's Association has a structure primarily aimed at *making decisions* at all levels, the FFAW has a structure primarily aimed at *voicing opinions.* Around Newfoundland there are approximately 300 local Union Committees. An issue of local interest or a case of an individual fisherman is communicated through the chairman of the local committee to a fisherman who represents the larger area in the FFAW Inshore Fishermen's Council. He directs it further to the Staff Representative, who is a hired member of the central administration having responsibility for a defined area or to a relevant FFAW meeting. The central organisational structure of the FFAW consists of three councils — Inshore (up to 65 feet), Deepsea, and Industrial — which are responsible for the establishment of union policies on negotitation and resource managment and the Executive Board, which is responsible for administrative issues. Every three years, the FFAW has its Constitutional Convention, which includes all sectors. At union meetings dealing with fishery managment, voting on controversial issues is generally avoided.[41]

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[37] *DFO Science Stock Status Report A2-01 1998.*

[38] *An earlier attempt at co-operation had taken place under the Northern Cod Science Program (NCSP) in 1991.*

[39] *DFO: Newfoundland and Labrador Inshore Sentinel Survey: Fishermen and Scientists Working Together.*

[40] *DFO Science Branch Stock Status Report A2-01 1998, FFAW Sentinel Comparative Analysis 2J3KL cod 1998, observational data from public hearings, and other meetings during Spring 1998.*

[41] *FFAW Inshore Division and Central Administration, pers. comm.*

The advisory system, in spite of its relative complexity, has one important central feature. Decisions are very seldom made by vote on controversial issues. In the regional Advisory Committees of industrial representatives and the DFO, there is no voting. Unitary advice is given on consensus issues. On non-consensus issues, which are the most common, the views of the different interests are communicated and it is up to the DFO to arbitrate and make the decision.[42] This feature can also be found in the internal processes of the FFAW. When a DFO management plan is planned, the FFAW arranges meetings among fishermen, and further in internal committees, as preparation for directing advice to the DFO, through Advisory Committees or otherwise. In these internal meetings, one generally attempts to find common ground. On non-consensus issues, the union does not take an overall position, for instance by voting, but leaves the role as arbitrator to the DFO. According to union representatives, the DFO often requests a clearer position from the union. The broader issues are generally handled by the FFAW's central councils, and striving for consensus is typical of this forum. The Council makes decisions and votes on consensus issues, but generally it avoids reaching a definite position on controversial matters. In such instances, the role as arbitrator is most often left to the DFO, whereas the FFAW's primary task is to communicate the views. The CHPs, however, may be decided by mailing ballots to the relevant members.[43] This grassroots voting might, apart from the fact that direct quota distribution is not an issue, prevent conflicts from becoming as explicit and dividing as they might become under a system of representatives voting on behalf of unified interest groups.

Whereas the Norwegian system tends to *horizontalise* intra industrial conflicts, the Newfoundland system tends to *verticalise* them. The Norwegian Fishermen's Association has chosen a role giving much influence at the price of large internal tensions. The FFAW gives priority to keeping the peace internally at the price of influencing DFO decisions. A general observation made in the interviews is that the DFO often wants a clearer union position. DFO's means of keeping political conflict external in this situation is to leave some decision making power to politically independent institutions, such as the FRCC.

INFORMAL PRACTICES

In the Norwegian system informal communication between the Fishermen's Association and the management bureaucracy is an important supplement to the formal procedures on local, regional, and national levels. Personal communication, often on a weekly or even daily basis, is generally appreciated as a way of ensuring smooth co-operation.[44] The Directorate of Fisheries and the Fishermen's Association are also in contact during preparation for the meeting in the Regulatory Council, but the Association does not directly make suggestions about the Director's proposals to the meeting. There is also regular contact between the Department of Fisheries and the Fishermen's Association. This relationship is characterised by department officials as being very open. As the Department of Fisheries has largely accepted the Fishermen's Association as its counterpart with regard to the harvesting sector, informal proposals from other harvesting organisations are usually regarded as opinions while communication from the Fishermen's Association is taken much more seriously. Both parties emphasise the importance of mutual confidence, also on a personal level, in this process. After the meeting in the Regulatory Council, the Fishermen's Association every year sends a delegation to Oslo, having a direct meeting with the Minister of Fisheries.[45]

It is clear that besides being formally included in just about every phase of the decision-making process, except the scientific, the Norwegian Fishermen's Association has highly developed informal channels of communication during the period between the formal phases. Such contact is routine, generally considered as unproblematic, and must be regarded as *institutionalised.* The Norwegian Fishermen's Association is, from a governmental point of view, generally regarded a 'responsible' organisation.

In Newfoundland the FFAW is often consulted prior to the advisory meetings between the DFO, which sets the agenda and formulates proposals, and the industry. Lobbying from larger or smaller groups is described as being part of everyday life. Consultations between the fishing industry and DFO are common and two-way. There is also lobbying by various associations after the advisory meetings, which some DFO officials regard as unfortunate. Communication lines are described as fairly open and the FFAW is generally consulted on controversial issues.[46] The FRCC consults di-

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[42] *Personal communication Area Manager of DFO.*

[43] *Personal communication FFAW's central administration, DFO officials, observational data.*

[44] *Personal communication Norwegian Fishermen's Association, Department of Fisheries and Directorate of Fisheries, local, regional and national levels.*

[45] *Personal communication Department of Fisheries and the Fishermen's Association.*

[46] *Personal communication with DFO Area Manager and FFAW representatives.*

rectly in public hearings without presenting proposals at that stage. The FRCC aims at limiting the amount of lobbying and, according to an FRCC member, direct lobbying is now not going on to any extensive degree, apart from some written proposals following the public hearings. The FRCC's legitimacy is perceived to depend on its political independence.

Informal communication plays a significant role in both cases. However, the available data suggest that the channels of informal communication found in the Norwegian system to a larger degree have been institutionalised on a *central* level, in the sense that the harvesting sector is *being regarded* as having a single voice. A larger degree of fragmentation of the informal input seems to be a consequence of how the FFAW generally avoids directing specific advice on controversial matters during the advisory process going on between the industry and the DFO. This enhances the autonomy of the DFO and thus provides an incentive for decentralised lobbying. The major difference between the two cases relates to how informal communication from the Norwegian Fishermen's Association is being listened to by the State as *the* voice of the industry, and thus provides a legitimate source of influence to a larger degree than is the case in Newfoundland.

HANDLING THE DILEMMA OF EMBEDDEDNESS

The dilemma of State embeddedness in a heterogeneous industry consists in its potential of dissolving its own basis, namely the unity of the civil society organisations. When embeddedness leads to horizontalisation of conflict such that civil society organisations disperse, the State will to a larger degree have to undertake the role as arbitrator, and thus act more autonomously, risking verticalisation of conflicts. The relatively strongly embedded Norwegian system has been faced with a threat of fragmentation for some time. The organisational unity of the Newfoundland fishery is to some degree threatened from the outside by the UFCW's attempt to organise fishermen in Newfoundland.[47] Union representatives express concern about severe organisational tensions, and report that internal discontent and conflict have been much more visible after the moratorium, particularly on the distribution of crab[48] quotas between large and small vessels. The FFAW has chosen a much more cautious strategy than the Norwegian Fishermen's Association when it comes to dealing with internal conflict. This difference can not be reduced to *ad hoc* strategies as it is deeply rooted in the institutional structure of the two unions. The Newfoundland advisory system in general is consensus oriented in the sense that controversial issues are left to the DFO. On the other hand, this is done at the cost of influence. *The strategy of avoiding a horizontal conflict implies enhancing the State's autonomy*. A united civil society organisation is being preserved as a basis of embedded management at the cost of the very same embeddedness. However, such a strategy is not without risk. If the level of embeddedness is so low that the different interests see no point in participating in internal negotiations, that could also lead to organisational fragmentation. This dilemma can be described as a combination of positive and negative loops in the causal diagram, Figure 2, below.

In the Canadian case, the political problem of vertical conflict has, at least potentially, been reduced following the establishment of an independent advisory institution. In Norway the major challenge at present seems to be to keep the Fishermen's Association together. If this is not done successfully, the outcome may very well be a more autonomous State management and a verticalisation of industrial conflicts. One could perhaps say that the Norwegian and the Newfoundland decision-making systems have found each their carefully balanced points of equilibrium.

CONCLUSIONS: INSTITUTIONAL AND ENVIRONMENTAL SUSTAINABILITY

Embedded resource management arguably has the potential to enhance sustainability by strengthening the knowledge base of the decisions and, by acting according to advice from the industry, increasing the decisions' legitimacy. However, once the task of securing long-term sustainability has been undertaken, the State and the civil society organisations representing heterogeneous industries tend to be faced with a dilemma with regard to the role of industry advice. The costs of distributing the resource politically can no longer be put on the resource but has to be dealt with by the institutions themselves. Both the interested organisations and the State have an interest in controlling the decision. However, neither of them wants to be faced with the conflicts following the desired degree of control. The level of State embeddedness faces limits beyond the question as to what is the best institutional arrangement for ensuring sustainable resource use. When the scarcity of the resource

[47] *Attempts have so far not been successful.*

[48] *The snow crab fishery has by far been the most profitable Newfoundland fishery after the moratoria on groundfish.*

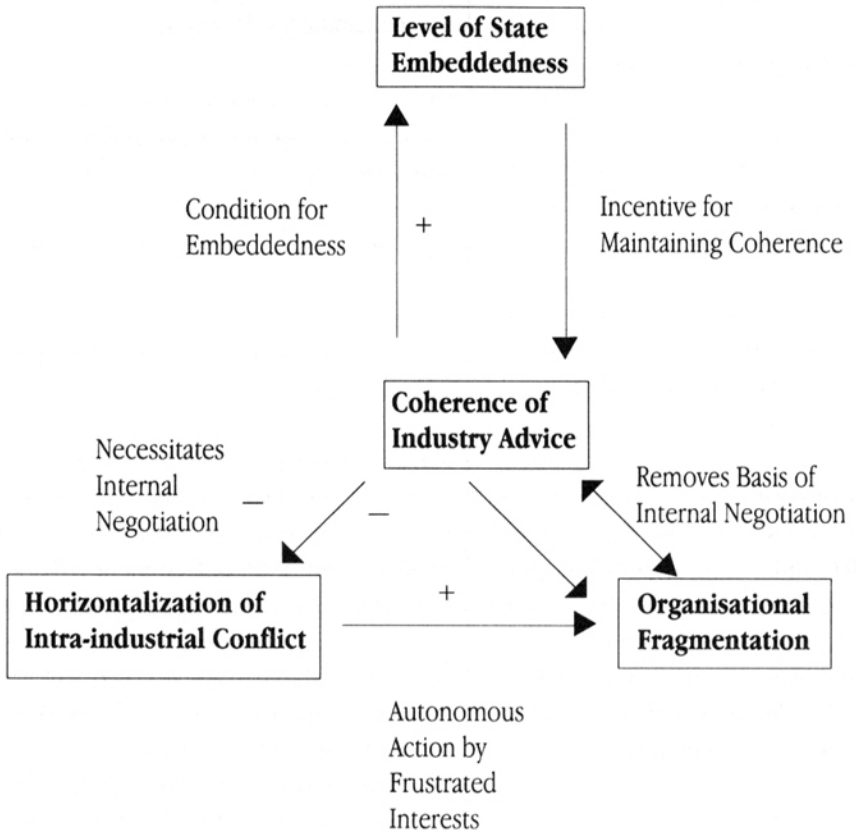

Figure 2: Dynamics of State Embeddedness

becomes an undisputed condition of action for the civil and governmental organisations involved, the institutional arrangements to deal with scarcity will often have to be carefully balanced compromises between State embeddedness and political viability of the institutions themselves.

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PERSONAL COMMUNICATIONS

FFAW: Representatives from 'Little Spruce Harbour' (pseudonym)
- Chairman Local Union Committee
- Local representative Inshore Fishermen's Council

Representatives from central administration
- Staff representative 'Little Spruce Harbour' area
- President Inshore Fishermen's Council

Other:
- Various informal communication
- Observational data from meeting in Inshore Council, advisory meetings on crab, capelin, and lobster.

DFO:
- Area Manager 'Little Spruce Harbour' area
- 3 Scientists DFO science branch
- Official from Fisheries Management branch

- Two officials from DFO Conservation and Protection branch

FRCC:
- Council member, former fisherman
- Observational data and informal communication during FRCC hearing

Norges Fiskarlag: Local representatives 'Uerhavn' (pseudonym') area
- Leader 'Uerhavn' Fiskarlag
- Deputy Chairman and Secretary 'Uerhavn' area county

Central administration
- Head of resource division

Directorate of Fisheries:
- Fiskerirettleder 'Uerhavn'
- Fiskerisjefen 'Uerhavn' area county
- Kontrollverkets Distriktskontor 'Uerhavn' area county

Department of Fisheries:
- 3 officials

Regulatory Council:
- Observational data and informal communication during December meeting

Other:
- Fieldwork among Newfoundland and Norwegian inshore fishermen

Summaries

La présente étude est une recherche comparative sur la communication entre les autorités gouvernementale et les organisations de la société civile en matière de gestion des pêcheries. Une comparaison est faite entre les systèmes consultatifs et de prise de décision de la Norvège et de Terre- Neuve. Il y est souligné qu'en cas de pénurie de ressources, l'implantation de la société civile de la gestion publique centrale est confrontée à une contradiction: garantir l'influence de la société civile et la légitimité de l'Etat et, dans le même temps, préserver les organisations d'intérêt commun des industries hétérogènes. Ce dilemme implique que dans les industries hétérogènes les systèmes de gestion ancrés, tels que dans les pêcheries de l'Atlantique Nord constituent une menace potentielle pour la base politique de l'implantation elle-même. L'étude décrit la manière dont les deux systèmes de gestion se sont adaptés et ont réagi, chacun à sa manière, face à ce dilemme suite à la pénurie et aux crises qui ont secoué les pêcheries de l'Atlantique Nord.

