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Erling Berge, Derek Ott, and Nils Chr. Stenseth (eds.)

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Preface

This book grew out of a conference titled "Common property regimes: law and the management of non-private resources". The conference was initiated by the Norwegian MAB-Committee and organized by The Department of Land Use Planning and Centre for Sustainable Development at the Agricultural University of Norway. Here, the interests of the MAB program and two other research programs, NLVF´s (The Norwegian Agricultural Research Council) research program for rural development and FSU´s (The Norwegian Research Councils´ Joint Committee) research program on "Economy and Ecology", were brought together with the goal of furthering our understanding of how the regimes of property rights in Finnmark in Northern Norway and in the Barents Sea affect resource utilisation.

The "Man and Biosphere (MAB) Research Program"

The goal of the international MAB program is

-to develop a foundation for rational use and conservation of the resources of the biosphere,

-to develop a foundation for a sustainable interplay between man and environment, and

-to predict the consequences of contemporary resource utilization and thereby improve man's capabilities for efficient management of the resources of the biosphere.

The Norwegian MAB-committee has proposed to do in depth studies of renewable common resource systems by investigating the use of

1) range lands by pastoral societies,
2) and of marine resources by coastal populations.

In particular, it has proposed to compare the use of the pastures of Finnmark by reindeer herders and their local communities with similar pastoral systems in Africa (e.g. in Sub-Saharan Sahel). Also the recurring crises of the fisheries in the Barents sea and their relations to the coastal population in Finnmark will be compared to similar situations elsewhere in the world (e.g. in Africa).

Rural Development

The Norwegian Research Council for Agriculture in 1990 initiated a research program for rural development. The program is directed at studying

1) Conditions for - and trends of - development in rural communities,
2) Economic, social and cultural strategies - and possibilities - for development in rural communities, and
3) Evaluation of development projects.

The program points out the need to study the conditions affecting the utilization of the wilderness areas both in a perspective where providing new sources of incomes for the inhabitants of the rural areas is the goal, and in a perspective where supplying collective goods for locals as well as tourists is the goal. The problems of environmental protection and sustainable utilization of resources are central.

The range of problems addressed within the program is diverse. In a part of the project, "Cultural Aspects of New Industrial Development in Rural Norway", the cultural and legal foundations for local resource appropriation has been addressed.

Economy and Ecology - Management Tools For Sustainable Development

The research program was initiated in 1991 by the joint committee of the Norwegian research foundations as a follow up of the report of the World Commission on Environment and Development ("The Brundtland Report"). The goal of the program is to contribute to the development of management tools needed for transforming our current path of development to a sustainable development. The research program consists of five parts:

- resource management and pollution in agriculture,
- the management of the ocean,
- society, environment, and energy,
- ecology and development, and
- development of methodology.

The range of problems addressed is diverse. In particular, we should note the work of integrating biological multi-species models of large marine ecosystems and economic multi-species models of the fishery economy, and the work towards understanding the interplay between "agricultural systems" and the use of land and forest resources in Africa.

Acknowledgements

The conference was made possible by the effort of many people and the financial assistance of various organizations. The editors are grateful for the financial support of

The Agricultural University of Norway,
The Norwegian Research Council for Agriculture,
The Norwegian Research Councils´ Joint Committee,
The Norwegian Research Council for Science and the Humanities,
The Regional Council for Northern Norway and Namdalen,
The Royal Norwegian Ministry of Foreign Affairs,
The Royal Norwegian Ministry of Agriculture, and
The Royal Norwegian Ministry of Environment.

The proceedings of the conference

The proceedings of the conference were made available in two volumes (Berge 1993, and Berge and Ott 1993). Of the 28 papers presented at the conference, 17 were selected for the present volume. Four of these were combined into two papers, co-authored by the contributors and several other were extensively rewritten. Six new papers not presented at the conference have also been included to present as coherent and theoretically interesting picture as possible of the resource management systems in Norway and the Barents Sea.

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INTRODUCTION TO LAW AND THE MANAGEMENT OF DIVISIBLE AND NON-EXCLUDABLE RENEWABLE RESOURCES

The politics of resource management is found in the interactions between the economic and ecological statuses of various resources and the legal institutions in which they are embedded. A common property rights regime is a legal construction with consequences both of economic and ecological systems. The aim of the present book is to contribute to the understanding of how management systems for renewable resources usually managed as common property work in terms of distributional justice and sustainability of resource use in a world where technological change and shifting balances of power affect the motivations and capabilities of resource appropriators.

With renewable resource systems, we will in this case mostly think of fish stocks and reindeer pastures, but a renewable resource system may also be the water in a watershed or in a groundwater basin, the grass of a range, the wood in a forest, or the air around the planet.

The various names for divisible and non-excludable resources (common property resources, common pool resources, res nullius, etc.) all convey a sense of access for everybody to a finite resource with all the problems this entails for equity of distribution and the sustainability of utilization. The labels most often used, do not distinguish clearly between two essential characteristics, which both go into the definition: divisibility of benefit on the one hand and excludability from appropriation on the other. A second important distinction is between the divisibility of benefits and the divisibility of the productive ecosystem.

The characteristics of divisibility and excludability are not either-or characteristics. Once we leave the pure cases of indivisible and non-excludable goods (pure public goods) there will be degrees of divisibility and excludability until we again approach a pure case of the perfectly divisible and excludable good (i.e. “money”). Divisibility and excludability in relation to resource uses are usually discussed in terms of technological possibilities in relation to physical characteristics of the resource. What seems to be less recognized is that both divisibility and excludability will depend on moral choice and social feasibility as well as the physical characteristics of the resource and technological possibilities.

If the benefits of a resource has the characteristic of being divisible into resource units which can be removed (in general: appropriated) one by one by the

resource appropriators, the question for the decision makers of a society is whether to allow resource units to be appropriated or not. If appropriation is to be allowed and exclusion of some appropriators is technically possible, also the question of whether to exclude or not will come up. And if exclusion of some appropriators is wanted, the question of how to exclude people from the group of legitimate appropriators arises. The choice of mining a resource as well as the principle of excludability used and the degree to which it applies are problems of political and moral choice with long lasting consequences both for a resource system and for the society.

The difficult moral choices and the social institutions erected to implement them are shaped through a historical process where the development of law is at the core. But history never ends. Societies change, moral choices have to be faced again in every generation and the institutional structure has to be reshaped to fit new conceptions of moral order and new technologies for resource appropriation.

The present book discuss resources the Norwegian society has chosen to utilize, and the emphasis is on the interactions between law and resource appropriation. The aim is to improve our understanding of the consequences of management systems in terms of distributional justice and sustainability of resource use. Thus the book is about how Norwegian law regulates access to divisible, and by choice non-excludable resources like fish, pastures, and wood. Particular attention is given to the situation for the Saami reindeer herders in Finnmark, and the population harvesting fish from the multi-species ecosystem in the Norwegian and Barents Sea. These cases are both theoretically interesting and practically difficult since both the technology of appropriation and the moral sentiments of the various populations has been changing rapidly.

In Norway some of the difficult moral and political questions of exclusion and distribution of benefits can be studied in the process of being made in the face of an appropriation system which clearly is unsustainable. The aim is both to present to an international audience the experience of the Norwegian society in the management of these resources and to contribute to the discussion of how to design management systems for such resources. The strategy chosen for this is to compare the Norwegian experience to the experience of other societies. In this book we take a look at rangeland management in Mali and fisheries regulation in Namibia.

CULTURE, PROPERTY RIGHTS REGIMES AND RESOURCE UTILIZATION

by

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Abstract
The paper explores the concept of "property rights regime" as a tool for organizing the knowledge of sustainable resource management. The discussion is based on the problems associated with the management of the fish in the North East Atlantic and the Barents Sea and the rangelands in Finnmark in northern Norway. The relation between culture, law and resource management is discussed in the framework for analyzing the commons proposed by Oakerson.

Introduction

The fish in the Barents Sea are a valuable resource in jeopardy. The rangelands of Finnmark are also a valuable resource in jeopardy. Around the world, one finds resources in jeopardy. Property rights to these resources varies, some are privately owned, some are owned by the state, some are owned in common by a group of appropriators, and some are for all practical purposes nobodies property. In a world with a rapidly growing population and with a technological development rapidly increasing the efficiency of resource appropriation, rights to resources and sensible resource management have become issues of prime importance. Examples of mismanaged resources such as the fish in the Barents Sea and the rangelands in Finnmark reach the agenda of political decision makers more frequently than before.

Somehow, public interest in the mismanagement of private resources is not quite as much in fashion as the mismanagement of the non-private: the state-owned, those owned in common and in particular those without recognized owners. The public view of this seems to be that the reason for mismanagement is that the resources are not privately owned. Only with the care and forethought of an interested individual will it be possible to manage resources balancing, the goals of maximum return now against the goal of as good or better returns for future generations. The culturally shared "model" of resource management seems to be the farmer taking care of his farm to leave it at least as good for his children as he himself got it from his father. This cultural idea got its scientific expression in the model of the "Tragedy of the commons" (Hardin 1968). Much of the debate around resource management has revolved around the problems raised by Hardin, and most of it is rooted in a failure to understand

what property rights are with a concomitant conflation of common property resources and open access resources. Indeed, "it would be difficult to find an idea as misunderstood as "commons" or "common property" (Bromley 1992:3).

Property rights can be described as an asymmetrical relation between some owner and the non-owners. The relation is specified by listing the claim rights, privileges, legal powers and immunities of the owner and the concomitant duties, lack of rights, liabilities and lack of legal powers of the non-owners (Hohfeld 1913, 1917). These rights and duties are enforced either by a state or by the members of a culture. A consistent system of property rights, including the specification of who can be owner, is called a property rights regime. Usually regimes are classified as private property, state property, common property, and non-property (absence of any property rights regime, Bromley 1989). In particular the study of the so called "common property" has given important contributions to the knowledge about how the distribution of rights and duties regarding the usage of natural resources affect the economic surplus from the resource and the distribution of welfare among people depending on it (see. e.g. Bromley ed. 1992, Eggertsson 1990, Libecap 1989, Ostrom 1990)

The present paper will start exploring the interrelations of law, culture and property rights regimes. But before going into that something more needs to be said about the problems we are facing.

PROBLEMS OF MANAGING FISHING

In the North East Atlantic and Barents Sea there is a vast resource of fish, an ecosystem where big fish eat small ones and the small ones eat the even smaller sea life; where seals and whales compete with birds and men to harvest from the abundance, and where seasonal and long term changes interact with stochastic factors of ocean currents and climate to affect the volume and distribution of biomass across species as well as geography.

In the competition for the harvest, man has increased his power tremendously and rapidly during the last few decades. The possibility of depleting the ecosystem far beyond the point of profitable harvesting and possibly into no recovery has become real.

How can we avoid it?

The problem has several dimensions, international as well as national.

The interests of Russia, Norway, Iceland, Greenland and the Faroes are more or less directly involved. Norway and Russia, and Norway and Denmark

(Greenland) are involved in disputes about the border between their extended economic zones (EEZ).

In the middle of the Norwegian Sea and between Svalbard and Novaja Semlja there are regions not now within any nation´s administration. And throughout these various jurisdictions the fish migrate back and forth.

Within each jurisdiction, there are problems of legitimacy and justice in the consequences of regulations as well as repercussion throughout the ecosystem of the regulatory policies being chosen.

The problem is to improve our understanding of how the regulations simultaneous affect both the viability of the ecosystem and the quality of the social system organizing the appropriators.

PROBLEMS OF RANGELAND MANAGEMENT

Finnmark and Finnmarksvidda is the main habitat of the reindeer herders of the Saami people and their herds (but they are found as far south as Røros). Throughout known history there have been long term swings in the availability of some of the critical resources ensuring the survival of the reindeer during critical times. When the critical resource did not suffice, some of the animals starved, the herds were depleted, and conditions improved.

But bot the Saami society and the Norwegian society have changed. Modern society has encroached on the habitat along the margins, modern technology has made it possible to follow the herds more closely, but this also necessitated larger herds to pay for the technology; and new households have added more herds. The overcrowding is visible, at least in the small regions of limited resources which most of the herds depend on during critical periods in the spring. It may also be visible in the conflicts among herd owners and their anxiety about the future.

Is there nothing the reindeer herders can do to regain control of their future?

The problem has several dimensions. The Saami population is a separate people within the Norwegian state, as well as within Sweden, Finland and Russia. They enjoy the rights of citizenship like every other citizen. But their status as an aboriginal population also gives them special protection according to the UN covenant on Civil and Political Rights (article 27). And the ILO Convention of 1989, Concerning Indigenous and Tribal Peoples in Independent Countries, indicates that rights of ownership and possession of the land these peoples traditionally have occupied, ought to be recognized.

Figure 1 Resource distribution in the Norwegian and the Barents Sea

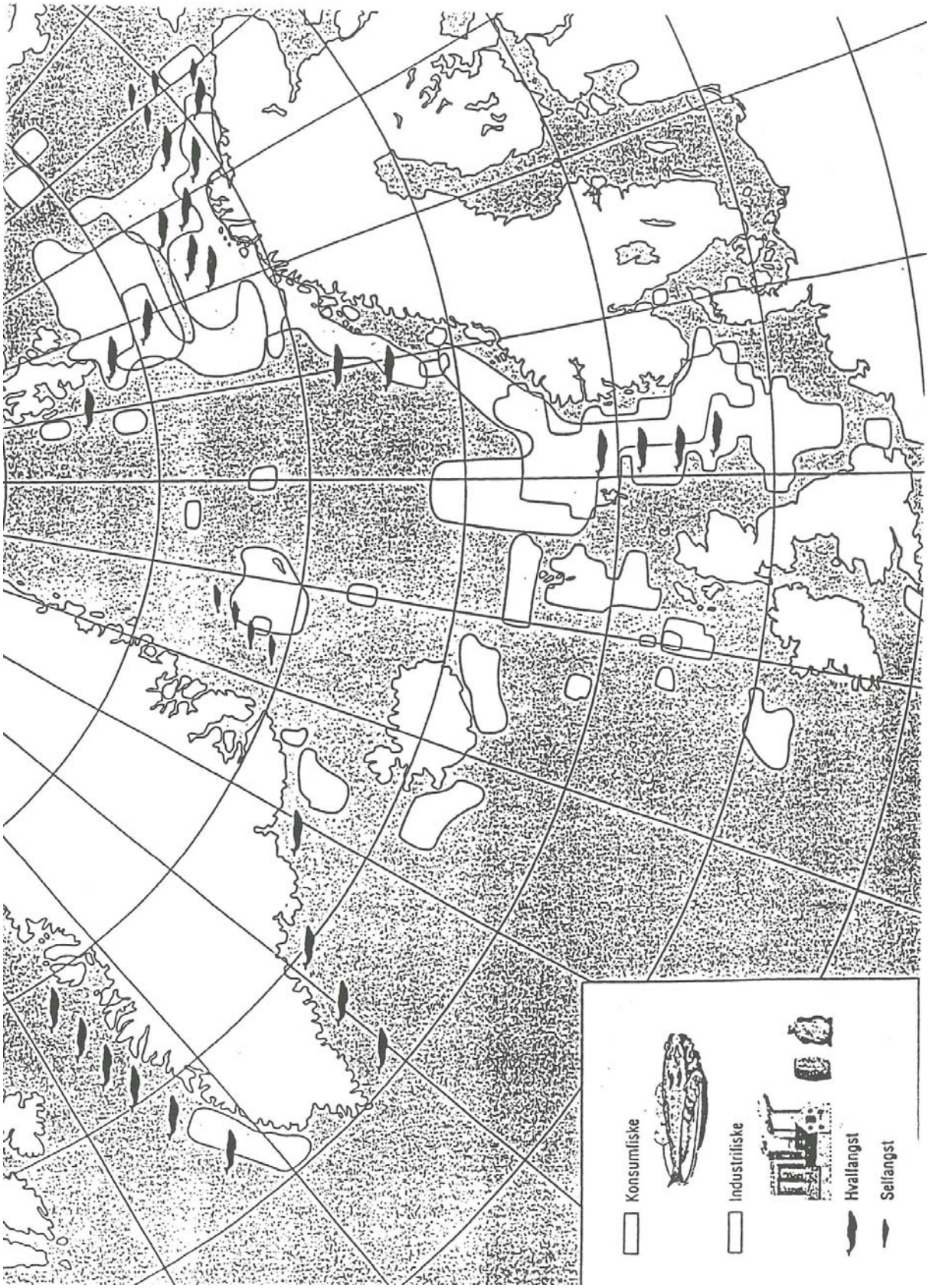


Figure 2 The unregulated area between Norway, Iceland and Greenland

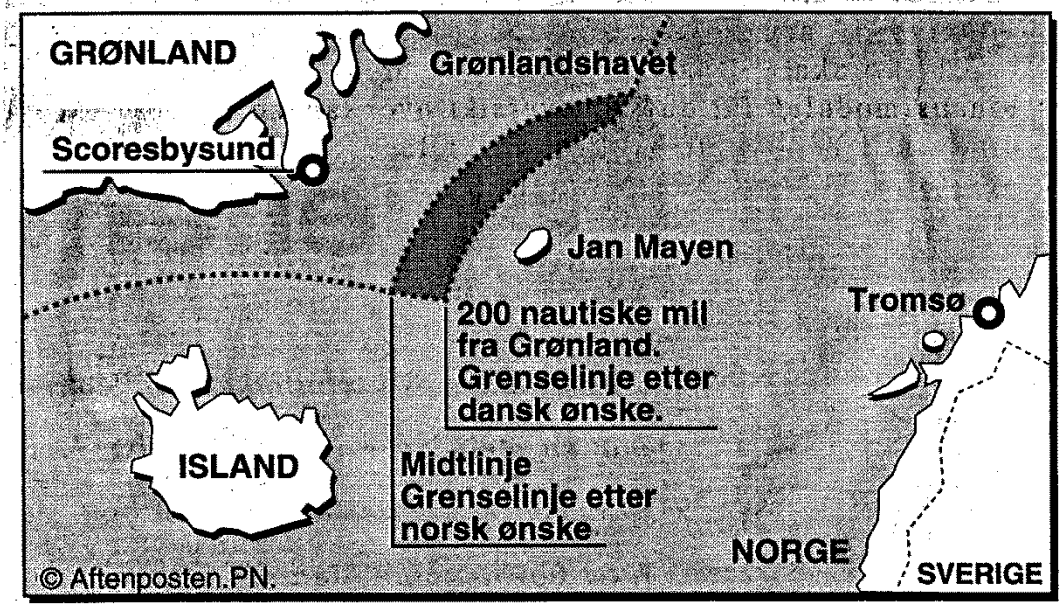
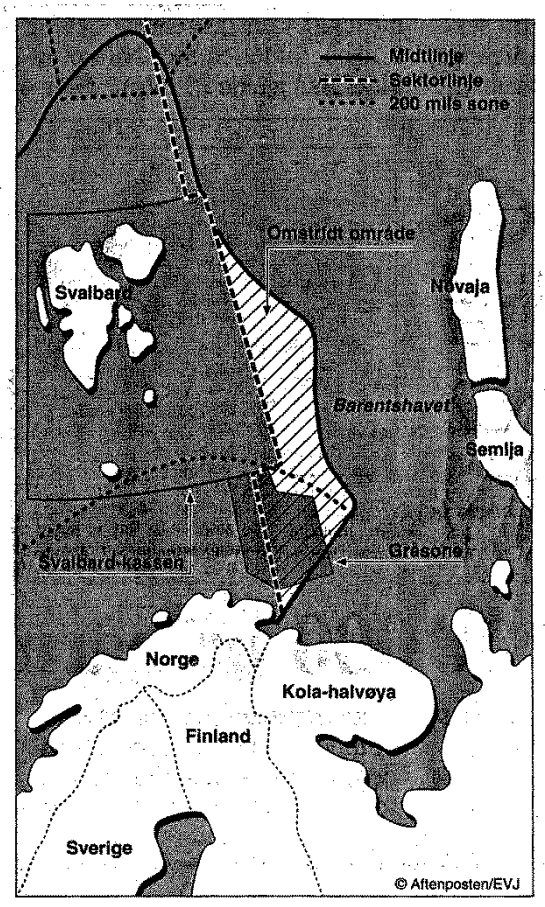