Este trabajo se fundamenta en una investigación comparativa sobre autoridades estatales y organizaciones civiles en el manejo de pesquerías. Se trata de un estudio comparativo entre los sistemas de asesoría y toma de decisiones de Noruega y Terranova. Se argumenta que, en una situación de escasez de recursos, la inserción en la sociedad civil del manejo estatal enfrenta una contradicción entre el hecho de garantizarse la influencia de la sociedad civil y la legitimidad estatal, por un lado, y de preservar las organizaciones con intereses comunes dentro de las industrias heterogéneas, por el otro. Este dilema implica que los sistemas de manejo inserto en las industrias heterogéneas, tal como sucede en las pesquerías del Atlántico norte, amenazan potencialmente el fundamento político de la inserción misma. El trabajo describe cómo los dos sistemas de manejo, de diferentes modos, se han adaptado y han respondido a este dilema que sigue a la escasez y crisis en las zonas pesqueras del Atlántico norte.

Tenure and Human Rights

Siegfried Pausewang[1]

Land tenure and access to land are, in an African context, essential aspects of human rights. If people have a right to life, they must have food. In a predominantly agricultural society, food has to be produced individually. Without access to land, a majority of Africans are left without any means of supporting their lives. This essay demonstrates through the example of Ethiopia how changes in land tenure have occurred from the time of the Emperors to the land reform of 1975 up to today. Comparing this with the experience in other African countries, it is argued that different legal provisions may be worth consideration, as long as they do not infringe upon the human rights of minorities and individuals to access land for feeding themselves.

Land tenure and land reform have once again become an issue of debate and strong controversy in the 1990s, as they were burning issues in the African debate in the 1960's. Several new regimes and some new constitutions have had to balance the equation of a modern economy with more traditional types of tenure systems. The examples of Ethiopia, Namibia, Mocambique, Angola, Nigeria, Eritrea, and others show how difficult it is to balance private ownership, with the possibility of mortgaging land and using it as collateral, against the inherited rights of families or minority groups, collective tenure systems, and the rights of pastoralists to the use of lands on which they traditionally had grazing rights. Land reform was an essential part of peace agreements and conflict settlement, and included promises to redistribute land to the poor as central parts of the peace settlements in Zimbabwe and South Africa. In other countries, controversies resulting from dissatisfaction with the existing land distribution system sparked conflicts. Jean Philippe Plateau (1996) argues that unequal distribution of land, rather than racial conflict, caused the genocide in Rwanda.

The issue is only on the surface a confrontation between 'modern' forms of property and 'traditional' forms of land tenure and use rights. On a more fundamental level, it is a conflict in our system of human rights. On the one hand, there is the principle of land ownership as a human right in the context of the right to property. In the Ethiopian constitutional debate on the definition of land tenure, it was the urban minority that insisted on privatisation of land, as an individual right as well as an issue of sustainable development: land can only stimulate growth and promote production if it is a privately owned marketable property. As a collateral for loans, land ownership enables investments and growth.

Against this stands the diametrically opposed concept of access to land as a human right. This is seen in the context of indigenous peoples' rights to their resources and the right to life. Ethnic and cultural minority groups frequently depend on secure access to land for their livelihood, their identity, and their cultural survival. A large majority of poor subsistence peasants in most African countries depend entirely on access to land for their survival: they have no other means to feed themselves.

The controversy is deeply inbedded in the United Nations Bill of Human Rights: it points to the center of the conflict between the first generation rights as against the second generation rights. It may roughly be described as the discrepancy between the civil and political rights as

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rights as against the economic, social, and cultural rights, each with a set of rights contained in a separate International Covenant.[2] In our context, it may also be described as individual versus common forms of land use, or private property rights versus collective control and management of natural resources.

Private ownership of land is part of the modern European/American tradition. Private ownership is central to the contemporary economic climate of liberalism and globalisation of national economies. The pressure of World Bank programmes for structural adjustment and market adaptation is almost by itself pushing all nations toward private property regimes. The so-called *tragedy of the commons* argument strengthened this tendency to regard private property as the only progressive tenure regime. It maintains the individual owner's interest and can safeguard the environment against destructive exploitation and ensure sustainability and the development of the economic potential of the land.

There have been in recent years second thoughts about the *tragedy of the commons* thesis. Empirical studies and theoretical arguments show that collective forms of tenure can, in effect, provide quite efficient use and protection of natural resources, provided a clearly defined community has control over all the relevant aspects of resource use. But such regimes may be difficult to maintain and even more difficult to re-establish once they have been interfered with. And in most societies, the powerful interests of modern urban élites with international backing fight for private property, while those who depend on free access and collective (communal) use rights are typically poor people who have little political leverage and are hardly able to make their voices heard in public dialogue.

In a traditional African context, many societies regard private ownership of land as both impossible and immoral. You own what you use, need, have, are — but how can you own the sunshine you enjoy, the air you breathe, the water you drink, the land you till, the soil from which you came and to which you will return? Land is 'yours' as long as you till it, because you own the work you have put into it. It is 'your' land, in the same way your mother is 'yours'. The land is what you came from, what you live on, what you will return to.

Prior to colonial involvement Africans had no concept of exclusive rights to land — but different rights related to that land. The same piece of land could be subject to the many different rights of different people. Land was much more than an agricultural resource. Land could also mean membership in a community, access to social security, identity in a family tradition; in short, it was the source of life.

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In abstract, this may make little sense, sounding too lofty. An example gives the proposition more credibility: the traditional land tenure system in Northern Ethiopia, called *rist*. *Rist* means land. It means at the same time:

- the piece of land I actually till;
- my right of access to a fair share of the community's land, irrespective of what I actually plough;
- my inheritance right to a share of the village land, even if at present I do not live there, or own land;
- the right to be a member of the community; and
- the pride of being born onto the land, into the community, the culture, the 'tribe'.

The same piece of *rist* could also be someone else's

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[2] There is no neat division between the Covenants. The International Covenant on Economic, Social and Cultural Rights embraces also rights that belong to the realm of civil and political rights, and vice versa. The separation in two covenants is rather one of political convenience at the time of their formulation. A mainstream tendency today is to consider the two sets of rights intertwined and complementary, without recognising essential differences or conflicts between the two. If a distinction is made, it is rather in terms of the degree of binding force of these rights on the State: while social and economic rights are often considered to establish only a commitment for the State to refrain from interference with the individual's rights in this sphere, civil and political rights tend to be seen as establishing a right to State protection of individual rights.

Against this (western) mainstream argument, there has long been an opposing view, mainly argued forcefully by representatives of Asian (and some African) developing countries who have maintained a kind of hierarchy of human rights: only after the most basic social and economic rights — such as the right to food, to work, to shelter, health care, and education — are met, do civil rights — such as a right to free expression, free association, free movement (and others) — make sense.

Economic, social, and cultural rights have also been termed the 'second generation' rights, borne out of the experience of developing societies, while the 'first generation' was seen as a reaction to the experience in Europe of severe violations of the political and civil rights of individuals in relatively affluent societies by authoritarian States. Even this typology is not without contradictions.

- land from which he gets a share of the produce;[3]
- land on which he decides or co-decides;
- land from which he collects tax;
- land over the inhabitants of which he has jurisdiction;
- land to which he has access for certain forms of use (grazing, collecting, etc.);
- land he tills for someone else; and
- rented land in different forms of temporary use arangements.

In addition, the Ethiopian communal land tenure system had provisions to care for those who could not work to feed themselves, such as old people, widows, cripples, or orphans. Family bonds were strong, taking care of most of them. And beneath, there was a responsibility attached to land use: a joint use responsibility to make sure that every member had access to a fair (not necessarily equal, but reasonable) share in the common resources, and that no one was left without food and care.

Such an account of a community system taking care of everybody sounds too idyllic to be true. And indeed, anthropological descriptions of the *rist* system in the 1960s give a very different picture, of a society in which each peasant vigilantly protects his land and his claims, where your closest relative is most dangerous because he owns the same claims. Allan Hoben (1965) describes a society in which peasants spent more time in court than on their fields, defending their land or claiming more.

This state of affairs, no doubt, describes a corruption of the *rist* system, caused by increasing scarcity of agricultural land in the Amhara heartland. This scarcity has to do with population growth, but even more with growing demands on peasant resources: the centralisation of the Ethiopian Empire, initiated by Theodoros in the middle of nineteenth century and finalised by Haile Selassie in the middle of this one, involved the nobility in the central administration. These noblemen, having *gult* (a right to appropriate part of the peasants' produce) in their respective areas (parallel to a *fief* in medieval Europe), were drawn to the central court, became military officers, or were appointed to civil offices in other areas. They left the village, but were given the privilege to keep their claims on part of the peasants' produce. The social and communal duties that they had so far been taking care of in the communities, however, were vacated, and had to be organised and financed anew by the peasants. Paid through their *fiefs*, not through a regular state salary, the nobility were in need of money in their new positions at the court, and tended to increase the resources they collected from peasants, who had to work more and to get access to more land to be able to feed both their families and the *gult* lords' growing demands. The land was limited, the needs were not.

When the King of Shoa (later Emperor) Menilek in the mid-nineteenth century expanded his realm southward, conquering territory of other tribes and peoples, he transfered the *rist* as well as the *gult* system to the South. He paid his soldiers with grants of land. But a general was not interested in tilling land: he was interested in *gult* rights of appropriation. Land without peasants was not productive and without value for them. On empty land they attracted settlers from their northern (overpopulated) societies. The indigenous peasants stayed on their land and were encouraged to produce, delivering half or more of their crops to the new lord. (There were even attempts to have the Emperor promulgate a law forbidding peasants to leave the land — but the law was never put into force.) Peasants continued their traditional order of free access to land and communal responsibility for resources. But the increased demands on their produce meant that they needed more land to feed their family. Competition for land became a strain on social institutions and communal solidarity — all the more as the lords had no traditional relationship to 'their' peasants and could exploit them unscrupulously.

In the communal tradition, it is arbitrary to make one of the different 'rights' to land an exclusive right to 'freehold'. The introduction of a private property regime, in the context of European colonisation of the surrounding countries, meant that one of the different right or stake holders was given a legal title, at the expense of all the others' rights.

After the Italian occupation, Haile Selassie made a series of legal reforms that introduced the concept of freehold and defined payment of land tax as the criteria for 'ownership' of land. All land on which tax was not paid was to be State property, while tax receipts for five consecutive years became as good as ownership titles. It was rare for peasants to realise that these laws had in effect disowned them. But the nobility, holding rights on parts of the peasants' produce, realised the significance of the new legislation and rushed

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[3]*The historian Donald Crummey has come across contracts on sales of land from the thirteenth century onwards. What was actually sold was not the land as a property, but an office as* gult *lord, with the accompanying salary of one-tenth of the peasants' produce in the area administered (Crummey, oral information; see also Crummey 1999).*

to secure tax receipts in their names, bought with resources they collected from 'their' peasants.

Indigenous peasants realised no change in their status. Only when the nobleman turned landlord wanted to invest in large-scale agriculture with modern technology, often with a foreign investor bringing know-how and machinery, did he start to evict peasants, who saw the act as an illegal infringement on their inherited rights. They understood the courts and the officials to be corrupt, having been bought off, when they were told they had no legal rights to the land.

In 1967-68, the Swedish Aid Agency SIDA wanted to develop a ranching project as part of the Chilalo Agricultural Development Unit in Arsi, southern Ethiopia. The Emperor gave them an area of land, with clear understanding that the landowners had received compensation and agreed to hand it over. Yet when the Swedes arrived they found some 80 peasant families living on the land, who had neither been informed of the shift of ownership nor received any compensation. They considered themselves the rightful owners, having ploughed the land for generations. A quick anthropological study taught the Swedes that the Emperor had compensated the nobility, but not the peasants. They ended up paying compensation to the indigenous peasants of Oromo stock, evicting them anyway.

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Hearing about such blatant violations of peasant rights we have to remind ourselves that quite similar processes accompanied the European transition from feudal to capitalist societies. The process of centralisation of power and resources to the Imperial Court, as described under Menilek, is essentially the same as the reforms that financed Louis XIV and his court in France, including the construction of his famous Baroque palace at Versailles. In Germany, Bismarck solved the conflict between the decentralised gentry and the Prussian Crown at the expense of the peasants. He allowed the nobility to transform their rights on income from the land into hereditary, possessory rights, forming the big estates of the 'Junker' nobility in East Prussia. Bismarck, the architect of German unity, who orchestrated the Berlin Conference of 1895, which divided up the few African spots still unoccupied, between the European powers, also dispossessed the peasants in his King's realm.

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In the African tradition, land is tilled individually and production is privately owned. But the land is only free, one gets access to it for a specified use, and only for as long as it is utilised accordingly. If use is discontinued, it reverts back to the community, and is in principle free again for anyone who wants to work on it.

This tradition is more in line with the 'second generation' tradition of human rights protection. It rests on a very basic philosophy. If every person has a right to life, everyone must also have a right to food to sustain life. As long as there is no State and no other organisation in a position to feed people, access to food is only possible if everyone, as a general rule, works to feed themselves. Hence, a right to work derives directly from the right to life. Again, where no State can provide work, in an agricultural society, work is only possible if one has access to land to till. In consequence, the right to access to land derives directly from the right to life. It is a basic social right, which precedes any individual property right.

One may also see it from a slightly different angle: as long as the simple maintenance of life is not secured, through access to food, all the civil and political rights are irrelevant. A starving child does not need freedom of speech. And a journalist who has not eaten for a week will hardly be able to make use of his freedom of expression. Nor does a woman who has to walk for several hours to fetch drinking water have particularly strong interest in voting for one or another party.

As long as agriculture is the only way to feed oneself, as long as the State has no resources to feed those who have no access to food, as long as there are no other jobs for the majority to feed themselves, a right to life depends on a right to land. A definition of property versus user rights may be open, and many African countries have experimented with different solutions. But access to land is access to food and essential for maintaining life.