Figure 3 The unregulated area between Norway, Svalbard and Russia*



***Today there is agreement between Russia and Norway about the location of the border, effective as of 7 July 2011.**

Figure 4 The reindeer herding regions of Norway

Figure 5 The reindeer herding districts of Finnmark

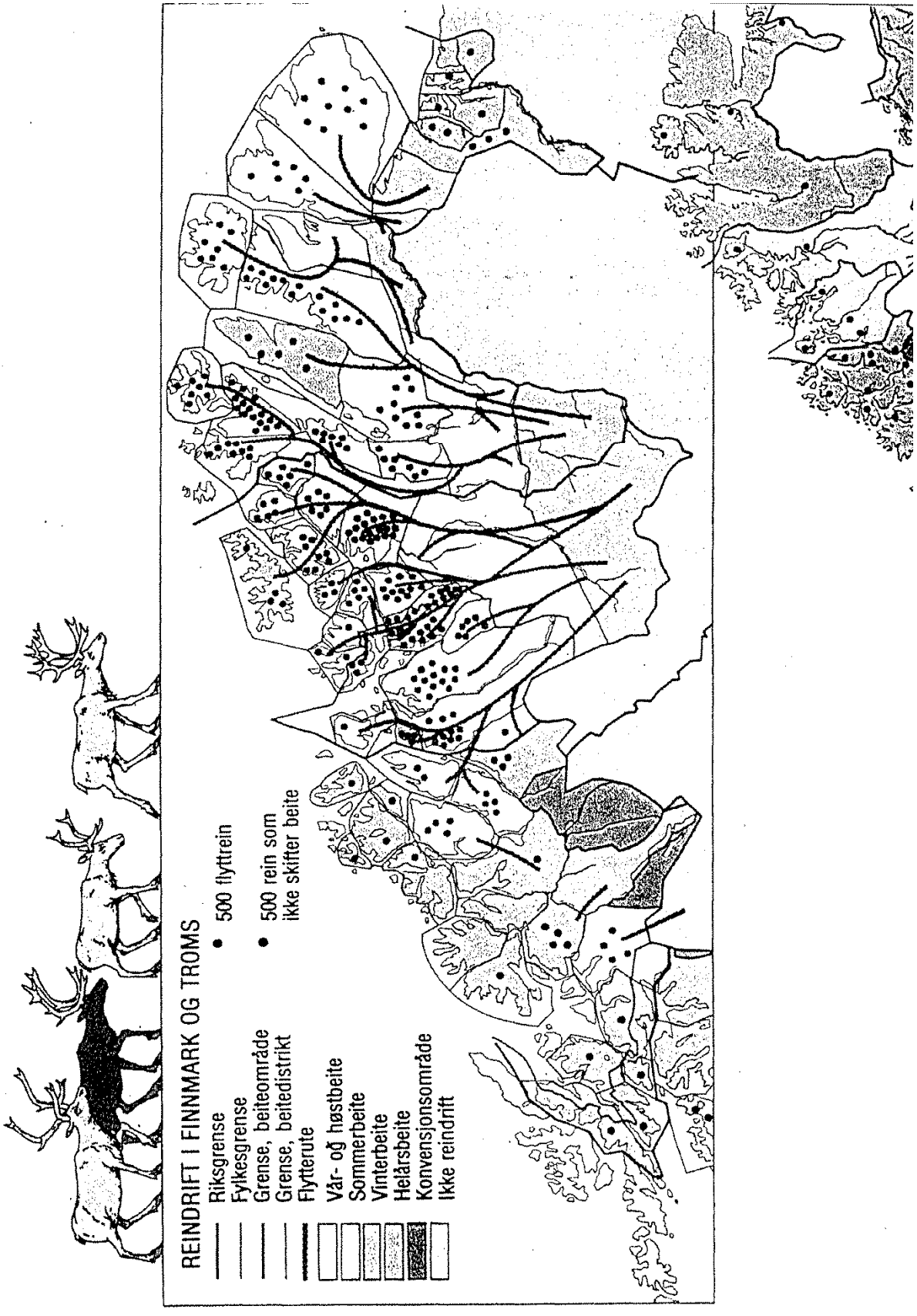


Figure 6 The historical legacy.

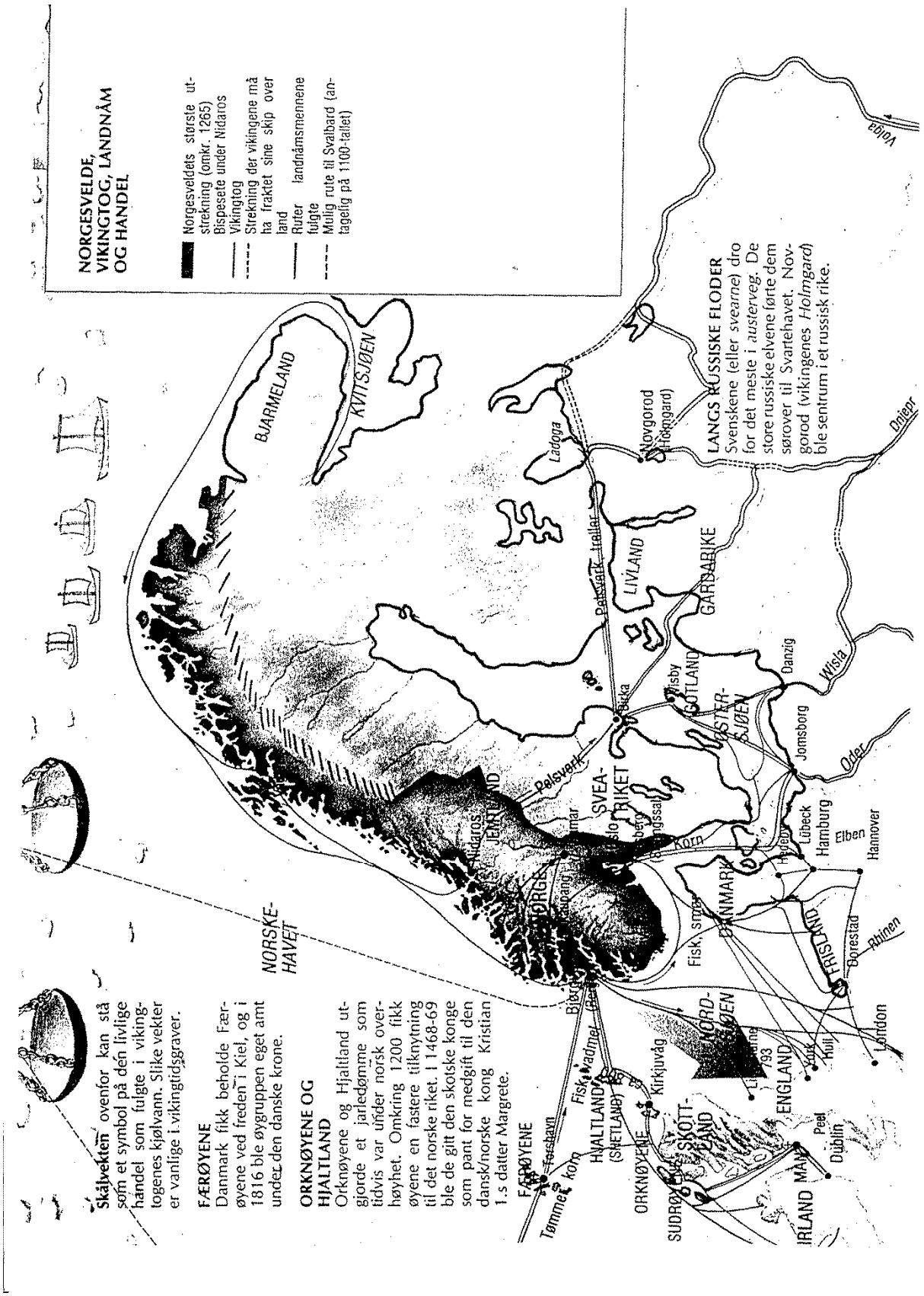
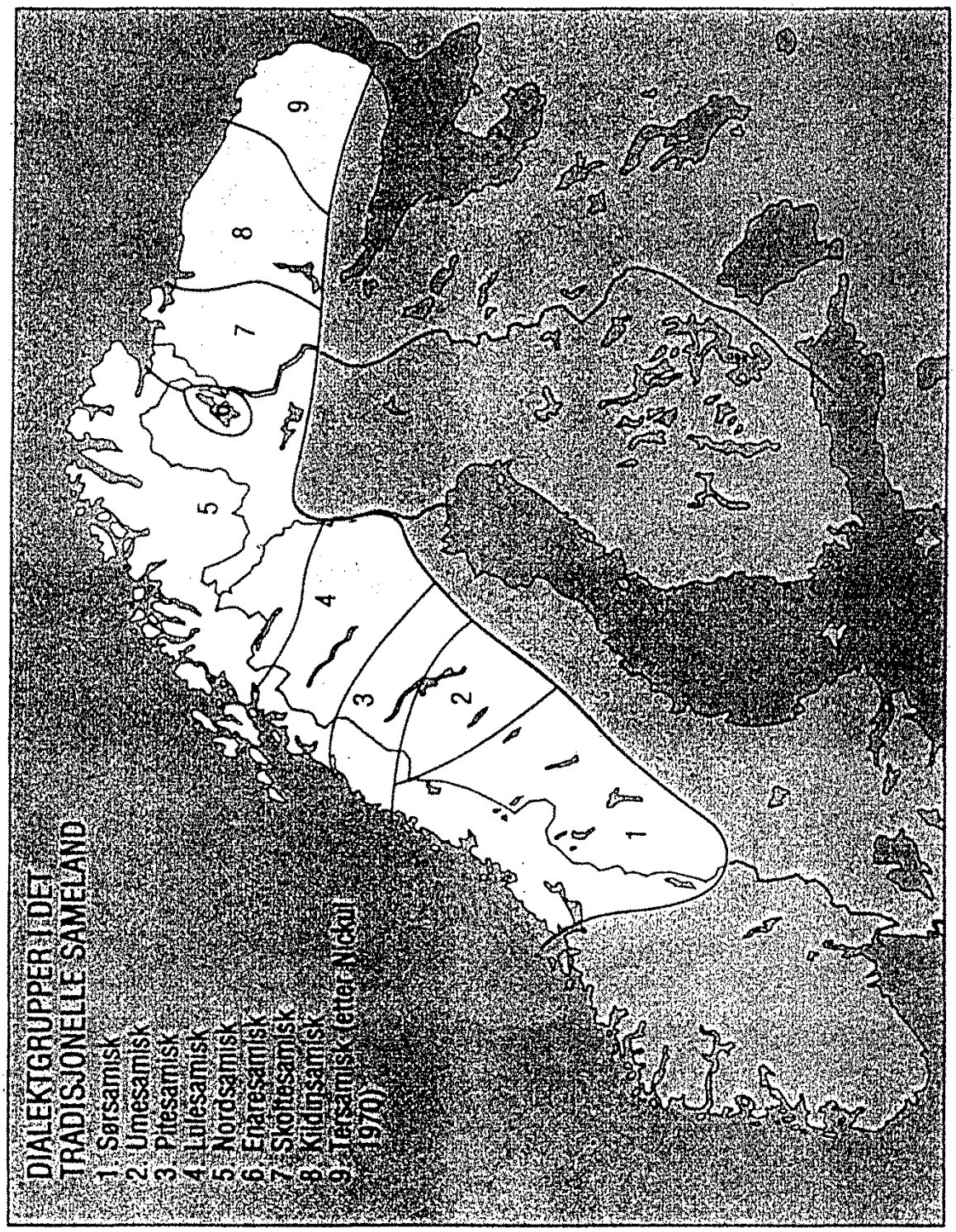


Figure 7 Regions of Saami dialects



The precise content of these rights are so far unresolved, and they vary among the countries. Many of the unresolved problems are tied to the problems of managing the rangelands. Both Saami and Norwegians acknowledge that Saami culture and national identity to some degree is tied to reindeer herding as an industry. But only a minority of the Saami people is actually reindeer herders. The implications of all this for the management of the rangelands as well as the Saami culture is unclear. One reason for this is the internal divisions among the Saami.