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A severe problem that follows in the footsteps of such a philosophy is that land scarcity, accelerated through population growth, creates conditions that may force people to disregard sound agricultural practices, which in turn leads to ecological degradation. Land scarcity creates a vicious cycle in which sustainable land use is ignored, which, in turn, reduces the fertility of the land and leads to food shortages.

However, even if it were proven that private property would encourage better, more sustainable land use, and thus more food to consume and more value to distribute, the need to feed everyone takes precedence. The protagonists of private property argue that more food will be on the market if fewer individuals produce more efficiently. However, in today's world, it is worth asking who will eat the surplus. Those who have no access to land will not have money to buy food, however cheap increased production

might make it. Indeed, it is more likely that the private owner might see it more profitable to grow flowers for export to Europe than food for a home market lacking buying power.

Even that would be acceptable, if one could buy more food for the money earned than one could grow on the land (as the theory of comparative advantage assumes). But again, it is more likely that the money would finance a car for the landowner, or advanced weapons for the national military, rather than food to distribute to the poor. In short, poverty can only be kept at bay with access to land. Even then, the growing number of sick and poor people who cannot work will not allow the social problem to be solved easily.

What is a problem of poverty at an aggregate level is, for the individual, a problem of deprivation, hence a violation of human rights. Collective property regimes will not solve this problem altogether. But private property regimes, in an agricultural society with few other sources of income, are bound to increase poverty. Poverty can only be kept at bay with general access to land. Once small-scale agriculture generates enough resources to create a demand for other products and services, industries may grow. And once other sources of income are available, maybe things might look different.

Until a level of industrial productivity is reached, the ecological problem has to be solved within the 'common access' regime if poverty is to be kept at a minimum. It has to be solved by the people who depend on the resources to be administered in a sustainable way. It can build on their interest in preserving and increasing the fertility and productivity of the land, and with it improving their own lives. It is a race against population growth. But the race cannot be won by excluding a majority of the very people whose human rights are at stake.

Such is the context within which we have to see the present debate on land tenure in Africa. Though the issue at stake varies substantially from one country to another, in all cases a central concern is the incompatibility between partial rights to land, in the hands of individuals or communities, usually termed 'traditional' forms of tenure, and 'freehold' rights as embedded in European tradition and embraced by modern economy. This conflict is embedded in issues of growing demand for resources, growing populations, and growing strains on natural resources and pollution of the environment. Some examples should demonstrate the diversity of problems within this complex of issues.

Unlike Ethiopia, the southern parts of Africa did not have an indigenous plough culture prior to white colonisation. Land was abundantly available, however; the critical factor for cultivation was rainfall, not access to land. Anyone who wanted to farm got access to land, regulated by the community. The colonial powers reserved large tracts of land for white settler farmers who mainly produced raw materials for export, but also food for urban indigenous markets. In the more densely populated parts of southern Africa, this led to mass eviction of African farmers from the most fertile areas with good rainfall or irrigation potential.

In Zimbabwe, African peasants were confined to congested reserve areas outside those areas most attractive to white farmers. In the negotiations for independence, land reform and distribution played an important role. A massive demand and high expectations for distribution of land in the high potential areas to the land-hungry African majority played an important role in establishing a democratic constitution in Zimbabwe. The Lancester House Agreement instituted a protection for white farmers in the so-called Sunset Clauses, which for a period of ten years prevented confiscation of land, limiting government distribution to land acquired through a 'willing seller—willing buyer' principle.

When, in 1980, Zimbabwe became independent, land redistribution started only slowly and in a piecemeal process. The government tried through incentives and taxation on unutilised land to induce white farmers to sell land they did not actually farm or that did not bring them sufficient revenue. But few farmers were willing to sell, and the distribution remained far behind expectations. There was also a significant demand for commercial farmland and speculation in land among the black middle class with money to invest, leading to an increase in land prices. The frustration of the poor, land-hungry rural majority grew with their disappointment about a land reform plan that did not suceed and could not satisfy their needs. The expectations of the poor in this regard became one of the major constraints for the newly elected government.

Since 1990, the Sunset Clauses have expired and the government has constitutionally restricted legal access to expropriation of farmland. But the government hesitates to confront the economically important group of commercial farmers, and not much has been achieved so far. The frustration of the poor rural contenders for land is growing, and in recent years, incidents of land occupation have increased, and become increasingly violent. The antagonism is becoming a growing threat to peace and stability, and white farmers who attempt to prevent such occupations risk being killed. Land reform that takes into account the claim of African peasants on land from which their ancestors were evicted has become an increasingly pressing issue in Zimbabwe.

The new South Africa is experiencing the same problem. So far, violent land occupations have not reached the same level nor the degree of antagonism as in Zimbabwe, but the South African government can learn from Zimba-

bwe what is bound to happen unless land redistribution is given a higher priority and is effected with more vigour.

The land-hungry in South Africa will be even less patient than their colleagues farther north. For them, the new black majority government owes them a radical revision of white privileges as a matter of equal access and equal rights. But the government has at the same time to take care of the economy, and cannot afford to endanger the economic viability of the white minority, and least of all the large farms providing food, foreign exchange, jobs, tax revenues and other economic multiplier effects. The government cannot afford to damage the wealth producers. But without doing so, there is preciously little to redistribute, and tensions similar to those in Zimbabwe are bound to emerge.

The South African government promised to re-install people who can document that their ancestors were illegally evicted from a defined plot of land. A number of families have indeed received the right to return to their parents' land, even if the rights their parents lost were some fifty or more years ago, and were not full property rights in present day legal context, but rather traditional use rights.[4] So far, however, this concerns less than one per cent of the people demanding access to farmland. As more rights become documented, clashes of different rights to the same piece of land are bound to create problems of priority and of legal recognition.

The big issue behind any future land reform in South Africa will be to determine which rights of which groups of people who had land expropriated by white colonial and apartheid governments should be recognised and reinstated. Historical claims do overlap, and many claims will be hard to prove, and hence many rightful heirs of such titles will not be able to fulfill legal requirements to substantiate their rights. Private property has been entrenched and would be difficult to abolish. Any new legal framework will have to accommodate inherited rights of different kinds and status within a tenure regime in which private property of land will remain one important factor. Whatever decisions are taken, they are bound to favour some rights and some groups over others: new conflicts seem inevitable.

In Namibia, one expects that claims of indigenous people to areas from which their forefathers were evicted, some fifty or more years ago, will be recognised. So far no cases have become known, but documentation of evictions and hence of ownership should be available. The precedent from South Africa is there. But the task of registering all those rights is tremendous, and accommodating them might lead to many complications.

Namibia is working on different solutions for a new distribution of access to rural resources in a wider sense, with the creation of 'conservancy' areas that are left to the responsibility of (larger) rural communities to administer, maintain wildlife populations, and protect the vegetation. The main thrust of this programme is to revive and engage the community's interest in the sustainable development of all resources of the area under one comprehensive scheme, to the benefit of all. Also this novel programme, drawing on inspiration from the Campfire movement in Zimbabwe, refers to returning rights to the rural people, as Ben Fuller explained.[5]

Namibia is in a better position than many of its neighbours to accommodate different claims, and to experiment with more extensive solutions to resource use, having a vast land area and a small population to accommodate. Even if substantial parts of the land area are not cultivable and of little value for productive use, Namibia might be in a better position to reconcile traditional rights with the new modes of productive employment of land. The government needs to balance the interests of the landless African poor with the demands of commercial farmers. But in doing so, Namibia may set a precedent that, in turn, could complicate the solving of this issue in more densely populated neighbouring countries.

The conflict between ownership rights and overlapping traditional rights of indigenous populations may well be solved through modifications of the concept of private property. The latter legal term need not necessarily be an unlimited and exclusive right to any form of use and transfer of land. There are, even within the legal hemisphere of the Western 'capitalist' democracies, considerable differences in the legal satus of landed property. In most Europen countries, for example, everybody is allowed to move freely in forests

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[4]*The press in South Africa is repeatedly reporting about families reinstated in their ancestors' land. On the bill for a new land reform law, see among others the* New Nation *of May 19, 1995, and* Daily News *of June 5, 1995.*

In a recent interview, President Nelson Mandela referred to the reinstatement of people on their family's land, which was starting to give results for the poor, even if it to date has not reached more than half a per cent of those demanding access to land.

[5]*For a more detailed discussion of this experiment I refer to Ben Fuller's contribution in this volume.*

and unfenced areas as long as they are not cultivated. Doing the same in the United States might entail a risk of being shot at by the owner for 'trespassing'. In Norway, land owners are by law forbidden to build houses or any permanent structures closer then 200 meters to the shore: the shore, as the sea, is supposed to be free access for everyone. Anyone may move freely, land a boat, put up a tent even on private ground, as long as it is not cultivated and not inconveniently close to private homesteads.

Of note are Norwegian restrictions on the sale of farmland. While the right to sell a farm is not limited, buying is restricted. By law the buyer has, among other things, to guarantee continuous cultivation and habitation. The communities administer the concessions through their elected representatives. They will normally not approve a sales contract if the buyer is not prepared to settle on the farm and cultivate the land. They will also refuse their concession if they suspect the farm is being bought for converting it into a golf course, for example, or for other speculative reasons. Without communal approval, the sale can not be effected.

If legislation can limit the prerogatives of the owner, then there should be better prospects for harmonising the different inherited claims with the legally entitled landowners on the one side, and the rights of those who depend on land for their survival on the other. The concept of circumscribed ownership rights might thus offer a new prospect for African countries. It could help them identify a model that would be used to extract a solution from the quagmire of social need versus the need for radical land reform and the economic damage that this unresolved problem threatens to cause. But also in other contexts, as we shall see, the concept of circumscribed ownership rights offers interesting potential for accommodating protection for the needs of the poor rural majority.

In Tanzania the debate about land tenure has been regaining vitality after the dismal failure of the socialist villagisation programme of the 1970s, which resettled a majority of rural people. Intended to provide the rural majority with modern services and infrastructure, the programme instead led to the uprooting of social lives and societies. The Structural Adjustment Programme started a process of re-defining land issues, as in many African countries. In 1989, a faction in the Tanzanian parliament started an initiative to reform the land law. In 1990 the government appointed a Presidential Commission to look into the legal and social problems of land tenure in the country. Under the chairmanship of professor Issa G. Shivji, the commission travelled extensively to rural areas in all parts of the country, discussing the issues and listening to the complaints and needs of rural people, before issuing a strong recommendation not to privatise village land. It further recommended to vest the responsibility for land administration and distribution in the rural community, and to modernise and adapt the local administration for this task.

The report of the Commission, delivered on Nov. 11, 1992, was accepted by the government with reservations on practically all major points. A draft law was prepared that vests the title and the ultimate ownership of all lands in the President. In response to this development a group of NGOs and individuals initiated a broad debate on the principal issues involved. A meeting of this group (with the participation of Issa G. Shivji) formed a 'National Land Forum' (1997) and issued a 'Declaration of NGOs and Interested Persons on Land' asking for an amendment of the draft bill. The Declaration wants to initiate a broad public debate on all aspects of the land bill, in which the rights of the rural majority should be given thorough attention. The group collected a number of signatures requesting the National Assembly give due consideration to the views and interests of the large majority and protect their land rights.

The Declaration criticises the draft bill for organising control of land in a top-down manner, not respecting the inherited rights of the rural majority on land use, and not respecting their communities and their long established experience in administering land rights and protecting their natural resources. It notes that use rights to land are essential to the rural people, not property rights. It criticises the draft for not allowing horizontal accountability, which is ingrained in the rural system of land administration. In so doing, it is not giving room for democratic processes of local self determination, nor allowing equal access by women.

In Eritrea, a system of community control of land was, with modifications in areas controlled by the Derg regime, preserved. Unlike the Ethiopian *rist* system, in the Eritrean *rist,* access to land was in most places reserved for residents in the village, excluding absentee ownership. A redistribution of all village land in intervals of five to seven years was practised until very recently in many communities.

In those areas they controlled, the Eritrean People's Liberation Front (EPLF) reformed the system, in close co-operation with local peasants, to give room for equal shares of land to be assigned to men and women, above a defined age, residing in the village. Setting the critical age for women relatively high was a deliberate policy to discourage child marriages otherwise frequently practised in Tigrigna society.

After independence, the Constitution Commission held several meetings specifically devoted to the question of land tenure. It invited among other international experts Issa G. Shivji, on the basis of his experience in Tanzania, to give his

view on problems of tenure rights. Shivji advised strongly against vesting land rights in the State, arguing that land rights are a local issue, and communities can administer land most efficiently given the appropriate authority. He also elaborated that local control over land can stimulate horizontal accountability, generate democratic processes on a familiar basis, and establish bottom-up lines of communication.

It is interesting, though not astonishing, to see that the Eritrean Constitution in its approved version does not reflect Shivji's appeal, but is vesting the control over land in the President. Local redistribution continues as before, but the State has, through Presidential prerogative, the right to interfere, allowing easy access to expropriation of land for development projects or for commercial farming and other purposes. The community retains its traditional practice, but the State prerogative does not give room for the democratic bottom-up structures to grow as Shivji had envisaged and impressed upon the Commissioners.

To see what is possible in terms of bottom-up as against top-down structures, through empowering rural communities, we have to return to Ethiopia. Under Haile Selassie, the pressure for peasant resources had grown steadily. Towards the end of his reign, the legal limit to peasant obligations towards landlords was 75 per cent of their produce. But in many instances, *gult* holders who had become landlords found ways to circumvent the law and exceed its limits. Especially in the South, peasants felt increasingly insecure, seeing evictions occur in growing numbers, even where they conceived their rights as inherited and indisputable. In 1971, when my Ethiopian colleague and myself were stopping on the road for a rest, a group of peasants approached us with the message: "*please go on, there is no more land to get here — in this area, all land is already taken...*"[6]

In terms of access to land, the inventiveness of moneyed interests was considerable, wherever land became valuable as an investment. As an example, let me summarise events in Kaffa province, according to legend, the original home of coffee. In Kaffa, coffee trees still grow wild and produce a distinct flavour. Unlike the robusta grown in plantations in Kenya, these trees need the shade of larger trees. When the world market demand for Ethiopian coffee rose, due to this special flavour, land became valuable in Kaffa. The first choice of prime coffee growing land fell to the then governor of the province. He became one of the richest men in Ethiopia by buying government land in his province. He had also the chance to influence friends by mediating sales of government holdings.