Among the Saami there are internal problems tied to the management of the rangeland. Since access to the rangeland now, at least in principle, is closed, which relations the reindeer herders will be able to maintain to the Saami population excluded from the reindeer herding industry, and how will the closure affect Saami culture and identity?

The list of questions could be extended, but our first goal is to understand what is happening and why.

WHAT ARE THE DYNAMICS OF THESE PROBLEMS?

We know a fair amount of what happens to the resources and how it happens. People make it happen. People do make their own history. But here as elsewhere: they have not chosen the conditions under which they make their history. And if it is the conditions which dictate what kind of history people make, we need to ask if it is possible to give the choice of conditions to the fishermen of the Barents Sea and the Saami people. Is it possible for them to affect the conditions shaping their choices? In other words: is it possible to shape the institutions governing the resource utilization on the rangelands in Finnmark and in the Barents Sea according to goals expressing the desired path of development for a social system?

The assumption - not to say presumption - of modernity is that it is possible and that science can give the answer of how to do it.

The intent here is to explore the conditions which will make it possible for reindeer herders jointly to regulate the allocation of the critical resources of the rangelands; and the conditions which will make it possible for all owners of fishing vessels to catch their fair share of the fish harvest with a minimum of effort and without endangering the survival of the ecosystem.

A COMPARATIVE APPROACH

While we know a fair amount of what happens to the ecosystems and why, we know considerably less about which conditions make people behave in a way where resources are used sustainably and even less about how to come from the present conditions to another set of conditions.

To disentangle the various factors affecting resource utilization, a comparative approach has been chosen.

While the resource systems of Finnmark and the Barents Sea are similar in important ways, the social systems involved in the management of the resources are very different. Of particular importance for the comparison of the situations, is that in Finnmark the resource users are an ethnic group of aboriginal status; and in the Barents sea there are international considerations both in relation to the Law of the Sea, the status of the Svalbard territory and the signatories of the Svalbard treaty, and in relation to the geo-political and industrial interests of Russia.

To increase the scope of comparisons, one should look to other countries for contrasting cases on rangeland management where ethnicity is not a salient issue and for cases of management of fishing rights in a less complex international setting.

But productive comparisons require a standardized theoretical language to describe the various cases. This theoretical language we are beginning to find in the rapidly developing field of theories of property rights regimes (Bromley ed. 1992, Oakerson 1992).

THEORIES OF PROPERTY RIGHTS REGIMES

So far there is no one *theory* of property rights regimes, there are theories. Relying on Eggertsson´s (1990) study of "Economic Behavior and Institutions", we can speak of a "naive" theory of property rights, which assumes that property rights will be defined and enforced in a way that will maximize the aggregate wealth of a society.

The "naive" theory may better be thought of as a prescription for how property rights ought to be defined and enforced by the omnipotent and totally good state, rather than as a description of how reality looks like. It is not hard to find evidence disproving it.

One strain of theory, trying to improve on the naive theory, has been called the "interest group theory of property rights". It could also have been called political economy. The political clout of occupational organizations or classes will determine changes in the legal system at the margin and thus cumulatively

strengthen particular groups at the expense of others and without regard to the overall efficiency of the economy.

Another development of the "naive" theory emphasizes the nature of transaction costs and how these shape the activity of the state in relation to property rights. The bottom line of all the theories, though, is that a property rights regime determines who can *legitimately* claim the benefits from which resources. A property rights regime is a real world system of action which affects the distribution of the various goods defined by the society as *worthy* of attention.

The most significant word for a property rights regime is "legitimacy". The degree and source of legitimacy determine the kind of protection given by state and society to any particular holder of a right. The next most important word here is “worthy”. Property rights are not defined for everything. The more valuable something is considered to be within a culture, the more precise the property rights will be and the more elaborate the protection of them will be. A property rights regime defines and distributes a system of cultural values.

One might imagine that a property rights regime was determined by the characteristics of the resource it is supposed to govern. But so far the evidence indicates that cultural factors take precedence over natural factors (Godelier 1984). The role of the actual characteristics of a resource is more in the way of limiting the variation of regimes. Given such and such characteristics there are some constellations of rights and duties that will not work or will work only very poorly. At the very least the resource managers needs to perceive some characteristic of a resource before it can affect their management. This points to the primacy of language and culture in shaping the available information for managers of resources. The freedom this gives societies, is also the prerequisite for shaping a unique culture. By choosing one constellation of rights and duties, one set of values will be promoted instead of another. This means that if a dominant culture in the name of the supreme value of economic efficiency, dictates the choice of rights and duties this will promote “commercialization” to the detriment of others values.

The values of a culture as expressed in a property rights regime can be protected in a variety of ways. If something is considered to be of great value, or to be important for the daily effort to secure a decent living standard, it may be protected either through the norms and regulations promulgated in the everyday encounters, or it may be protected through acts and regulations enacted by a state on behalf of the society, and promulgated by a police and court system.

But statutory law has to be interpreted by the police and the court system. Among lawyers and law enforcement officers there will develop systems of perception of wrong doers as well as norms about appropriate interpretations and suitable reactions. The legal sub-culture is an important part of the forces shaping an actual property rights regime.

A property rights regime can be said to be affected of at least three types of factors:

1) the characteristics of a resource perceived as important for the question of who can legitimately appropriate which of the various benefits yielded by the resource,

2) the beliefs and norms among the actual resource appropriators about who can legitimately appropriate which of the various benefits yielded by the resource, and

3) norms about justice and equity among legal authorities as expressed in acts and the interpretation of law concerning who can legitimately appropriate which of the various benefits yielded by the resource.

In relation to the framework for analyzing common property institutions propsed by Oakerson (1992), the types of factors discussed here belong to a class of factors affecting the transformation of one type of attribute to something affecting attributes of another type.

Figure 8 Determinants of a property rights regime

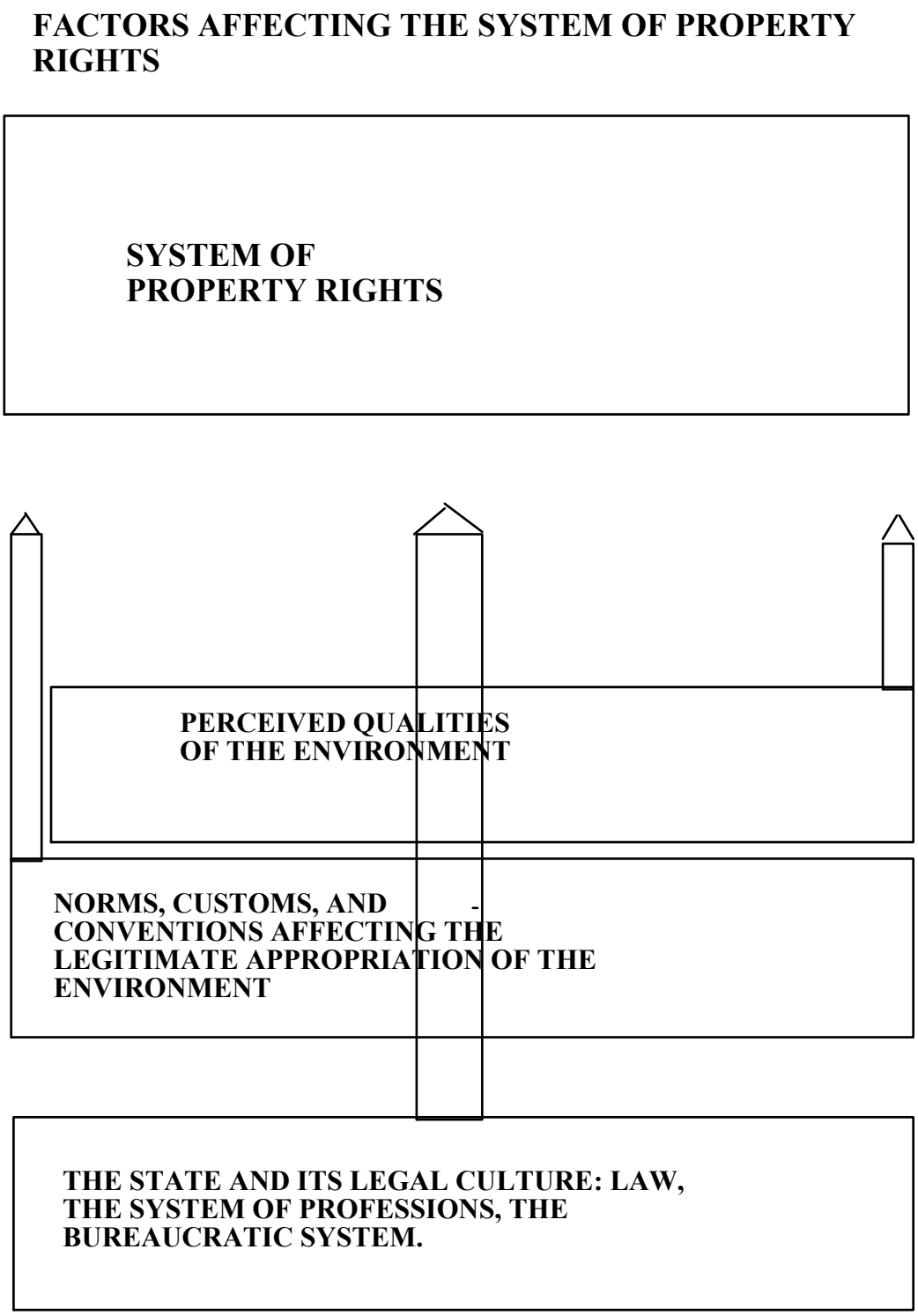
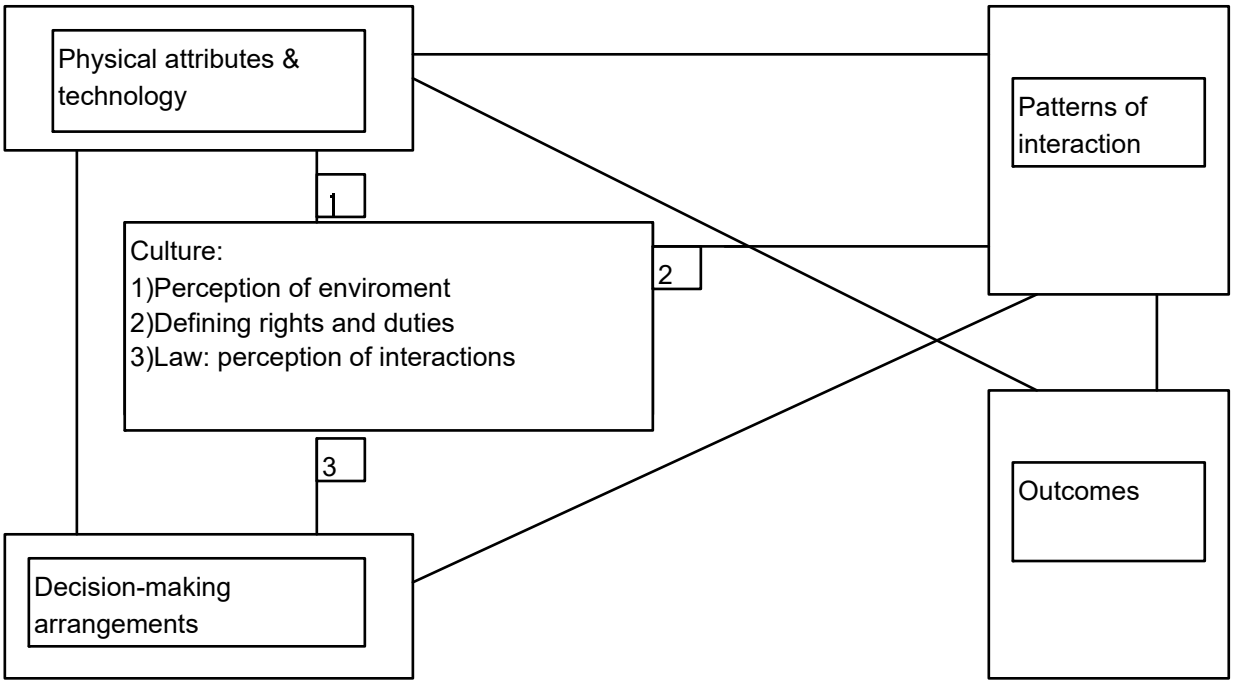


Figure 9
Adapting the Oakerson framework for analyzing the commons
(Source: Oakerson 1992)



CHARACTERISTICS OF RESOURCES

The variety of characteristics of a resource may confuse us. Not many of them are of interest to the management regime. The significant aspects of a resource are its perceived qualities in relation to the goal it is assumed to contribute to fulfill.

Divisibility

One important aspect for our concerns here is the degree of divisibility in time and/ or space. Some talk about this as subtractability. The distributional problems of a society are very different for divisible goods compared to goods with important indivisibilities. If there are noticeable indivisibilities in the utilization of a resource, one has to look for other ways of managing the resource than granting individual physical shares to each user, if the distributional problem is to be solved.

Divisibility in consumption is however not the same as divisibility in the production. Also the divisibility of the productive ecology needs to be considered. The rangelands of many pastoral societies will typically, in important ways, be indivisible. Optimal use of the rangeland will usually imply access to seasonal pastures as well as transport corridors between the various pastures. And if there is a stochastic component e.g. in where the rain falls, the pastures must be large enough to exploit this stochastic component. The possibility for dividing the pasture equitably may not exist. For the fish resource, similar considerations exist. In a multi/species ecosystem like in the Barents Sea and North East Atlantic, single species or parts of the ocean cannot be managed separately from the rest. Ecologically determined indivisibilities must be reflected in the property rights system to ensure sustainable resource management.

While the existence of indivisibilities is important, one should also note the many ways it is possible to divide resources like land. In most traditional property rights systems there are different rules for regulating access to different types of resources (arable, trees, water, pastoral land). There also are legal systems with different rules for "fee simple", "usufruct rights", "management rights" and the rights of "cestui que trust".

In some sense, it seems appropriate to talk of resource specific property rights regimes.

Appropriation and consumption

Other important characteristics of a resource are those who are perceived by the members of a society to affect the procedures of appropriation (e.g. max sustainable yield, or externalities in consumption/ appropriation etc.).

The process of appropriation and/ or consumption of a resource may create externalities (various types of crowding or queuing phenomena), the nature of which needs to be taken into consideration in the property rights regime in order to maintain the stream of benefits.

For renewable resources, there exist upper bounds on the volume of extraction from the resource, which must be observed if the resource shall maintain its ability to provide benefits in the future. These bounds are determined by the two qualities sensitivity and resilience.

Sensitivity and resilience

Sensitivity is the ability of an ecosystem to withstand natural forces of degradation following some human interference. The resilience of an ecosystem is its ability to restore its productive capability after human interference. The

volume of extraction from a resource must be tailored to the systems sensitivity and resilience.

CULTURE AND RESOURCE APPROPRIATION

The culture of a population of actual resource appropriators: the opinions, attitudes, beliefs, norms, and values concerning who can legitimately appropriate which benefits from the resource, is of immediate relevance to resource appropriation.

If somebody believes he has a right to utilize a resource in a particular way, and everybody who knows about it concurs, it does not matter what the legal code says or what the "state" wants. For so long as all people act in good faith, the definition of the situation will be the reality of the situation. The problems arise at the point where someone contests the right to any particular resource utilization, e.g. because it infringes on what this person believes to be his right. If the conflict is solved locally without recourse to the formal legal system, we are within the bounds of a traditional management regime. But if it escalates the local resource users have to face the possibility that the state and its representatives may bring a new definition of the situation into the negotiations.

The academic problem now becomes where those who will decide the outcome of the dispute, will find their definition of the situation: their insight into what, accordingly, can be considered a proper resource utilization, as well as which principles can be invoked to curtail uses incompatible with the principles of justice the definition of the situation implies (e.g. whether the resource is considered common property for the inhabitants of a community or state property) .

Both population growth and technological change will affect resource management (Jodha 1989). From the point of view of property rights regimes changes are likely to arise in relation to
-exclusion from and inclusion in the group of appropriators,
-inheritance of rights,
-long term interests in use,
-transfer of rights, and
-decisions on joint use of resources.

The problem of exclusion and inclusion

The question of inclusion in or exclusion from the group of people allowed access to a resource is fundamental. How is membership in the group acquired and how is it maintained? A particular instance of this problem is inheritance.

Inheritance of rights
How can a resource user ensure that his or her heirs will be able to enjoy the same quantity and quality of a resource? The role of inheritance can be tied in to the more general problem of how to secure long term interests in the resource utilization.

Long term interests in the utilization.
A property rights regime shapes in powerful ways the time horizon of the actors utilizing the resource. The security of tenure (of any kind of rights) and how it is protected forms the possibility for long term investment in a resource.

Transfer of rights
The problems of membership in a group of appropriators are closely related to problems of transferring rights, privileges, powers and immunities (partly or totally) among group members for periods of time or forever. If transfer is possible, the question is what kinds of restrictions are put on the transaction.

Decision rules for resource utilization
Decisions on joint use of a resource require meta-rules about how to decide on joint use. The existence or not of procedures for establishing or changing the meta-rules is an important aspect of a property rights regime.

LAW AND LEGAL CULTURE
Within the legal infrastructure and machinery of enforcement of the state, one finds norms about justice and equity expressed in laws and the interpretation of laws concerning who can legitimately appropriate which benefit from the resource.

The legal regulation is expressed in two ways. It is expressed in the form of acts and it is expressed in the judgements in the courts of law where the interpretation of acts and traditions establish a legal tradition, a legal subculture that of course has links to the common culture of the people.

Enforcement of rights
One problem for holders of claim-rights, privileges, powers and immunities is to defend their rights. Property rights are legitimate if public opinion says so and if some social power - the state or some other central or local institution - recognizes the right-holder and is prepared to enforce his, hers or its rights. An important part of a property rights regime is the remedies granted rights holders feeling themselves wronged.

One important distinction in the legal tradition is the division of interests into public and private. Does the violation of a regulation affect only the private interests of a citizen or does it also affect the public interest? In the cases where it is a violation of public interests, the legal tradition will be affected by the system of enforcement since the resources and traditions of this system determine which violations will be investigated and brought to court.

The role of public opinion and the use of cultural means of enforcing rights are important aspects of a property rights regime.

The role of the remainder

An interesting aspect of all property rights regimes may be described as the problem of the remainder. If different actors control different resources within an ecosystem and their positively described rights are recognized, who controls the remainder (that which is left when everything positively described is accounted for)? The owner of the remainder will be the one to profit from new opportunities as they arise in relation to the resource.

DESCRIBING PROPERTY RIGHTS REGIMES

As a baseline for studying property rights regimes, each regime will have to be given a precise and standard description.

A precise description of the property relation

For the group of actors (persons or groups of persons) allowed access to a resource the following points ought to be considered (see Hohfeld 1913, 1917):

1) What specific claim-rights does membership entail? and how are they exercised and defended against non-members?,

2) Which privileges does a claim-rights holder enjoy in regard of the resource? Under which specific conditions can they be enjoyed? And what happens to anyone trying to interfere with the enjoyment?

3) Which powers (to create new types of property relations in regard of the resource) does a claim-rights holder have? Which are the liabilities of the non-members?

4) Which immunities will a claim-rights holder have (legitimate customary and/ or legal protection) in regard of someone trying to usurp his powers? and how are they protected?

A precise description of decision rules

For the rights defining a property relation one needs to know if a rule can be described as a convention among the local population or if its origin is some legitimate decision of a recognized system responsible actor. For any system-responsible actor one needs to know the rules governing the decions on the property rights rules.

TYPES OF PROPERTY RIGHTS REGIMES

By a natural or environmental resource, we shall mean any physically bounded and identifiable entity recognized as a resource by some legitimate social actor.

A property right is a *legitimate* rule of appropriation for some well-defined stream of benefits from some recognized resource. This suggests that it may be interesting to distinguish between different streams of benefits from the same physical resource.

Property rights regimes are usually divided into state, common, and private property rights regimes, sometimes with the absence of property rights, the open access regime, added on as a fourth type. I think one ought to be more specific than this and talk about the property rights regime for a specific stream of benefits from a resource.

The resource specific property rights regime then are all the rules and procedures which determine who can legitimately appropriate any particular stream of benefits from a resource.

The major types of regimes seem to be determined according to number of appropriators on the one hand, and, on the other hand, who may legitimately claim an interest in the distribution of a particular stream of benefits from the resource.

The relevant distinction according to number of appropriators seems to be one individual, a recognized group or all members of a society. By a group-resource is meant any resource where more than one independent decision maker, but not all members of a society, can claim legitimate rights to appropriate the particular benefit from the resource.

One may also distinguish between private and non-private resources according to who may legitimately claim an interest in the distribution of any benefit from the resource. By a non-private resource is meant any stream of benefits where legitimate interest in the decisions on the appropriation of it is a matter of interaction among the units of appropriation and other legitimate actors of the society. For a private resource, nobody except the units of appropriation can claim legitimate interest in the stream of benefit.

One may argue for the public interest for instance out of the nature and extent of externalities created either by the process of appropriation or by the process of consumption. If such externalities are perceived to be few or of little importance, legitimate interests in their utilization are mainly private.