When the governor had sold all government-owned land suitable for coffee — that is, land with big trees under which coffee could be planted — potential buyers invented a system of 'discovering government land': Until then, land used to be taxed without measuring, a tax assessor estimating the area by *gasha*, officially considered as 2500 square meters, but in practice varying considerably with fertility and other differences. Holders used to influence assessors, often with bribes, to estimate their land much under size, so taxes would be low. Now investors approached the governor for coffee land, suggesting that so and so had much more land than he had paid tax for. Measurement was affected, the original 'owner' got the *gasha* he had paid tax for, and the remainder was considered state land and sold to the 'finder'.

When this source of land dried up, a new trick was invented: potential investors offered small farmers a loan against their coming coffee harvest, in effect buying the crop before it was ripe, at a low price. At harvest time they did not show up to collect their coffee, so the farmer harvested and sold it: he had to live. Then, when the money was used up, the creditor came to demand his coffee. He extended the loan for another year — in local tradition doubling the amount. The next year, the game was repeated once more, until the debt became excessive. In that way many peasants were disowned of their most valuable land, producing a good cash crop, for no more than a small consumption loan.

The Land Reform Act of 1975, one of the most radical land reforms ever attempted in Africa, did cut across all the subtle forms of legal bias against peasants. All agricultural land was declared the property of the Ethiopian people, its allocation vested in the community. Every Ethiopian was given the right of access to land. For this purpose, peasant associations were formed in all rural areas, and were given authority to distribute the land equally amongst the members, excluding non-residents. The peasant associations were given a wide authority of self administration, had their own police, called defence squads, and their own courts to arbitrate and to administer punishments of up to a prescribed level.

In the first year or two after their establishment, facilitated through the 'student Zemetcha' (a campaign that sent all university and higher secondary school students out to the rural areas to educate peasants and assist them in organising), peasant associations commanded an unprecedented independence and authority. Frequently, peasants

[6] *For more detail on encroachments on peasant rights in Ethiopian recent history, see Pausewang, 1983: 33-40, 46-85.*

demanded government officials come to their area, or sent them back to solve certain issues before proceeding with their other priorities. And illiterate peasants, elected as chairman by their associations, could tell a provincial governor to keep out of their internal business (Pausewang, 1983:119, 150-56).

But the government soon realised that this radically new organisation gave peasants more resources, at the expense of urban — and more vocal — groups. More decisively, it gave the government little access to rural resources or control over the peasants. Within a year, the military government had to intervene to force peasants to sell sufficient food to keep prices low in the towns. And after two years, the new structures were systematically reversed: a new agitation mobilised the younger peasants to revolt. They accused the elected leaders of being *kulaks* and acting in their own interests. A new regulation said that chairpersons had to be able to read and write, thus effectively excluding most of the experienced and respected elder farmers. They were succeeded by youngsters who did not have the confidence of the peasants, but could lean on the political structure, and later the socialist party. In that way, the peasant associations were without formal decree completely restructured. Instead of being the expression of peasant self-determination, they became the lowest level of a strictly hierarchical State administration. It completely reversed the stream of communication, allowing orders to be executed from above while filtering out the demands from below. (Mulugeta, 1987).

In addition, the State assumed more and more the *de facto* ownership of land, exercising it in evicting peasants wherever a state farm was formed or investors needed land. Pressure on peasants to form 'voluntary' collective farms, pushing those who refused to join into the marginal parts of village land, and a villagisation programme uprooted peasant community structures. Taxes were increased, and complemented by 'voluntary' contributions for different purposes. Restrictions on trade, enforced deliveries of quotas to the State monopoly at reduced prices, and increasingly oppressive recruitment campaigns to the army added to the frustration and discontent of peasants. Around 1980, the government officially amended the text of the land reform proclamation, confirming that the rural land was owned by the State. The combined resource extraction from peasants surpassed the levels of the last years under Haile Selassie somewhere around 1985. All these measures contributed to make the government increasingly unpopular among the peasants, isolating it more and more from its main source of revenue. Not the strength of the liberation movements, but its internal collapse brought its downfall in 1991, after it had antagonised one group after the other, and particularly the peasant majority, formerly its popular base.

The new regime that came to power in 1991 preserved the principle that land should not become a commodity. This became one of the most hotly contested constitutional principles in the process towards a new constitution. The Constitution of 1994 declares, somewhat ambiguously, that land is to be owned by the peoples and nationalities of Ethiopia, but vests ultimate property rights in the State. However, the constitution also guarantees every Ethiopian the right of access to land for tilling. The authority for defining particulars, including land reform laws, is given to the regional states. In practice this means that there are different rules about land distribution and user rights in the regional entities. A recent land reform in Amhara province has created a large amount of discontent and protest.

Public debate in Ethiopia on land issues is commonly centered around the concept of private property. A majority within this debate, though in Ethiopian context a small but vocal urban group of intellectuals, claims to give voice to the peasants' true interest. They invoke the principle of property as a human right to defend the peasants' right to own their land: How can we develop without a modern right to land ownership? How can a peasant invest without security on the land, and particularly without the possibility to use his land as a collateral for a loan? Peasants, they claim in such discussions, are not fools. They are so attached to their land that they will never sell it. The State does not need to protect peasants against themselves — they will not sell unless they have good reasons to do so. How can they consolidate the land and invest in it, use efficient methodologies without ownership rights? And, they argue, if we in Ethiopia are denied the right to ownership, which you in Europe enjoy as a human right, it is a form of severe discrimination.

As we saw in the example described above in Kaffa, peasants can be forced to sell. Easily transferable ownership rights allow speculators to force a peasant into debt, forcing him to relinquish his rights. Peasants know this danger. Through long experience they have learned that they cannot expect others to stand for their interests. What the urban groups really are interested in is their own right to buy urban land. They hide behind the assumed 'human right to property' of the peasants to advance their own interest.

But the situation of the peasants is not unequivocal either. Certainly, in their experience, State ownership is in no way preferable to private ownership. Thus the confusion on how to defend peasants and exercise community control over land is near total.

The most experienced and renowned Ethiopian scholar

on land tenure issues, Dessalegn Rahmato, has found an original solution to this problem. He argues that the precise content of private ownership can be subject to definition. Ownership is not the same in, say, Norway and the United States. So it can be made to suit community control. Dessalegn Rahmato argues for a regime of private ownership vested in the community, not the individual. This would give back to the community — subject to further legal specification — a sense of common responsibility for the land, for its distribution, sustainable use, and maintenance. And it would exclude interference from either State or moneyed private interests.

This is an extremely interesting proposition, though it is doubtful whether those who demand private property would accept such a regime. Most likely they would refuse such a constitutional principle as socialisation in disguise, and fight it more intensely than State ownership. For Dessalegn Rahmato's model assumes that the community would be both willing and able to defend each and every individual's right of access to land for making a living, in a predominantly rural society where jobs outside of agriculture are the exception, not the rule.

To function according to this intention, land ownership would have to be thoroughly circumscribed, guaranteed by state laws, and the community owning the land would also have to assume the responsibility for access to land even for outsiders, minorities, and other individuals without entrenched membership rights in any community. This is hard to conceive of, but the model is worth contemplating as a means of securing the basic interwoven rights to life, food, work, and access to land.

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* *Following Ethiopian practice, Ethiopian names can not be inverted or abbreviated and have to be put under the first name in alphabetical lists (as the second name is always the first name of the person's father).*

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Summaries

La propriété foncière et l'accès à la terre sont, dans le contexte africain, des aspects fondamentaux des droits de l'homme. Si les hommes ont droit à la vie, ils doivent avoir aussi de quoi se nourrir. Dans une société à prédominance agricole, la nourriture doit être produite individuellement. Démunis de tout accès à la terre, la majorité des Africains se retrouve sans aucun moyen de subsistance. La présente étude illustre, avec l'exemple de l'Ethiopie, la manière dont les changements sont intervenus dans le domaine du régime foncier, depuis l'époque des Empereurs jusqu'à nos jours, en passant par les réformes agraires de 1975. L'étude compare cette expérience avec celle d'autres pays africains et souligne qu'il serait utile de prévoir différentes dispositions juridiques, si tant qu'elles n'empiètent pas sur les droits de l'homme des minorités et des individus quant à leur accès à la terre pour se nourrir.

Dentro de un contexto africano, la tenencia de la tierra y el acceso a ella son aspectos esenciales de los derechos humanos. Si la gente tiene derecho a la vida, tienen que poseer alimentos. En una sociedad predominantemente agrícola, los alimentos tienen que producirse individualmente. Sin acceso a la tierra, la mayoría de los africanos se quedan sin medios de mantenimiento. Este estudio demuestra, con el ejemplo de Etiopía, cuántos cambios se han dado en la tenencia de la tierra desde el tiempo de los emperadores, pasando por las reformas de 1975, hasta nuestros días. Si comparamos este caso con la experiencia en otros países africanos, se concluye que merece la pena tomar en cuenta disposiciones legales diferentes, en la medida en que no infrinjan los derechos humanos de minorías e individuos para tener acceso a las tierras y poder obtener sus alimentos.

Resource Tenure and Internationalism

Carmel Mbizvo[1]

In considering the issue of internationalism and tenure there is a need to look critically at how international agreements define the relationship between global interests and national sovereignty. This paper attempts to describe the positive and negative impacts internationalism has had on tenure at various levels. It begins by looking at the consensus that has emerged over the years regarding establishment of rules of international law. It then goes on to look at some of the deficiencies and conflicts within the international law regime as it relates to issues such as intellectual property rights. In seeking solutions to the problems of declining cultural and biological diversity, the transfer of development rights across international boundaries is then briefly assessed. The last section of the paper looks at some of the effects of globalisation on land tenure and the problems caused by the narrow, uniform nature of the global development process. The paper concludes by stating that given the different development stages and the differing resource bases between developed and developing countries, it is recommended that a diversity of international institutions that provide developing countries with a range of development strategies be formed.

Introduction

Declining biological diversity is a global problem facing the international community. This presents a challenge of how to foster international agreements that can contribute to halting the loss of biological diversity. There are many facets to this problem. One such is the role of natural resources in devising solutions to combat declining levels of biodiversity. Traditionally, natural resource tenure has been viewed as having implications for agricultural production and natural resource management. However, it also has crosscutting implications for economic, social, political, and environmental development. Tenure is therefore intimately linked to the broader issues of equity, democracy, and good governance.

While the world of the last half-century was organised around conflicting political economic ideologies, the New World order is organised around environmental sustainability. With the escalation in environmental degradation, the battles over access to land, water, and food are becoming as familiar as the battles over access to and control over raw materials that were the basis of power struggles previously (Prins and Stamp, 1991). Access to fishing grounds, whether in the Gulf of Thailand or off the east coast of Canada, are examples of how, given the right set of conditions, disputes over access to resources can escalate into conflict (International Human Dimensions Programme and Global Environmental Change, 1998). Other threats to environmental and human security that are of international concern, because they are experienced regionally or globally, are the impacts of global warming, rising sea levels, ozone depletion, air and water pollution, and translocation of hazardous waste. It is against this background that nations seek sustainability.

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Building sustainability within a nation often depends on regional and international agreements over the management of transboundary natural resources. With national frontiers continuously being chipped away by modern systems of communications and information, international money markets, and long-range weapons, the need for international cooperation is increasing (IUCN et al. 1991). Hence, international instruments of policy setting and management of resources often impact on national perspectives on such issues as resource tenure.

INTERNATIONAL AGREEMENTS: IMPACTS ON RESOURCE RIGHTS AT NATIONAL AND INTERNATIONAL LEVELS

Over the past three decades, a shared concern among States, and the international community in general, has developed over environmental degradation and resource scarcity. This shared concern has resulted in a redefinition of the relationship between national sovereignty and global interests. A consensus to establish rules of international law intended to achieve a better balance between sovereign rights over natural resources, including the right to destroy them, and the need to preserve biological diversity is also being sought (de Klemm, 1993). Such consensus has been formalised over the years in three different spheres:

- scientific;
- political; and
- legal.

CONTRIBUTION OF THE SCIENTIFIC COMMUNITY

The scientific community has been instrumental in this process through programmes and strategies such as (de Klemm, 1993):

- The Biological Programme in the 1960s.
- IUCN — particularly through its Survival Service Commission (now the Species Survival Commission) — and publication of the first Red Data Books.
- An intergovernmental conference organised by UNESCO in 1968 on the scientific basis of wise use and conservation of biosphere resources from which the Man and Biosphere Programme (MAB) was developed.
- The development of the World Conservation Strategy (WCS) in 1980 by IUCN in Cupertino with United Nations Environment Programme (UNEP) and the World Wide Fund for Nature (WWF), in collaboration with FAO and UNESCO. The WCS influenced the development of national conservation policies and legislation, as well as certain treaties, which were concluded subsequently.
- A follow-up document entitled *Caring for the Earth – A Strategy for Sustainable Living* was published in 1991 that laid down the principles and corresponding actions that should be taken to improve the conservation of wild flora and fauna.

POLITICAL AGREEMENTS

Political agreement on the need to conserve biological diversity was achieved at the United Nations Conference on the Human Environment in1972, which resulted in the creation of UNEP and the adoption of the Stockholm Declaration. It was this consensus that formed the foundation for the development of a number of international instruments. The adoption of these instruments confirmed the evolution of the principle of national sovereignty over natural resources but also recognised the interests of the international community in the conservation of certain resources. In other words States voluntarily accepted limitations on their sovereignty by agreeing to international obligations to conserve certain natural resources. This kind of law has major implications for resource tenure laws (de Klemm, 1993).