TABLE 1
TYPES OF PROPERTY RIGHTS REGIMES

	Legitimate interests in decisions on use are mainly	
	APPROPRIATOR (because of few negative externalities)	**SOCIETY (because of many negative externalities)**
Legitimate unit for appropriation is	**PRIVATE PROPERTY RIGHTS REGIMES**	**NON-PRIVATE PROPERTY RIGHTS REGIMES**
INDIVIDUAL (the legal person)	**ordinary P**	**state P**
A GROUP OF INDIVIDUALs (contractually defined)	**common P**	**joint P**
All members of SOCIETY (symbolically represented by a monarch or government)	**sovereign P**	**public P**

TABLE 2
MODE OF ACTION ASSOCIATED WITH TYPE OF PROPERTY

	MODE OF ACTION IN PROPERTY RIGHTS REGIMES	
ACTION BY	**PRIVATE**	**NON-PRIVATE**
GOVERNMENT	**regulation**	**management**
CITIZEN	**management**	**consumption**

CONCLUDING REMARKS

Both Finnmarksvidda and the Barents Sea belong to a class of resources, which in most countries today are considered as common resources. Exactly what this entails varies enormously from situations where the resource for all practical purposes are nobodies property to situations where the resource is managed by a corporation as if it is ordinary private property.

Patterns of resource use tested by history and guarded by tradition will usually be sustainable. Today it is recognized that circumstances (population, technology, organizations, legal codes, cultural procedures, etc.) may be changing so rapidly that the sustainability of the prevalent pattern of utilization - whether traditionally enforced or enforced by a state - is an open question. Pressures to change unsustainable resource utilization will be mounting as soon as enough people perceive the problem. But from perceiving a problem to knowledge about how to solve it there is a long way. And from knowledge to action the process often takes problematic twists. Still, the problem of sustainable resource use is one of the big questions. To divide it into problems of early detection, knowledge about consequences of policy interventions, and strategies for implementation of changes may make it slightly less formidable. In the present context we shall be concerned with causes and consequences of various patterns of resource usage.

According to the definitions used here, to change a pattern of utilization means changing the structure of property rights to the resources. But before one can start the task of designing modifications to a property rights regime, the existing system of rights, both those recognized in a legal code and enforced by the state, and those recognized in a culture and enforced by traditional means, needs to be known in detail.

The problem we want to confront is thus to understand how the various parts of a system act in concert to produce the observed sustainable or unsustainable pattern of utilization to see if the regimes of utilization can be changed in a direction approaching a more sustainable pattern of utilization.

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SECTION 1
THEORY FROM LAW AND SOCIAL SCIENCE

Introduction

A theory about the management of renewable resources must by necessity cross several disciplines. We have here singled out law and the social sciences asking about the state of the art.

The six papers in the section are written: one by a political scientist, two by economists, two by lawyers and one by a land consolidation and cadastral specialist. The papers spans neo-classical economic theory by way of empirically grounded conclusions from comparative political theory and human rights jurisprudence to the historical and legal legacy of contemporary Norway as this is expressed in law about resource management.

The first paper by Elinor Ostrom underlines the intimate connection between law and social science. The paper summarizes the state of the art on what characterizes long enduring self-governed common property institutions emphasizing the importance of rulemaking, and the different implications of rulemaking at various levels. At the end, the paper discusses the possible processes, which may lead to the breakdown of well-designed institutions making them fail after centuries of successful operation.

The second paper by Thráinn Eggertsson presents a short introduction to economic theory relevant for the choice of management regime to a resource "when several independent producers jointly draw inputs from a natural resource which they share and to which they hold exclusive rights". If wealth maximization is the goal, it is argued that under certain specified circumstances, common or joint property rights systems may be the form of exclusive property rights, which provides the best advantage for minimizing the aggregate cost of production, governance and exclusion. And it is suggested that the efficiency of common property rights depends not only on economic factors, but also on the nature of political and social institutions.

The third paper by Gary D. Libecap discusses the incentives for changing existing property rights regimes, and the problems encountered in the modifications of them. In particular, considerations of distributional justice among the resource appropriators and the incentives among politicians, bureaucrats and new resource appropriators are discussed. It is concluded that as traditional appropriators turn or are turned to outside politicians and administrative agencies to address resource use problems, new objectives

and interests are added. The broader array of competing political objectives for resource assignment and use may not lead to policies that advance the interests of traditional users or significantly protect the resource. Accordingly, caution is necessary in calling for public policy intervention, and once a path of regulatory change is taken, the distributional concerns of the various parties involved must be considered, if collective action is to be successful in safeguarding the resource and the traditional societies that depend upon it.

In the fourth paper written by Hans Chr. Bugge we turn to a little addressed topic: the interrelations of human rights and access to resources. The paper gives an overview of the various aspects of human rights in relation to resource management in international law. The conclusion is that so far human rights have had a rather limited role in law on resource management. But this seems to be changing as environmental degradation and destruction of natural resources threaten life and well-being for millions of people, making the fulfilment of many basic human rights more and more difficult. The problems may become more severe for the next generation. Scarce resources may become one of the most important causes for social unrest, conflicts and wars, social injustice and suppression of human rights. Therefore, management of natural resources and human rights issues should to a greater extent be combined in the international discussion in this field.

The fifth paper written by Thor Falkanger presents a general overview of Norwegian law on the use of rangelands (or wastelands or outfields). The rangelands in Norway are to a considerable degree used by more than one person. Even in the cases with one owner only, the land will in most cases be used by others as well, due to specially created rights over the property, and due to the all men's rights. The situation is most complex for state owned land where one may find conflicts over use between the owner and three groups of users: the farmers, the public, and those to whom the state has conferred rights in its capacity as owner. The rights and duties of the users are to some extent defined by contract, but in important respects directly by written or customary law. The solution of conflicts between the many users of the rangelands will depend upon the combined effects of traditional private law and modern administrative law.

The sixth paper written by Hans Sevatdal goes further into the issue of the various forms of common property in Norway: the state commons, the parish (bygde) commons, and the “farm” commons of southern Norway and the state owned lands in Nordland, Troms, and Finnmark.

Since the commons are of very ancient origin, and the topography, climate, settlement patterns, economy etc. in Norway varies enormously, it must be expected that the commons are equally diverse. Classification into homogeneous groups is difficult. However, three main categories of common property are identified: 1) State common land, 2) Parish common land, and 3) Common property owned jointly by "farms" (sameiger mellom bruk). In addition the 4) State lands in the counties of Nordland and Troms, must be treated separately and are different from the 5) State lands in Finnmark. For the three main types of commons the paper reviews the types of lands it covers, the areas, the ownership situation, access and decision-making involved, the rules of alienation and the degree of collectiveness in use. It is noted that compared to the other Nordic countries, there is a remarkable lack of traditional local institutions for management of the commons. Formalized institutions at local levels seem to have been of minor importance after the old Norse institution, the "Ting", disappeared and until our own century. However, the research base is too weak to draw firm conclusions about the reasons for this. The qualified guess offered, is that problems related to the "collectiveness" in all three types of commons were solved within two regimes: 1) customs and tradition, including standards for decent behavour, and 2) statutory law. Today state common land and parish common land are very much institutionalized both at local and national levels.

INSTITUTIONAL ANALYSIS, DESIGN PRINCIPLES, AND THREATS TO SUSTAINABLE COMMUNITY GOVERNANCE AND MANAGEMENT OF COMMONS

by

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THE INSTITUTIONAL ANALYSIS AND DEVELOPMENT FRAMEWORK

The Institutional Analysis and Development (IAD) framework is an evolving method for identifying and analyzing how attributes of a physical world interact with those of the general cultural setting and the specific rules-in-use to affect the incentives facing individuals in particular situations and the likely outcomes to result (Kiser and Ostrom, 1982; Oakerson, 1992; E. Ostrom, 1986; V. Ostrom, 1991; V. Ostrom, Feeny, and Picht, 1993; Thomson, 1992). The IAD framework links the characteristics of a physical world (such as forests) with those of the general cultural setting (the villages and harvesters that use forests), the specific rules that affect the incentives individuals face in particular situations (how forest products can be harvested, utilized, and maintained), the outcomes of these interactions (regeneration or deforestation), and the evaluative criteria applied to these patterns and outcomes (efficiency, equity, sustainability). Common-pool resources (CPRs) share two characteristics of a physical world: (1) it is costly to develop institutions to exclude potential beneficiaries from them and (2) the resource units harvested by one individual are not available to others. Recent research projects have applied this framework to develop a database on common-pool resources (particularly irrigation systems and inshore fisheries) located in different regions of the world (Tang, 1991, 1992; Schlager, 1990; Schlager and Ostrom, 1992, 1993; E. Ostrom, Benjamin, and Shivakoti, 1992). After somewhat more than a year's developmental work, we have now designed a

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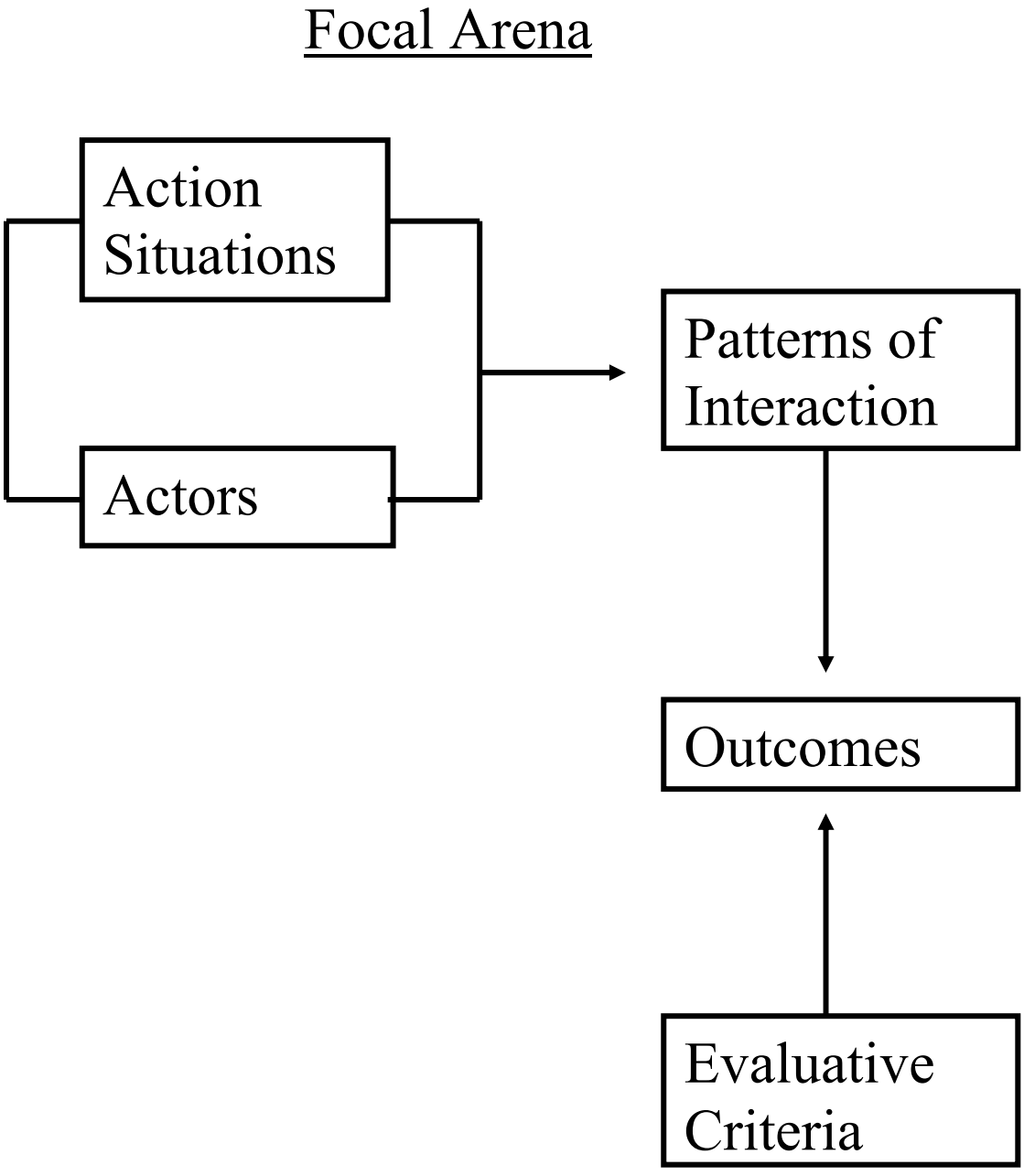
[1] An earlier version of this paper was presented at the Workshop on "Community Management and Common Property of Coastal Fisheries and Upland Resources in Asia and the Pacific: Concepts, Methods and Experiences," sponsored by the International Development Research Centre and International Center for Living Aquatic Resources Management, held at Silang, Philippines, June 20-23, 1993. Writing of this paper is supported by the Decentralization: Finance and Management Project, funding by the U.S. Agency for International Development to Associates in Rural Development, Burlington, Vermont; the Metropolitan Studies Program of the Maxwell School of Citizenship and Public Affairs at Syracuse University; and the Workshop in Political Theory and Policy Analysis at Indiana University.

Figure 1 A FRAMEWORK FOR INSTITUTIONAL ANALYSIS



new database to record information about forest resources and institutions in many different countries (E. Ostrom et al., 1993).

Analysis of human actions and consequences frequently starts with a focal arena as shown in Figure 1. Examples include action situations where individuals decide when and how much to harvest of forest products from different locations, whether to establish a forest users association, or whether to fence off a particular part of a forest to prevent animals from foraging within. What arena is analyzed depends on the questions of interest to the analyst. The analyst wanting to examine recurrent structures of situations must, however, find ways of separating one situation from another for the purpose of analysis. Further, individuals who participate in many situations must also know the difference among them. The actions that can be taken in harvesting timber are different from those that can be taken in harvesting thatch or those that are involved in selling either timber or thatch. An individual who is repeatedly mixed up about what situation he or she is in, is not normally considered as competent to take independent actions.

What is distinctive about the IAD framework, when contrasted to frameworks that are closely tied to a single scientific discipline, is that all action situations are viewed as being composed of the same set of elements. Thus, while harvesting or marketing timber or thatch differ in many important ways, these diverse situations can all be described by identifying and analyzing how particular elements constituting the situations under analysis lead to the patterns observed. These elements include identifying:

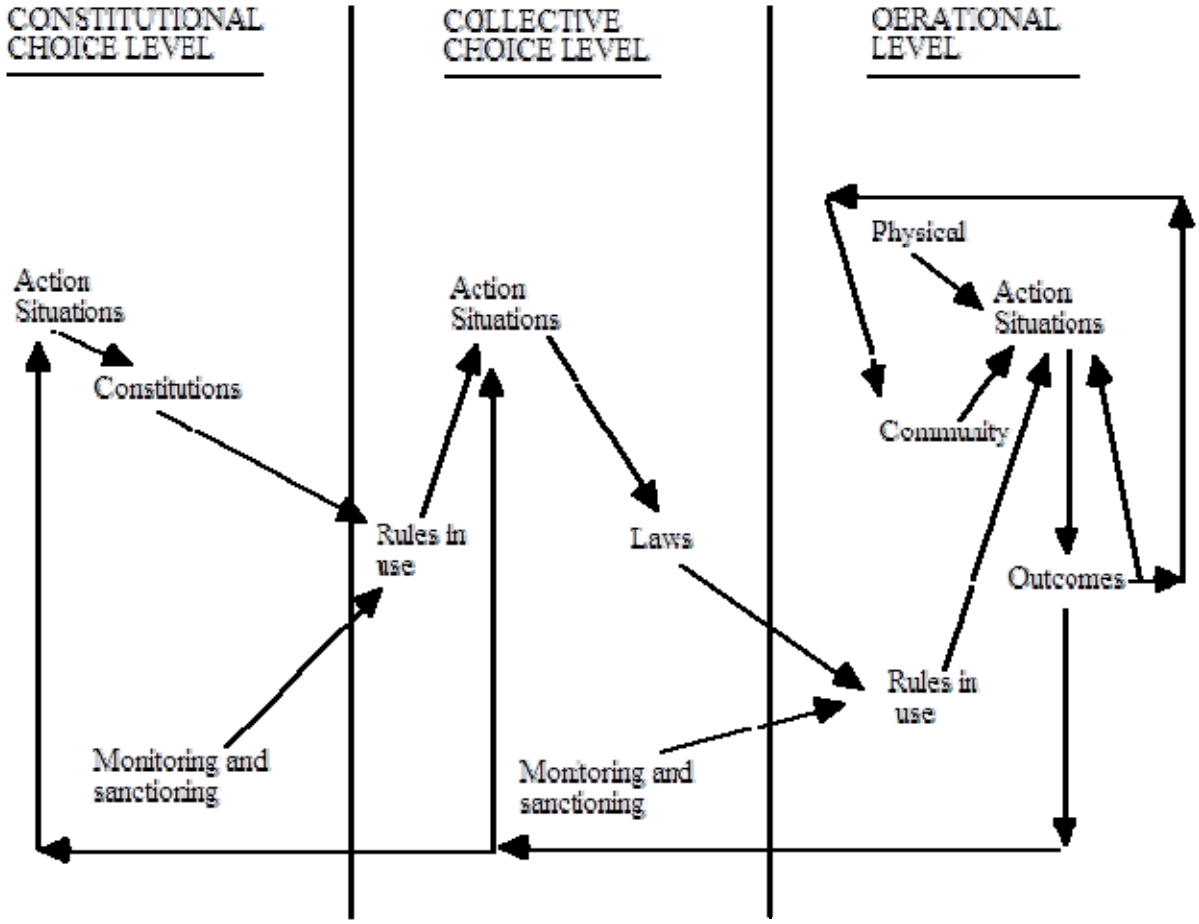
* Who are the participants?
* What are the positions they hold?
* What actions can they take?
* What information do they possess?
* What outcomes can occur?
* How are actions and outcomes linked?
* What benefits and costs are assigned to actions and outcomes?

These elements are themselves relatively complex. Many different action situations can be constructed from them. At the same time that the IAD framework stresses a universality of working parts, it enables analysts to examine unique combinations of these parts. The array of potential outcomes that can be analyzed and evaluative criteria, such as equity, efficiency, sustainability, and adaptability, is also very large. Further, these elements are themselves constituted by a deeper layer of attributes about a physical and material setting, the community within which a situation occurs, and the specific rules-in-use that affect the structure of the situation.

Action situations are perceived to be nested within at least three relevant tiers of action (Kiser and Ostrom 1982) (see Figure 2). *Operational rules* directly affect day-to-day decisions made by the participants in any setting. *Operational-level actions* occur whenever individuals directly affect variables in the world by doing such things as harvesting products, worshipping at a forest shrine, planting seeds, building fences, patrolling the borders of a forest, or feeding leaves to their animals. *Collective-choice rules* affect operational activities and results through their effects in determining who is eligible and the specific rules to be used in changing operational rules. *Collective-choice actions* occur whenever individuals decide about operational activities. Thus, the actions taken at an annual meeting of a forest users association to keep a forest closed for the harvesting of a particular product except for a specified time is a collective-choice action. *Constitutional-choice rules* affect operational activities and their effects in determining who is eligible and the rules to be used in crafting the set of collective-choice rules that in turn affect the set of operational rules. *Constitutional-choice actions* occur whenever individuals decide about how collective-choice actions will be made. Consequently, the decision of a forest users association to create an executive committee that will meet once a month to make decisions about joint activities to be undertaken is a constitutional-choice action. Constitutional choices are frequently made without recognition that they are indeed creating a future structure to make future rules about an operational level.

At each level of analysis there may be one or more arenas in which the types of decisions made at that level will occur. The elements of an action situation and of an actor are used to construct these arenas at all three levels. The concept of an "arena" does not imply a formal setting, but can include such formal settings as legislatures, governmental bureaucracies, and courts. Policy making regarding the rules that will be used to regulate operational-level action situations is usually carried out in one or more collective-choice arenas as well as being enforced at an operational level. Dilemmas are not limited to an operational level of analysis. They frequently occur at the collective-choice and constitutional levels of analysis.

Figure 2 LINKING LEVELS OF ANALYSIS



DESIGN PRINCIPLES OF SUSTAINABLE COMMUNITY-GOVERNED COMMONS

The IAD framework has been an underlying foundation for all of our empirical studies of common-pool resources and common-property regimes. One line of inquiry that we have pursued over time is the study of long-lasting resource systems that are self-governed by the users. Many of these systems have been studied in depth by perceptive scholars such as Robert Netting, Thráinn Eggertsson, Gary Libecap, Daniel Bromley, Margaret McKean, Fikret Berkes, David Feeny, and others. The resources involved vary from irrigation systems to mountain grazing lands and both inshore and ocean fisheries. The most notable similarity among these systems is the sheer perseverance of these resource systems and institutions. The institutions can

be considered robust in that the rules have been devised and modified over time according to a set of collective-choice and constitutional-choice rules (Shepsle, 1989). In other words, these systems have been sustainable over very long periods of time. Most of the environments studied are complex, uncertain, and interdependent environments where individuals continuously faced substantial incentives to behave opportunistically. The puzzle that was addressed in *Governing the Commons* is how did the individuals using these systems sustain them over such long periods of time.

The specific rules-in-use differ markedly from one case to the next.[2] Given the great variation in specific rules-in-use, the sustainability of these resources and their institutions cannot be explained by the presence or absence of particular rules. Part of the explanation that can be offered for the sustainability of these systems is based on the fact that the particular rules do differ. By differing, the particular rules take into account specific attributes of the related physical systems, cultural views of the world, and the economic and political relationships that exist in the setting. Without different rules, appropriators could not take advantage of the positive features of a local CPR or avoid potential pitfalls that could occur in one setting but not others.