INTERNATIONAL LEGAL INSTRUMENTS

The political consensus was achieved through the adoption of a number of significant non-binding soft law instruments such as declarations of principles and resolutions. These soft law instruments formed the basis for binding legal rules and treaties that led to the adoption of the Convention on Biological Biodiversity in 1992 at UNCED, among others.

The process of dynamic interaction between national and international legislation has led to the development of new national legislation for improved conservation. A number of outcomes are evident (de Klemm, 1993):

- international instruments were developed on the basis of a large number of national conservation laws and now form the basis upon which national legislation may be further developed or improved;
- by States agreeing to international obligations they are better able to justify the taking and enforcement of domestic conservation measures;
- by setting objectives and minimum standards, international instruments provide a normative basis from which national legislation may be developed;
- as awareness of conservation needs increases, national standards are in most cases raised and new

laws enacted; and
- new national conservation measures may lead to the development of improved international instruments with higher conservation objectives and standards.

All the above have major associations with natural resource tenurial arrangements in each country.

TENURIAL ARRANGEMENTS RELATING TO DOMESTIC AND INTERNATIONAL NATURAL RESOURCES

The identification of the appropriate level at which tenurial rights, which define the authority and responsibilities over natural resources, should be held in order to facilitate sustainable management practices and social equity is a key issue. The pertinent level is usually identified at a national or sub-national level through a process of negotiation and consultation with stakeholders. Responsibility for the management of land and resources is ultimately exercised at the local level through the resource users and so too should authority (Rihoy, 1998). However, there are natural resources that do not fall within the boundaries of a single country, for example, the ozone layer. Other domestic resources that are of global interest include cultural heritage sites and endangered wildlife species — such as the black rhino. For these resources some sort of agreed international approach for their use, conservation, and development must be agreed upon. The principles of common heritage and world heritage have influenced tenurial arrangements relating to these types of domestic and international natural resources, which in effect have become global common property resources.

The principle of common heritage of humankind currently applies to areas and their natural resources outside the national jurisdiction of any State. The principle is incorporated into several treaties and international instruments, such as:
- The Declaration of Principles Governing the Seabed and the Ocean-floor, and the Subsoil thereof, beyond Limits of National Jurisdiction (1970);
- The Agreement governing the Activities of States on the Moon and other Celestial Bodies (1979); and
- The UN Convention on the Law of the Sea – Part XI (1982).

The principle of common heritage in these Conventions implies a common responsibility with the following elements (Bilderbeek, 1992):
- international management with an authority having the exclusive right to serve international interests;
- sharing of financial benefits derived from sustainable use of the area and also benefits derived from shared management itself, such as transfer of technology;
- reservation for peaceful purposes and the principle of non-appropriation; and
- reservation for future generations.

Unlike the principle of common heritage that applies to areas and their natural resources outside the national jurisdiction of any State, the World Heritage Principle also includes domestic resources. The World Heritage Principle originates from the World Heritage Convention and serves two important purposes. First, it recognises the ultimate, overriding interest of global society in domestic resources. Second, it recognises that situations exist in which the assignment of certain resources to exclusively domestic management can break down as a management system, and then, in the global interest, managing those resources must be reasserted under external influence (Swanson, 1997).

Some of the positive impacts that international agreements have had on the management and use of natural resources have been outlined above. However, not all international agreements have impacted positively on resource rights of nations, local communities, and indigenous peoples. The interests of countries from the North have often been presented as the global community's interests when in fact they have been attempts by the North to maintain control over the South's resources (Mohamed-Katerere, 1997). An example of a Convention that was drafted from a Northern perspective with little attention to the problems of developing countries in managing their diverse resources is the Convention on International Trade in Endangered Species (CITES). CITES focuses on the identification of endangered species and shutting down the trade when the exploitation of certain species is seen to be out of control. The legislation was not drafted to provide incentives for the constructive use of diverse resources (Swanson, 1997). There are other international instruments that are detrimental to resource tenure arrangements in developing countries. An especially problematic one relates to intellectual property rights.

INTELLECTUAL PROPERTY RIGHTS

At the international level, the issue of intellectual property

rights has seen the development of many cases of litigation today that involve local communities, indigenous peoples, and pharmaceutical companies who are bio-prospecting and patenting genetic resources. Large international pharmaceutical companies are investing billions of dollars in bio-prospecting and research after which they register patents. This raises questions about how the interests and rights of indigenous peoples and local communities over germ plasm and natural products can be protected.

On January 1, 1995, the first global system of intellectual property rights on biodiversity and specifically plant varieties was set up through the Agreement on Trade Related Aspects of Intellectual Property Rights Agreement (TRIPS). TRIPS was a result of the last round of the General Agreement on Trade and Tariffs (GATT) negotiations, which also gave rise to the establishment of the World Trade Organisation (WTO). The dichotomy between TRIPS and the Convention on Biological Diversity (CBD) reflect the multifaceted and conflicting trends at a global level. The CBD recognises the essential role of the community in the creation, maintenance, conservation, and sustainable utilisation of biological diversity (including genetic diversity), and existing knowledge and technologies for survival. On the other hand the WTO is concerned essentially with the movement of goods and ensuring global systems for the smooth flow of international trade.

The TRIPS provisions in GATT 1994 seek to globalise the dominant patent paradigm of the industrialised countries, mainly that of the USA. These provisions guarantee ownership rights to products made in the laboratories of the North from the knowledge of indigenous peoples and local communities. The knowledge system of these communities; their innovations in the intellectual commons; the societal and informal context in which they produce and innovate; and the purpose for which they do so — all are denied recognition. Only the North's industrial model of innovation is recognised. Definitions in the TRIPS provisions exclude the cumulative collective system of innovation of traditional communities. This is a major issue in the emerging resource tenure arrangements in the world.

A closely related issue concerns the use of natural habitats for general screening purposes in regard to genetic resources. These uses concern species not already in human use (unless it is restricted to locally known uses), which are often screened for usage in the pharmaceutical industry. Such screening can occur on a purely random basis, through the collection of samples and their investigation in the laboratory, or by reference to local usage by communities. A great number of currently marketed pharmaceuticals have been developed from the latter starting point. This indicates an industry in which an important factor of production — local communities' knowledge — is going uncompensated, and thus unconserved. Despite the historical importance of the biodiversity resource in providing necessary inputs into the production process, there has been no flow of value to the raw resource nor to its manager, the local communities (Swanson, 1997).

Swanson explains how the property rights dispute in this case relates to the fact that courts in the US and EU have stated that naturally occurring organisms are not subject to property rights regimes. Exclusive marketing rights may be claimed in living organisms, but only those in which it is demonstrated that human intervention has produced an organism that was not previously existing in nature. In other words, one needs to synthesise useful products of natural systems in order to claim rights to them. This means that a useful chemical within a naturally occurring plant may not receive a protected return, while its synthetic counterpart, the same chemical in the form of a little pill, receives the full protection of the patent system (Swanson, 1997).

The international legal system has thus contrived to treat the informational products of nature as 'open access', and thus the only appropriate genetic information is that which results from human intervention. The generally accepted legal position is that the intangible right in the genetic resource, that is, the knowledge in the resource — by far the more valuable right — of indigenous peoples and local communities is deemed to be in the public domain. It can therefore be exploited freely. This undoubtedly exacerbates usurping of the knowledge of indigenous peoples with serious consequences for them, and for conservation and sustainable use of biodiversity. This bias within the property rights system is a fundamental factor in the continuing conversion, and hence decline, of the natural genetic capital stock.

Moreover, there are no legal instruments or standards that protect indigenous peoples from this biopiracy. There have been declarations recognising these rights. Examples include the Convention Biological Diversity Article 8 (j); Convention 169 of the International Labour Organisation (ILO) [preamble, Article 7 and 13(1)]; and Resolution 1990/27 of the Working Group on Indigenous Populations of 1982 by the UN Economic and Social Council (ECOSOC). To protect the knowledge of indigenous people what is needed is to formulate a rights regime that reflects the culture and value system of these communities as a device to prevent their knowledge from being usurped, commoditized and privatised and to ward off any threats on the integrity of these societies. Swanson proposes the establishment of a new level for the registration of property rights in genetic resources without the necessity of proceeding to the development of the final consumer product. The result of this would be that different societies and nations can specialise in areas of their own comparative advantage, while not be-

ing handicapped by systematically biased terms of trade. This, he concludes, will allow for different countries to become developed through the pursuit of different roles in the world economy (Swanson, 1997). The issue of tenurial and intellectual property rights is becoming a major area of international debate. It also has major implications for the transfer of rights.

TRANSFERRING RIGHTS ACROSS INTERNATIONAL BOUNDARIES

FUNDING MECHANISMS AND PROPERTY RIGHTS

In searching for ways to conserve biodiversity, the issue of transferring rights across international boundaries has been considered. Options for biodiversity conservation include using a funding mechanism or a property rights-based regime. The aim of a funding mechanism approach to biodiversity conservation is to encourage development of lands in ways that are not based upon complete conversion. A funding mechanism could achieve this through a stream of payments for the acquisition of certain limited rights of use in specified lands. An example of this is a commitment to rental payments for the rights to burn or clear an area of tropical forest. Then, so long as the land is not cleared, the funding mechanism would make a payment to the owners/managers. An alternative way of achieving this objective would be through the use of a property rights regime. This would entail local people acquiring full property rights to land by becoming the owners, and then making use of the land only in ways consistent with the conservation objective (Swanson, 1997).

These two approaches are equivalent to a bundle of land use types being divided between two different interest groups: the conservationist and the local communities. The only difference between the two approaches (funding mechanisms and the property rights) is the identity of the owner: the party holding the residual rights to the development of the land. In the funding mechanism approach the local community holds the residual rights to development, while in the property rights approach the conservationist holds these rights. This presents a conflict of interest between the local communities' drive for development and the conservationist interest in conservation. Experience has shown that biodiversity conservation works best where the property rights, and hence the ultimate decision-making power, remain with the locals, while the role of the conservationists would be to try and influence these choices through the creation of incentives and institutions (Swanson, 1997).

DEBT-FOR-NATURE SWAPS

Another approach suggested for conserving biodiversity at the global level is the use of debt-for-nature swaps. The motivating idea is to substitute holdings of land for the large holdings of debt instruments in the North. These lands might then be given conservation area status. The debt-for-nature movement is based on the belief that foreign conservationists might be able to determine local land uses. It is then seen as a way that people in developed countries might be able to invest directly in biodiversity by attempting to purchase natural habitats within borders of other countries. However, the problem is that a property title in the territory of another State does not transfer easily across national boundaries because property titles only represent the State's promise to enforce the rights of a given individual to the use of the indicated resources, to the exclusion of all others. All control has to be done within a State — those who do not use their land to the interests of society may have their rights removed by the State — and not by other States. Once it is clear that property rights cannot be exercised in a fashion that clearly conflicts with State interests, then it also becomes clear that the strategy of trans-boundary transfers of property rights cannot have any real long-term impact on State decision making regarding resource development. In this sense, international 'title transfers' are essentially equivalent to one-time payments to countries in exchange for a promise not to develop a specified habitat. These sorts of mechanisms have no dynamic incentive structures to them and therefore they are bound to fail as internal pressures for development increase (Swanson, 1997).

Given the problems associated with debt for nature swaps, a more recent option to international transfers of title has been the transfer of development rights to a local conservation group who is then vested with the management or development rights regarding the real estates. At the same time, it is acknowledged that national governments need not honour the property rights of internal groups any more than external ones when such rights clearly cause a conflict of political interest. However, the transfer of development rights can lead to the development of an internal pressure group that could potentially be an effective agent for change (Swanson, 1997).

THE EFFECTS OF GLOBALISATION ON TENURE

With the end of the cold war, Western economic models have become dominant worldwide. There has been an almost universal championing of unrestricted market forces, liberalisation, privatisation, structural adjustment, and a drive for foreign investment. Technological advances in informa-

tion and communication have also accompanied this. These factors have impacted on tenurial arrangements in developing countries in various ways. A case in point is the impact of global technological change on efforts at a national level to regulate access to genetic resources. Technological developments in the areas of biotechnology and information technology are making it easier to explore, screen, and acquire genetic resources, especially micro-organisms, from source countries without it being known. This makes traffic in genetic resources difficult and costly to manage because prospectors can use technologies to take away millions of genetic accessions to foreign laboratories (Mugabe et al., 1997).

To attract direct foreign and local investment and secure export markets, Katerere (1998) describes how regional governments in developing countries are encouraging entrepreneurs to engage in the production of cash crops that require different land use and production systems than currently dictated by existing regional markets. The examples include an expansion of nature-based tourism, hunting safaris, and horticulture. The response to such market mechanisms is influencing the land debate in favour of foreign investment and at the expense of local land needs. Increased foreign investment is creating new resource use patterns and arrangements, which are generating new conflicts. As a consequence of favourable incentives for investors, combined with trade liberalisation, the price of land is being pushed up. The result of this is that those who need land most are not in a position to buy it. Moreover, any radical land reforms that are responsive to genuine needs of landless people are seen to be representative of nationalist tendencies that erode investor confidence (Katerere 1998).

Along with the push for privatisation there has been a corresponding push for individual tenure as opposed to indigenous 'communal' tenure. Individual tenure was seen to be more progressive, modern and efficient and better for economic growth than communal tenure. While land tenure reform issues have been around since the 1950s, they have become more urgent because of structural adjustment programmes and liberalisation. The Kenya titling and registration programme was held for years as the model for elsewhere by the World Bank and institutions such as the Wisconsin Land Tenure Center. The World Bank has now found that such programmes exaggerated the benefits and neglected the costs of freehold tenure. They have also learnt that through underestimating the virtues of indigenous tenure, big mistakes were made. It was expected that indigenous tenure systems would wither; however, they have proved to be resilient and adaptable and have continued to co-exist with modern tenure systems (Palmer, 1998).

Further, globalisation and a rapid increase in the human population without a complementary increase in the standards of living have impacted negatively on the traditional institutions and customs for natural resource management. Many traditional institutions have not been able to adapt to these new conditions. As a result, communities are losing control over the management of their natural resources and poverty is spreading. This situation is exacerbated by the fact that the capacity of most developing countries to compete in the New World Order has been hampered by poor analysis of the institutional and market changes taking place.

In addition, global discourse has influenced how regional governments and civil society debate the land tenure issue. Governments are entering into legally binding international conventions that have implications on how decisions around major resources are taken. In most cases these commitments are made without consulting those that might have to forego benefits for the 'global good'. While calls from the United Nations and from poorer nations for more of a voice in international decision making are not new, there is a change emerging in the developed world. It is against the backdrop of the current global economic crisis that the developed world is realising that it is in its self-interest to devote more resources to creating a 'social safety net' for the most hard-hit emerging markets. James Wolfensohn, the World Bank president, has emerged as a vocal advocate of moving beyond the confines of the International Monetary Fund (IMF) economic adjustment programs and focusing more resources on socially oriented and pro-democracy policies. He has been quoted as saying, "*Unless ordinary people, ordinary citizens, are brought along with financial solutions, you have no long-term solutions*" (Herald International Tribune, 1998).

CONCLUSION

In looking at the effects of internationalism on nations', communities' and indigenous peoples' rights and access to natural resources, this paper has discussed some of the opportunities and constraints that internationalism has presented. The conflict of interests between the North and South and their manifestation in international agreements was referred to. Also discussed were the shortcomings of a uniform Western-driven approach to dealing with development.

Many international institutions today are responsive to and supportive of the choices that developed countries have made for the very reason that they were developed in response to the developed countries' needs and interests during the time of their development. Given the different development stages and the diversity of resource bases between developed and developing countries, it is recommended that a diversity of international institutions that provide developing countries with a range of development

pathways be formed (Swanson, 1997). Much further research, debate, and policy advocacy is needed in order to achieve this. However, in the shorter term any opportunities that international instruments may provide to improve natural resource tenure in developing countries need to be identified and seized upon.

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Summaries

L'examen de la question de la mondialisation et du régime foncier doit nous amener à jeter un œil critique sur la manière dont les accords internationaux définissent les rapports entre les intérêts mondiaux et la souveraineté nationale. La présente étude tente de décrire les effets positifs et négatifs de la mondialisation sur le régime foncier à plusieurs niveaux. L'étude commence par un examen du consensus qui s'est dégagé au fil des années concernant la mise en place de dispositions du droit international. Il s'ensuit un examen de quelques-uns des conflits et lacunes du régime du droit international relatif à des questions telles que les droits de la propriété intellectuelle. Cet examen est suivi d'une brève évaluation du transfert des droits de mise en valeur au-delà des frontières internationales, dans la recherche de solutions aux problèmes du déclin de la diversité culturale et biologique. La dernière section de l'étude examine quelques-unes des conséquences de la mondialisation sur le régime foncier et les problèmes causés par la nature limitée et uniforme du processus du développement mondial. Enfin, l'étude conclut que compte tenu de la différence dans les stades de développement et au niveau des bases de ressources entre les pays développés et ceux en développement, il est recommandé de créer diverses institutions internationales chargées de fournir aux pays en développement un vaste choix de stratégies de développement.

Para considerar el problema del internacionalismo y la tenencia, es necesario observar rigurosamente cómo los convenios internacionales definen la relación entre intereses globales y soberanía nacional. Este trabajo trata de explicar los impactos positivos y negativos que el internacionalismo ha producido, en diversos niveles, sobre la tenencia. Se inicia con una observación del consenso que se ha formado a lo largo de los años respecto al establecimiento de normas de la legislación internacional. Sigue después un vistazo a algunas deficiencias y conflictos dentro del régimen legislativo internacional, tales como las que se refieren a los derechos de propiedad intelectual. Buscando soluciones a los problemas del decaimiento en la diversidad cultural y biológica, se evalúa brevemente el paso de los derechos de desarrollo a través de las fronteras internacionales. La última parte del trabajo se refiere a algunos de los efectos de la globalización sobre la tenencia de la tierra y los problemas causados por la naturaleza de estrechez y uniformidad del proceso de desarrollo global. El trabajo concluye estableciendo que, dadas las diferentes etapas de progreso y las distintas bases de recursos que hay entre los países desarrollados y los países en desarrollo, se recomienda la formación de una serie de instituciones internacionales que proporcionen un conjunto de estrategias de progreso a los países en desarrollo.

Community Forest Management Practice: A Case Study of Chihota and Seke Communal Areas

Yemi Katerere[1] and Emmanuel Guveya[2]

Despite lack of legal tenure over woodland resources, communities in the Chihota and Seke study area are engaged in actively managing their woodland resources and are using local rules and sanctions where feasible. The question is how widespread would this practice be if communal area farmers had legal tenure over forest and woodland resource? Boundary and authority rules exist in these communities but are not always respected due to the inherent limitations in authority that characterize the rules themselves. It is important that the locally derived rules be formalized into law. The inability to enforce the rights of communal residents over their resources is contributing to a new form of communal tenure without state involvement, that is the 'privatization' of forest resources by fencing in forests closest to the homesteads. The communities view that the role of monitoring is best done by government. They also see government as having responsibility for meeting the costs of monitoring use of the local resources. As such the government should support the change of attitudes towards a new form of relationship that encourages accountability at the local level and encourages people at hat level to bear the costs and obtain the benefits.

Background

In Zimbabwe the tenure regime in communal areas is described as a common property regime, although in practice communal resources are managed under State property rules. Where there has been meaningful devolution to suitable local level institutions, and effective administrative systems are in place, then common property regimes can enforce exclusion. Under such circumstances common property is no different from 'private property'. In many cultures conformity with group norms at the local level is an effective sanction against anti-social behaviour. A viable common property regime thus has a built-in structure of economic and non-economic incentives that encourage compliance with existing conventions and institutions (Bromley and Cernea, 1989). However, this system of sanctions and incentives may become non-operational and ineffective, largely because of circumstances beyond the control of the group and internal processes associated with group dynamics that challenge the integrity of the group. In this situation the management system as embodied in the common property regime breaks down, and basically the common property degenerates into open access. Given this situation, if investment is made in an asset, such as an improved woodland with high shrinkage potential, the lack of effective administrative systems and policies as characterising open access systems ensures that use rates will eventually deplete the resource. Ault and Rutman (1988) suggest that any movements towards the privatisation of property rights is sufficient to avoid the *tragedy of the commons* and that common property institutions normally evolve in this direction under pressures of changing eco-

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nomic conditions, and principally land scarcity.

When the State confers access and use of natural resources to a community or group of rural inhabitants, we can talk about common property management or communal management. Oakerson (1986) suggested a model to analyze and explain the main factors involved in the management of common property resources. This model, in its simplest form, is based on understanding the relationships between the physical characteristics of the resource, the decision-making rules of the group or users involved, the patterns of interactions resulting from the appropriation and use of the resource, and the outcomes of this process.

While boundary rules exist in communal areas, they are not always respected. There is a great difficulty in excluding 'outsiders' from deriving benefits from the woodland management efforts of some. Generally, most communal area residents are not satisfied with the sanctions against offenders.

Lue Mbizvo and Mohamed (1993) list the following Acts as being the most important governing natural resource utilisation in Zimbabwe:

- Rural District Council Act;
- Natural Resources Act;
- Parks and Wildlife Act;
- Forest Act; and the
- Communal Land and Forest Produce Act.

In total there are 12 major Acts dealing with natural resource management resulting in two problems:

1. the multiplicity of legal instruments when dealing with management, and
2. the lack of definition between the relationships of the Acts (Lue Mbizvo and Mohamed, 1993).

In addition there is no overriding or umbrella Act to serve as a framework for natural resource management. The government is currently developing an environmental Act that will seek to address some of these concerns.

There are contradictions between local practice and rules on the one hand and general law on the other in terms of how forest resources are managed. This has a major bearing on the issue of policing and monitoring of resource use at the local level. Since the law permits harvesting of forest produce for own use, it is not possible for the police to prosecute persons violating local by-laws. In terms of the Communal Land Forest Produce Act [chapter 19.04] *"inhabitants of the communal areas have the right to exploit any forest produce for their own use. Forest produce includes all vegetation alive or dead, in a plantation, forest or woodbelt provided that such right shall not extend to the exploitation of major forest produce within a protected forest, produce which some other person has been authorised to exploit in terms of a license or agreement without consent of that person, any reserved tree except in accordance with the terms and conditions of special license or special permit and forest produce in a plantation, controlled by somebody else,"* (Lue Mbizvo and Mohamed, 1993). Forest produce so collected may not be sold to anyone, or supplied to anybody who is not an inhabitant of that communal area. However, the occupants may exploit any forest produce, including reserved trees, on any land that they are permitted to use for residential or agricultural purposes in the course of clearing such land for development According to Lue Mbizvo and Mohamed (1993) these provisions make a mockery of any attempt to protect indigenous trees, because the circumstances under which exploitation is allowed are so wide that it is difficult to establish, for criminal purposes, what falls outside the exceptions. Inhabitants may harvest forest produce for their own use without any limitations.

It is also clear that many aspects of the legislation are outdated and still rely on command and control approaches to natural resources management. The legislative framework does not seek to create incentives necessary to encourage the population to participate in the management of the country's natural resources, for instance by devolving authority to the community level. The issue of rights over resources that communities manage and use remains unresolved. The major problem relates to the inability of policymakers to recognize that communities do not manage the forest resources separately from the land, livestock, and crop systems. So the debate around land reform is critical to issues of resource management.

While there are strong arguments for devolution, this does not mean that the government has no role or that the traditional institutions are the panacea to issues of resource management. Rather, the right balance needs to be established between traditional knowledge systems, science, and State administrative systems based on demands and needs. This of necessity implies that traditional institutions themselves need to be strengthened and modernised so that they can be responsive to prevailing socio-economic conditions. In addition, governance systems at the local level need to be supported so that they can bring together a variety of actors involved in forest and woodland management. Government institutions must of necessity be strengthened to provide an enabling environment.

The two other Acts governing the utilisation of trees in Zimbabwe are the Forest Act and the Parks and Wildlife Act. The Forest Act vests power in other agencies in terms of management and creation of institutions. The regulation of trade in forest produce is vested in the Forestry Commis-

sion. The Rural District Council Act also vests power in the District Council to issue licenses for the exploration of timber resources. On the other hand the Natural Resources Board (in terms of S10 of the Natural Resources Act) has the authority to supervise the use of natural resources. The authority vested in the above formal bodies undermines the authority of traditional leadership structures as well as the initiatives of the communities.

WHY THE CASE STUDY?

Communal forest and woodland management in Zimbabwe and many other countries in the region cannot be understood in terms of classical and scientific forest management principles alone. It is carried out as part of the overall management of the farming system, hence forest management initiatives should not be treated in isolation of other farming activities. As such communal farmers have always been engaged in some form of forest and woodland management. The separation of forest management from other farming activities led to the creation of separate tenure regimes for forests and land, thereby fueling competition between different land uses. The end result has been that the country's forests have suffered more from the commercial and strategic value placed on them than by the broader social, cultural, economic, or environmental considerations of local communities. The commitment to agricultural expansion has, for example, resulted in a protracted onslaught on the country's forests and woodlands.

The intervention by the State has resulted in profound dislocations of communities and their traditional resource management practices. The legislation and planning approaches are not only very bureaucratic but also discriminate between property regimes. It is thus important to understand the impact that past and present legislation and planning approaches have had on community level forest and woodland management. In examining such impacts it is necessary to distill the experiences and lessons and the potential they offer for improving policy formulation and forest and woodland management under a variety of conditions

Clearly we have a situation in Zimbabwe where, despite a lack of incentives, and in the absence of clearly defined rights over forest and forest products, communities in communal areas are engaged in the management of woodland and forest resources and value the diverse and varied functions of the forests. It became necessary to try and understand why people are willing to invest in forest management under such circumstances and to attempt to distill lessons for policy formulation and institutional systems.

Chihota and Seke Communal Areas were selected as case study areas based on the involvement of local communities in forest management practices. The community forest and woodland management initiatives were observed to be internally driven and occurred in the absence of formal devolution of authority to local level institutions. The two areas were selected for the following reasons:

- they offer insights into why and how communal people manage forests and other natural resources;
- they provide examples of the sanctions and rules and their enforcement;
- there is a relationship between local traditional institutions and government agencies;
- there are examples of the potential contribution of forests to the local economies;
- the functions and values of forests to local communities are known;
- there are lessons for policy development based on what motivates local people to manage forest resources, the benefits that they derive, and the contradictions between local practice and legislation; and
- there are examples and lessons on the role of traditional knowledge in resource management.

STUDY OBJECTIVES

The major objective of the case study is to analyse local community rules and practices of sustainable woodland resource management in Chihota and Seke Communal Areas and to identify policy and legislative implications that may enhance forest management in a variety of conditions. The specific objectives are to:

1. assess community incentives for the management of woodland resources,
2. document the rules governing woodland management in the Chihota and Seke Communal Areas and establish whether these rules are being followed, and
3. identify the systems for monitoring, sanctioning, and exclusion that are in place in woodland management.

METHODOLOGY

This study is based on key informant interviews (See Annex I), a focused group interview and a formal questionnaire survey conducted in the Chihota and Seke Communal Areas from 8 to 15 July, 1998. The focused group interview and the survey were conducted in Machangara and Gombera

villages, Ward 18, Marondera District in Chihota CA. In Seke CA, key informant interviews were held in Mayambara Village, Ward 1, of the Manyame Rural District Council. Annex I provides a list of the people interviewed in both CAs. The data was analysed using Statistical Package for Social Sciences (SPSS).

The methodology was designed to capture the following information:

- the presence of community managed woodlands,
- the rules governing woodland resource use and management,
- household compliance with rules governing woodland resource and management,
- the presence of monitoring and sanctioning for rule violators
- benefits derived from the woodlands,
- roles of outside institutions in the management of the woodlands, and
- problems encountered in the management of the woodlands.

A total of 25 participants were in the focused group interview. The participants included an AGRITEX official, two kraalheads, the local Chief, and farmers. The questionnaire was administered to a total of 46 households randomly drawn from the Machangara and Gombera villages. The households interviewed represent approximately 40 per cent of the total number of households in the Machangara and Gombera villages. The respondents were split equally between Machangara and Gombera villages. Three enumerators from the Machangara and Gombera villages were selected and trained to implement the questionnaire.

RESULTS

This section gives the results of the key informant interviews, focused group interview, and the questionnaire interviews. The results from the two communal areas are combined and no attempt to compare the two areas is made. The intention is to understand the process of community woodland management and the institutional mechanisms.

SAMPLE HOUSEHOLD CHARACTERISTICS

Seventy five per cent of the respondents are female and 25 per cent male. Of the households interviewed, 76 per cent are male headed and 24 per cent are female headed. The majority of the respondents are female since most men are away in urban centres either seeking jobs or in employment. The mean age of the respondents is 54 years (ranging from a minimum of 21 to a maximum of 94 years). The mean age of the household head is 55 years (Table 1).

Household Characteristics	**Number of Years**
Mean Age of Respondent	54
Mean Age of Household Head	55
Mean Duration of Stay in Area	31
Mean Years of Education	7

Table 1: Sample Household Characteristics

The mean number of years of school attendance by household heads is seven years. Hence the average educational level for this community is primary. The mean duration of stay by the households in the village is 31 years.

PRODUCTS AND BENEFITS FROM WOODLANDS

During the group interview, the following products were identified as the benefits of conserving woodlands:

- windbreak
- firewood
- herbs
- food in the form of various species of caterpillars
- compost (*Manyowa)*
- clean air
- poles for roofing
- wood for curving axe and hoe handles, porridge sticks, cattle yokes, and pounding mortar (*maturi*)
- wood for constructing cattle kraals
- wood for fencing of gardens
- tree leaves are food for livestock
- shade for both humans and livestock
- fibre (*makavi*)
- provides the environment for honey production during flowering
- provides the environment for the production of mushrooms
- firewood for brick burning
- construction and fencing material

Table 2 highlights the key benefits that households derive as a result of participating in the management of community woodlands. The benefits that households obtain are indicators of the incentives for households to participate in

woodland management.

Benefit	% Households
Benefit in Knowledge and Different Conservation Practices	21.6
Trees, Poles, and Firewood	67.5
Honey	11.6
Mice	16.3
Herbs	11.6
Fruit	34.9
Manure	4.7
Grass	4.7
Caterpillars (Madora)	4.7
Fresh Air	2.3

Table 2: Benefits of Community Woodland Management (Per Cent of Households)

The major benefit from the collective management exercise is the availability of trees for fuelwood and poles for construction as reported by 67.5 per cent of the respondents. Other important benefits are a perceived gain in knowledge in the different woodland management practices and availability of fruits and mice.

With respect to improved availability of forest products as a result of community woodland management, 54.2 per cent of the households reported improved access to construction poles while 50 per cent indicated that fuelwood was more available today than before. Increased availability of indigenous fruit was reported by 43.5 per cent of the respondents. The results are shown in Table 3.

Product	% of Households
Fodder	15.2
Poles	54.2
Herbs	15.2
Fruit	43.5
Manure	14.4
Firewood	50.0
Thatching Grass	6.5
Caterpillars (Madora)	6.5
Less Soil Erosion	13.0

Table 3: Per Cent of Households Collecting Products from Community Woodlands

SOURCES OF ENERGY FOR HEATING AND COOKING

Table 4 is the summary of the results of the major sources and importance of energy used for heating and cooking by household. The most important source of energy is fuelwood as indicated by all households. Seventy-eighty point three per cent, 91.3 per cent, 80.4 per cent, and 60.9 per cent of the households use cow dung, crop residues, paraffin, and gas respectively as sources of energy for heating and cooking.

Households were further asked to rank their sources of energy. To get an aggregate ranking, each source of energy with a rank of 1 was assigned a score of 8 points. A rank of 2 was assigned a score of 6, rank 3 a score of 4, rank 4 a score of 3, and rank 5 a score of 1. The mean score for each source of energy was then computed. The higher the mean score the greater the importance of the source of energy for heating and cooking. The results of the analysis are shown in Table 4. The most important source of energy in the study area is fuelwood followed by cow dung. The least important source of energy is gas.

Product	% of Households	Mean Score	Rank
Firewood	100	7.3	1
Cow Dung	78.3	4.0	2
Crop Residues	91.3	3.8	3
Paraffin	80.4	3.8	3
Gas	60.9	1.4	5

Table 4: Ranking of Sources of Energy for Heating and Cooking by Per Cent of Households

Table 5 shows that of those households who use cow dung as a source of energy, 77.8 per cent are male headed whilst 22.2 per cent are female headed. Of those households who use crop residues as a source of energy, 26.2 per cent are male headed and 73.8 per cent are female headed. Of those households who use paraffin as a source of energy, 29.7 per cent are male headed whilst 70.3 per cent are female headed. Of those households who use gas as a source of energy 28.6 per cent are male headed and 71.4 per cent are female headed.

Household Head	Cow Dung	Crop Residues	Paraffin	Gas
Male	77.8	26.2	29.7	28.6
Female	22.2	73.8	70.3	71.4
Number	36.0	42.0	37.0	28.0

Table 5: Source of Energy by Sex of Household Head (Per Cent of Households)

Table 6 shows the results of an analysis of source of energy by length of stay in the area. Of the households who use the different sources of energy, at least 40 per cent have stayed in the area/community for more than 30 years. Of those households using the different sources of energy, 23 - 30 per cent have lived in the community for less than ten years.

Household Characteristic	Cow Dung	Crop Residues	Paraffin	Gas
<10 years	22.9	24.4	27.8	29.6
11-20 years	17.1	14.6	11.1	11.1
21-30 years	17.1	17.1	19.4	18.5
>30 years	42.9	43.9	41.7	40.7
N	36.9	42.0	37.0	28.0

Table 6: Source of Energy by Length of Stay in Community (Per Cent of Households)

INDIVIDUAL WOODLOTS

Households were asked if they owned private woodlots. Seventy six per cent of the households interviewed own individual woodlots from which they derived fuelwood and other wood products. Table 7 shows the different types of woodlots by household. The most common types of woodlots are exotic (eucalyptus) and indigenous (non-fruit trees) owned by 62.9 and 60 per cent of the households respectively.

Type of Woodlot	% of Households
Gum Trees	62.9
Exotic Non Fruit Trees (other than Gum)	28.6
Indigenous Non Fruit Trees	60.0
Exotic Fruit Trees	14.3
Indigenous Fruit Trees	28.6

Table 7: Types of Woodlot Owned (Per Cent of Households)

The trees from individually owned woodlots are used as a source of fuelwood, fencing material and fruits. Table 8 ranks in order of importance the use of woodlot products by households. The most important product obtained is fuelwood for household use, followed by poles for fencing. The results show that commercial trade of forest products by resident farmers is the least important.

Domestic Woodlot	Score	Rank
Domestic Fuel	5.6	1
Commercial Fuelwood	1.3	5
Fencing Material	3.6	2
Construction Material	2.7	3
Fruit for Domestic Consumption	2.4	4
Fruit For Sale	1.2	6

Table 8: Uses of Household Woodlots in Order of Importance

COMMUNITY-MANAGED INDIGENOUS AND EXOTIC WOODLANDS

The communities in the study area manage and control one exotic woodlot and one indigenous woodland area.

The interest in managing forest resources is related to the fact that most of the households that were interviewed believe that the forest resources in the area are insufficient to meet both community and household requirements. In fact, 96 per cent of the respondents are of the opinion that the existing wood resources are insufficient to meet community and individual requirements.

This finding is supported by the fact that of those households owning individual woodlots (35), 82.9 per cent indicated that there are not enough trees in the community woodlot to meet household requirements. On the other hand, all the households indicated that there would be enough trees in the community woodlot to meet household requirements if all residents owned individual woodlands.

INDIGENOUS WOODLANDS

The indigenous woodland area is under the control of four kraal heads. Indigenous woodland management practices and rules are inherited from their forefathers. Respondents reported that since the 1950s people are not allowed to fell trees but only cut branches so as to ensure continuity of supply. Whole trees are harvested only to rebuild or construct new cattle pens or when there are unexpected events such as funerals. The harvesting of fruit trees has always been prohibited. The harvesting of trees is dispersed to avoid creating openings in the forest.

Respondents reported that everyone in the community is involved in monitoring the harvesting of forest products by both residents and outsiders. Over 50 per cent of the households monitor the cutting down of trees by other members within the same community. Fourteen per cent of the households monitor outsiders who come into the community woodlot. Non-residents caught illegally harvesting forest products are handed over to the village heads. Their tools and illegally harvested produce are both confiscated before they are handed over to the police. The exact treatment of offenders by the police is not known to the respondents. Some residents expressed a strong preference for community-based conflict resolution mechanisms rather than police action. The harvesting by neighbouring communities of forest products without consent and without contributing to their management is seen as the greatest threat to sustainable forest management. Community residents are also involved in illegally harvesting forest produce especially fuelwood for sale to urban residents.

Many non-residents handed over to the police return to continue their illegal activities with impunity. While respondents felt that the police were not doing their job, the real problem lies with the fact that the Communal Lands Forest Produce Act allows communal residents to harvest forest produce for 'own use' without a permit. Own use is not defined and may include commercial sale. The difficulty of excluding *outsiders* remains a major challenge for the communities managing forests. Outsiders are those that do not reside within a village under a kraalhead. The inability to exclude outsiders is leading to privatisation of forest resources through erection of fences especially around forests closest to homesteads. While respondents acknowledge the advantages of privatisation, they feel that such a trend could lead to gross inequities in terms of access and thereby exacerbate community conflicts. In cases where individuals have fenced off blocks of indigenous forests, permission to harvest trees must still be sought from the village head and only the 'owner' can harvest from a 'privatised' forest block. In the case of eucalyptus woodlots managed by the RDC (Rural District Council) apprehended offenders pay a fine to the council and not the Zimbabwe Republic Police. According to the Village Development Committee (VIDCO) Chairman all those who violate the by-law in Mayambara are charged a fine of Z$200 (USD $5.4) per tree cut. This is a local by-law.

EXOTIC WOODLOTS

In the villages of Gombera and Machangara in Marondera District there is also a community-owned eucalyptus woodlot that is managed by the Rural District Council. This woodlot was planted by communities from two wards in the District but is managed and monitored by a guard employed by the District Council. Tree products from this woodlot are sold to members of the community with all the proceeds going to the District Council. It is, however, not clear whether people from outside communities can also purchase wood from this woodlot. The community, however, feels that the council has not succeeded in controlling tree cutting in this woodlot as evidenced by deforestation. However, from the same discussions people report that there are no problems of tree poaching in this woodlot. The problem appears to be one of unsustainable harvesting rates. Seventy per cent of the households interviewed indicated that they took part in the planting of this community woodlot.

OPTIONS FOR CREATING AN ORGANISATION TO MANAGE THE WOODLANDS

Over 78 per cent of the respondents were in favour of establishing a structure or organisation that would control the cutting and use of wood/timber from the community managed forests or woodlands. Such an organisation would be expected to closely monitor the collection of wood /timber and to punish those violating established rules and laws.

On who should manage such a community forest organisation, the respondents considered several options and ranked them. Ranking was done as in the previous cases using a ranking of between 1 and 8. Table 9 presents the results of this exercise.

Institution	% of Households	Score	Rank
Community	93.5	3.2	2
District Council	93.5	2.7	3
Government	95.7	4.8	1

Table 9: Institutional Options for Managing Community Forests (Per Cent of Households)

The ranking exercise reveals that the community prefers that such an organisation be composed of individuals from the Government. The community feels that the Government will be in a position to introduce tougher laws against tree cutting and also effectively monitor the forests. Community participation in the organisation is the second most preferred option. The respondents did not favour the Rural District Council being the lead institution. It should come as no surprise that the District Council officials are the least preferred because they are already being accused by the community of failing to sustainably manage the community-owned eucalyptus woodlot.

What is surprising though is the wish to have greater government involvement in the study area. The Government is already represented in the area by the Forestry Commission and the Department of Natural Resources and yet both are not mentioned. Interestingly, the role of government is seen mainly as that of policing, as evidenced by the reasons given by the respondents:

- people tend to fear government-appointed officers;
- government has more resources to provide adequate policing of the forests; and
- those policing the forests will be paid by the government.

These sentiments are a reflection of a long history of the state controlling and policing and criminalising the resource management activities of local farmers. Hence the local farmers believe this is the appropriate role of the state.

Members of the local community were less disposed to managing and monitoring the utilisation of forest resources from community forests for the following reasons:

- locals tend to abuse their authority and be corrupt;
- locals find it difficult to monitor each other since they are known or related to each other; and
- local policing tends to create conflicts between members of the community.

RULES RELATED TO UTILISATION OF WOODLOTS

About 98 per cent of the households in the study area report that there are rules that exist regarding the utilisation of the woodlots, while the remaining 2 per cent report that either there are no rules or they simply do not know whether the rules exist or not. Thus it is obvious that awareness in this community is very high.

Source of Rules	% of Households
Government	40.0
District Council	8.9
Community	51.1

Table 10: Awareness of Sources of Rules (Per Cent of Households)

The data in Table 10 show that there are three possible avenues for rule making with respect to forests: the local community, district council, and central government. Where there are many authorities competing for legitimacy with respect to forest management by making rules, then conflicts are inevitable and there is likely to be much confusion around rules, permits, and sanction. If this scenario is to be avoided then there has to be clear delineation of institu-

tional roles and transparent processes for determining access, control, and allocation of cost and benefits. Within the study area the three dominant players in rule making are the local community, central government, and to a lesser extent the RDC. The RDC is viewed as an extension of central government, disseminating government directives and with no mandate to influence local-level forest management practices.

TREE FELLING RULES AND MONITORING ACTIVITIES

RULES

The survey establishes that rules on community based forest management exist and as already pointed out there is high awareness of their existence (see Table 10). The rules cited by the households such as no felling of live trees but allowing harvesting of branches and collection of dead wood for fuelwood, generally promote sound forest management. The rule requiring resident households to seek permission to utilise forest products is the most frequently cited. This clearly indicates a high level of community consciousness on the need to monitor the state of the community forest resources. This is a compelling argument for devolution of authority to community-level structures to manage local resources.

BOUNDARY RULES

In general each community can identify the physical boundaries of community forests and woodlands and distinguish them from those belonging to neighbouring communities. However, in the study area there is a particular piece of forested land over which four different communities claim exclusive use rights as explained by two of the communities, namely Machangara and Gombera. This claim by households from these four villages is based on a long history of use and their investment in its management. However, communities from other villages also adjacent to the same woodland are said to be using the same forest resources without the expressed permission of the four villages. The competing claims over the forest resources is a consequence of poorly defined ownership rights and the difficulty of exclusion under the common property regime. The insecurity undermines local incentives to manage resources in the commons. In the absence of strong leadership and functioning traditional systems, the forest resources under dispute can rapidly degenerate to open access. Hence it is important to create legal systems that support collaborative woodland management so that benefits accrue to those prepared to invest in forest management. Encouragingly, about 81 per cent of the households in the study area report that boundary rules exist and that they cannot utilise wood resources belonging to neighbouring communities. Outsiders are also forced to observe boundary rules through the various mechanisms of monitoring that have been put in place by the community. Despite these mechanisms boundary rules are still broken as evidenced by the high incidences of illegal harvesting.

COMMUNITY-EVOLVED RULES ON UTILISATION

In all the communities, the households report that there are specific rules about the utilisation of trees (live and dead). In one community, Mayambara village, there is a by-law that requires households to seek and be granted a permit that specifies the day, the purpose, and the amount of trees to be cut. This permit is granted for specific uses such as building stacking structures for agriculture produce during the harvesting season, and timber for constructing dwellings by the Village Development Committee (VIDCO) chairperson at his or her discretion. There is no charge for this permit. Households are not allowed to cut live trees for fuelwood and must restrict themselves to dead trees and branches. Where permission to cut live trees is granted, then only mature ones can be cut and where possible only the branches and not the main trunks are cut. This by-law is enforced intensively and according to the VIDCO chairman it is proving to be a very effective tool in the conservation of forests and woodlands.

Brick making is a major commercial activity in the study area. In Mayambara village these entrepreneurs are restricted to coal for brick curing. These rules also apply to those households who have fenced in tracks of forest immediately surrounding their homesteads. As mentioned earlier these farmers require a permit to cut trees on these 'privatised' forests. Households are not permitted to cut trees that occur in the arable lands. In the event that such trees hinder cropping activities, then they can be pruned accordingly. The number of trees on arable land are known and are mapped on the Agricultural Extension Services (Agritex) map of fields.

MONITORING

About 61 per cent of the households in the survey report that they are willing to monitor other households and yet a higher per centage reported that they are willing to be monitored by other households (see Table 11). The main rea-

Rules	% of Households
1. Rules Governing the Cutting of Trees	97.8
- cut only dry trees	37.0
- pick dead branches	39.1
2. Community Woodlots - use only allowed to	
a) Purchasers	53.6
b) Managers of woodlot	46.4
3. Community Boundary Rules cannot cut trees from outside community area	80.0
4. Rules on Amount of Wood to Collect	76.5
- cut trees when granted permission	38.2
- pay a fee to cut trees	20.6
- must not cut live trees	29.4
% of Households following above (4) rules	85.7
other HH following above (4) rules	68.6
Any one punished for disobeying rules (4)	48.6
5. Rules on Cutting and Collecting Trees	84.8
- do not cut trees from one place	23.1
- cut only big trees	10.3
- cut only branches of big trees	20.5
- cut trees when given permission	38.5
- don't cut trees from other communities	2.6
- only allowed to cut trees once a year	5.1
% of HH following above rules (5)	92.3
% of other HH following above rules (5)	66.6
anyone punished for disobeying rules (5)	51.2

Table 11: Awareness of Tree Cutting Rules (Per Cent Households)

sons put forward by those not willing to monitor other households include:

1. fear of the conflicts that will arise as a result of such interactions (55.5 per cent)
2. 22.2 per cent reported that they do not have the time to spend monitoring other households,
3. 16.6 per cent of the respondents claim to be too old to manage such activities, and
4. 11.1 per cent feel that they are not respected enough in the comm unity and therefore nobody would listen to them.

Those that were not willing to be monitored gave the following reasons:

1. do not want to reduce the amount of fuelwood they are using (88.8 per cent),
2. are afraid of being t ject of hate in the community (22.2 per cent), and
3. have their own private woodlot..

When asked if they would cooperate if there was mutual monitoring by households, about 76 per cent reported that they would comply, and 73 per cent thought that other households would also comply. Therefore conformity can be said to be very high in this community and could be contributing positively to the management of woodland resources.

The communities in the study area are clearly keen to monitor or be monitored with respect to woodland use and management. However, in the absence of an authority to enforce any sanctions, households are afraid to undertake monitoring activities. Policies need to devolve authority to the local level so that those charged with monitoring have legal backing and protection against any challenge to their enforcement work.

Some of the respondents are advocating tougher government laws and monitoring by hired personnel recruited from outside the community to avoid corruption and inter-community conflicts. Community members find it very easy and convenient to police forest resources close to their homesteads. Problems associated with poor enforcement are creating perceptions of a rapidly declining resource and impending resource shortages. The farmers are responding to the situation by fencing in the common property forests immediately surrounding their homesteads, thereby excluding the rest of the community from utilising that resource. As a result the total area of the common forest is decreasing as more and more people fence in a piece of forest for private use. There are currently no local rules that stop people from fencing in the forest areas immediately around their own homesteads. However, in the case of 'privatised' indigenous forests, the owner is still subject to all existing rules that govern access to forest resources in the commons.

Monitoring and policing of forests and woodlands is the responsibility of the kraalheads, a representative of the chief (Chief Marondera), and community members. Individuals or households are largely involved in the protection of woodlands in their locality or close to their homesteads. Illegal cutting of trees is mostly in the commons away from homesteads and tends to happen at night. In Mayambara the council employs rangers to monitor cutting of the trees and to enforce the permit by-law.

In a group interview with Machangara villagers participants felt that the monitoring aspect of resource management would be effective if done by people from outside their community. People from within that community were failing to report each other in cases of violations for fear of reprisal by offenders, or simply because they could be closely related. In Machangara the group participants claimed that the Zimbabwe Republic Police are not prosecuting offenders. There was a call for tougher laws, and enforcement from the government, against tree cutting.

Rules	% of Households
1. Willing to Monitor Other People	60.9
Reasons for not willing to monitor others	
- afraid of hatred	55.5
- too old to manage	16.6
- do not have time	22.2
- do not respect me	11.1
2. Willing to be Monitored	80.4
Reasons for not willing to be monitored	
- have own woodlot	11.1
- afraid of hatred	22.2
- do not want to reduce amount of wood	88.8
Would you comply?	75.6
Think others would comply?	73.3

Table 12: Willingness to Monitor and be Monitored (Per Cent Households)

CONCLUSIONS

The most interesting finding is that despite lack of legal tenure over woodland resources, communities in the study area are engaged in actively managing their woodland resources and are using local rules and sanctions where feasible. The question is how widespread would this practice be if communal area farmers had legal tenure over forest and woodland resources. The case study is a convincing example of a success story. It offers a powerful argument for the need to address the problems of lack of legal tenure over local resources.

Successful sustainable forestry resource utilisation is based on the creation of boundary and authority rules determining who can use resources, when, and how much. Boundary and authority rules exist in the communities under discussion but are not always respected due to the inherent limitations in authority that characterise the rules themselves. Hence it is important that the locally derived rules be formalised into law. The communities need full legal and administrative authority over the forest resources.

The case study showed very clearly that it was not always possible for respondents under the common property regime to enforce the exclusion of outsiders. The issue of exclusion is closely related to the absence of devolution of planning, decision making, resource mobilisation, and administration of all matters relating to the affairs of local institutions. Communities cannot negotiate the right to all benefits arising from the communal tenure arrangement, the exclusiveness or ability to exclude others, or the divisibility or the transferability of the tenure arrangement should circumstances change. If farmers lack security of tenure then they have little or no incentives to invest in the management of resources such as forests. The issue of insecurity is fuelled by weaknesses in land and resource administration institutions such as policies and laws. So communities need territorial authority over land and resources.

The study also revealed the absence of any local territorial authority that can sanction decisions affecting communities such as state regulations, plans, and land allocation. Effectively, the community does not have rights to question the legitimacy of state interventionism. As a result the communities cannot challenge certain contradictions between local practice and rules on the one hand and state policies and laws on the other. The situation is further exacerbated by confusion of roles between central government, local government agencies, and traditional community structures. The government should support the development and strengthening in communal areas of strong governance systems as a condition for effective local resource management.

The results of the case study suggest that monitoring of local forest resources was not effective despite the interest of the community and in some instances the employment of forest rangers (voluntary and paid). The communities expressed strong views regarding monitoring and sanctioning. Their view that the role of monitoring is best done by government is an indication that the government is seen as the police. They also see government as meeting the costs of monitoring use of the local resources. This form of community-State relationship does not encourage partnerships in which the authority is clear. The government should support the change of attitudes towards a new form of relationship that encourages accountability at the local level.

The inability to enforce the rights of communal residents over their resources is contributing to a new form of communal tenure without state involvement. In the study area farmers have resorted to 'privatising' forest resources by fencing in forests closest to the homesteads. This practice enables farmers to monitor the resource more closely and it guarantees supply availability. So in the absence of delegated authority and rights, communities are devising local strategies that give them territorial authority and the ability to exclude 'outsiders'. The government needs to recognise and understand such trends and reflect them in policy pronouncements.

Based on the responses to questions surrounding awareness of the existence of rules, a respect for boundary and cutting rules by the majority of households, implies that the communities have the basis for internal conflict resolution. On the other hand, there appear to be unresolved issues regarding monitoring and sanctioning between communities and between communities and State. There is no evi-

regarding monitoring and sanctioning between communities and between communities and State. There is no evidence at either the local or national level for mechanisms to deal with natural resource-based conflicts. Government and civil society should investigate and devise appropriate responses that can support local level conflict management capacity.

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ANNEX I: LIST OF KEY INFORMANTS INTERVIEWED

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Seke

Mr. Mushayabasa
Forestry Commission
Dema Council Nursery

Mr. Machangara - Village headman
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Machangara Village
Marondera District
Chihota-Boarder Church

Mr. Khoza
Natural Resources Dept.
Mahusekwa
Marondera District

Mr. Gwati - Village headman
Ward 1 - Nemasanga
Mayambara Village
Manyame Rural District Council

Mr. Chaitezvi - VIDCO Chairman
Ward 1 - Nemasanga
Mayambara Village
Manyame Rural District Council

Summaries

Malgré l'absence d'un statut juridique de jouissance des ressources des terres boisées, les populations de la zone d'étude de Chichota et de Seke sont activement engagées dans la gestion des ressources de leurs bois et ont recours aux règles et sanctions locales chaque fois que possible. La question est de savoir jusqu'à quel point cette pratique serait répandue si les agriculteurs de la zone communautaire disposaient d'un régime légal de jouissance concernant les ressources des forêts et de bois. Il existe au sein de ces communautés des règles de limitation et d'autorité, mais elles ne sont pas toujours respectées en raison des limitations inhérentes à l'autorité qui caractérisent les règles elles-mêmes. Il est essentiel que les réglementations locales soient transformées en lois. L'incapacité de faire valoir les droits des résidents sur leurs ressources contribue à une nouvelle forme de régime foncier communautaire sans intervention de l'Etat, et l'on assiste ainsi à une sorte de privatisation des ressources forestières avec l'installation de clôtures dans les forêts proches des fermes. Les communautés estiment que le gouvernement est mieux placé pour jouer le rôle de contrôleur. Ils estiment également qu'il revient au gouvernement de supporter les coûts de contrôle de l'utilisation des ressources locales. Par conséquent, le gouvernement devrait encourager le changement d'attitude en faveur d'une nouvelle forme de relation qui incite les gens à prendre leurs responsabilités au niveau local et les encourage à prendre à leur charge les coûts et à en acquérir les bénéfices.

A pesar de la ausencia de tenencia legal sobre los recursos forestales, las comunidades de la zona en estudio de Chihota y Seke están comprometidas en manejar activamente sus recursos selváticos y utilizan normas y sanciones locales siempre que sea factible. La cuestión es qué amplitud podría tener esta práctica si los campesinos de la zona comunitaria tuvieran una tenencia legal sobre los recursos de bosques y selvas. En esas comunidades existen normas en cuanto a límites y a autoridad, pero no siempre se respetan debido a las limitaciones intrínsecas que poseen esas mismas normas en relación con la autoridad. Sería importante que las normas locales se convirtieran formalmente en leyes. La imposibilidad de reclamar legalmente los derechos de los miembros de la comunidad sobre sus recursos contribuye a una nueva forma de tenencia comunitaria sin intervención del Estado, es decir, la "privatización" de los recursos forestales levantando cercas en los bosques que se encuentran más cercanos a los lugares de residencia. Las comunidades admiten que la labor de vigilancia la realiza mucho mejor el Gobierno. También piensan que es responsabilidad estatal asumir los costos para controlar el uso de los recursos locales. El Gobierno como tal debe apoyar el cambio de actitudes hacia una nueva forma de relación que estimule la responsabilidad entre la población local y fomente en ella la idea de asumir los costos y obtener los beneficios.