A set of seven design principles appear to characterize most of the robust CPR institutions. An eighth principle characterizes the larger, more complex cases. A "design principle" is defined as a conception used either consciously or unconsciously by those constituting and reconstituting a continuing association of individuals about a general organizing principle. Let us discuss each of these design principles.[3]

Clearly Defined Boundaries

Individuals or households with rights to withdraw resource units from the CPR and the boundaries of the CPR itself are clearly defined.

Defining the boundaries of the CPR and of those authorized to use it can be thought of as a "first step" in organizing for collective action. So long as the boundaries of the resource and/or the individuals who can use the resource remain uncertain, no one knows what they are managing or for whom. Without defining the boundaries of the CPR and closing it to "outsiders," local appropriators face the risk that any benefits they produce by their efforts will be reaped by others who do not contribute to these efforts. At the least, those who invest in the CPR may not receive as high a return as they expected. At

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2 The wide variation of specific rules tailored to local circumstances in Norway and other northern regions is well-documented by the papers included in this volume. See the chapters by Eggertsson, Falkanger, Sevatdal, Sagdal, Brox, Korpijaakko-Labba, Austena and Sandvik.

3 The next section draws in part on *Governing the Commons* (E. Ostrom, 1990: ch. 3).

the worst, the actions of others could destroy the resource itself. Thus, for any appropriators to have a minimal interest in coordinating patterns of appropriation and provision, some set of appropriators have to be able to exclude others from access and appropriation rights. If there are substantial numbers of potential appropriators and the demand for the resource units are high, the destructive potential of all users freely withdrawing from a CPR could push the discount rate used by appropriators toward 100%. The higher the discount rate, the closer the situation is to that of a one-shot dilemma where the dominant strategy of all participants is to overuse the CPR.

Congruence between Appropriation and Provision Rules and Local Conditions

Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, materials, and/or money.

Unless the number of individuals authorized to use a CPR is so small that their harvesting patterns do not adversely affect one another, at least some rules related to how much, when, and how different products can be harvested are usually designed by those using the resource. Well-tailored appropriation and provision rules help to account for the perseverance of the CPRs themselves. Uniform rules established for an entire nation or large region of a nation rarely can take into account the specific attributes of a resource that are used in designing rules-in-use in a particular location. In long-surviving irrigation systems, for example, subtly different rules are used in each system for assessing water fees used to pay for water guards and for maintenance activities, but in all instances those who receive the highest proportion of the water also pay approximately the highest proportion of the fees. No single set of rules defined for all irrigation systems in a region would satisfy the particular problems in managing each of these broadly similar, but distinctly different, systems.

Collective-Choice Arrangements

Most individuals affected by operational rules can participate in modifying operational rules.

CPR institutions that use this principle are able to tailor better rules to local circumstances, since the individuals who directly interact with one another and with the physical world can modify the rules over time so as to better fit them to the specific characteristic of their setting. Appropriators who designed CPR institutions that are characterized by the first three principles—clearly defined boundaries, good-fitting rules, and appropriator participation in collective choice—should be able to devise a good set of rules if they keep the costs of changing rules relatively low.

The presence of good rules, however, does not account for appropriators following them. Nor, is the fact that the appropriators themselves designed and initially agreed to the operational rules an adequate explanation for centuries of compliance by individuals who were not originally involved in the initial agreement. It is not even an adequate explanation for the continued commitment of those who were part of the initial agreement. Agreeing to follow rules *ex ante* is an easy "commitment" to make. Actually following rules *ex post,* when strong temptations are present, is the significant accomplishment.

The problem of gaining compliance to rules—no matter what their origin—is frequently assumed away by analysts positing all-knowing and all-powerful *external* authorities that enforce agreements. In many long-enduring CPRs, no external authority has sufficient presence to play any role in the day-to-day enforcement of the rules-in-use. Thus, external enforcement cannot be used to explain high levels of compliance. In all of the long-enduring cases, active investments in monitoring and sanctioning activities are very apparent. These lead us to consider the fourth and fifth design principles.

Monitoring
Monitors, who actively audit CPR conditions and appropriator behavior, are accountable to the appropriators and/or are the appropriators themselves .

Graduated Sanctions
Appropriators who violate operational rules are likely to receive graduated sanctions (depending on the seriousness and context of the offense) from other appropriators, from officials accountable to these appropriators, or from both.

In long-enduring institutions, monitoring and sanctioning are undaken primarily by the participants themselves. The initial sanctions used in these systems are also surprisingly low. Even though it is frequently presumed that participants will not spend the time and effort to monitor and sanction each other's performance, substantial evidence has been presented that they do both in these settings.

To explain the investment in monitoring and sanctioning activities that occurs in these robust, self-governing, CPR institutions, the term "quasi-voluntary compliance" used by Margaret Levi (1988: ch. 3) is very useful. She uses the term "quasi-voluntary compliance" to describe taxpayer behavior in regimes where most everyone pays taxes. Paying taxes is *voluntary* in the sense that individuals *choose* to comply in many situations where they are not being directly coerced. On the other hand, it is "*quasi-*

voluntary because the noncompliant are subject to coercion—if they are caught" (ibid.: 52). Levi stresses the *contingent* nature of a commitment to comply with rules that is possible in a repeated setting. Strategic actors are willing to comply with a set of rules, Levi argues, when:

1. They perceive that the collective objective is achieved; and
2. They perceive that others also comply.

In Levi's theory, enforcement is normally provided by an external ruler even though her theory does not preclude other enforcers. To explain commitment in many of the cases of sustainable community-governed CPRs, external enforcement is largely irreverent. External enforcers may not travel to a remote village other than in extremely unusual circumstances. CPR appropriators create their own internal enforcement to (1) deter those who are tempted to break rules, and thereby (2) assure quasi-voluntary compliers that others also comply. The Chisasibi Cree, for example, have devised a complex set of entry and authority rules related to the coastal and islaurine fish stocks of James Bay as well as the beaver stock located in their defined hunting territory. Fikret Berkes (1987) describes why these resource systems and the rules used to regulate them have survived and prospered for so long:

> Effective social mechanisms ensure adherence to rules which exist by virtue of mutual consent within the community. People who violate these rules suffer not only a loss of favour from the animals (important in the Cree ideology of hunting) but also social disgrace. (Berkes, 1987: 87)

The costs of monitoring are kept relatively low in many long-enduring CPRs as a result of the rules-in-use. Rotation rules used in irrigation systems and in some inshore fisheries place the two actors most concerned with cheating in direct contact with one another. The irrigator who nears the end of a rotation turn would like to extend the time of his turn (and thus, the amount of water obtained). The next irrigator in the rotation system waits nearby for him to finish, and would even like to start early. The presence of the first irrigator deters the second from an early start, and the presence of the second irrigator deters the first from a late ending. Monitoring is a by-product of their own strong motivations to use their water rotation turn to the fullest extent. The fishing site rotation system used in Alanya (Berkes, 1992) has the same characteristic that cheaters are observed at low cost by those who most want to deter another cheater at that particular time and location. Many of the ways that work-teams are organized in the Swiss and Japanese mountain commons also have the result that monitoring is a natural by-product of using the commons.

The costs and benefits of monitoring a set of rules are not independent of the particular set of rules adopted. Nor are they uniform in all CPR settings.

When appropriators design at least some of their own rules, they can learn from experience to craft enforceable rather than unenforceable rules. This means paying attention to the costs of monitoring and enforcing as well as the benefits that those who monitor and enforce the rules obtain. A frequently unrecognized "private" benefit of monitoring in settings where information is costly is obtaining the information necessary to adopt a contingent strategy. If an appropriator who monitors finds someone who has violated a rule, the benefits of this discovery are shared by all using the CPR, as well as providing the discoverer a signal about compliance rates. If the monitor does *not* find a violator, it has previously been presumed that private costs are involved without any benefit to the individual or the group. If information is not freely available about compliance rates, then an individual who monitors obtains valuable information from monitoring.

By monitoring the behavior of others, the appropriator-monitor learns about the level of quasi-voluntary compliance in the CPR. If no one is discovered breaking rules, the appropriator-monitor learns that others comply and no one is being taken for a sucker. It is then safe for the appropriator-monitor to continue to follow a strategy of quasi-voluntary compliance. If the appropriator-monitor discovers rule infractions, it is possible to learn about the particular circumstances surrounding the infraction, to participate in deciding the appropriate level of sanctioning, and then to decide about continued compliance or not. If an appropriator-monitor finds an offender, who normally follows rules but happens to face a severe problem, the experience confirms what everyone already knows. There will always be times and places where those who are basically committed to following a set of rules succumb to strong temptations to break them.

A real threat to the continuance of quasi-voluntary compliance can occur, however, if an appropriator-monitor discovers individuals who break the rules repeatedly. If this occurs, one would expect the appropriator-monitor to escalate the sanctions imposed in an effort to halt future rule breaking by such offenders and any others who might start to follow suit. In any case, the appropriator-monitor has up-to-date information about compliance and sanctioning behavior on which to make future decisions about personal compliance.

Let us also look at the situation through the eyes of someone who breaks the rules and is discovered by a local guard (who will eventually tell everyone) or another appropriator (who also is likely to tell everyone). Being apprehended by a local monitor when the temptation to break the rules becomes too great has three results: (1) it stops the infraction from continuing and may return contraband harvest to others; (2) it conveys information to the offender that someone else in a similar situation is likely to be caught, thus increasing

confidence in the level of quasi-voluntary compliance; and (3) a punishment in the form of a fine plus loss of reputation for reliability is imposed.

The fourth and fifth design principles—monitoring and graduated sanctions—thus take their place as part of the configuration of principles that work together to enable appropriators to constitute and reconstitute robust CPR institutions. Let me summarize my argument to this point. When CPR appropriators design their own operational rules (Design Principle 3) to be enforced by individuals who are local appropriators or accountable to them (Design Principle 4) using graduated sanctions (Design Principle 5) that define who has rights to withdraw from the CPR (Design Principle 1) and that effectively restrict appropriation activities given local conditions (Design Principle 2), the commitment and monitoring problem are solved in an interrelated manner. Individuals who think a set of rules will be effective in producing higher joint benefits and that monitoring (including their own) will protect them against being a sucker, are willing to make a contingent self-commitment of the following type: I commit myself to follow the set of rules we have devised in all instances except dire emergencies if the rest of those affected make a similar commitment and act accordingly. Once appropriators have made contingent self-commitments, they are then motivated to monitor other people's behavior, at least from time to time, in order to assure themselves that others are following the rules most of the time. Contingent self-commitments and mutual monitoring reinforce one another, especially in CPRs where rules tend to reduce monitoring costs.

Conflict-Resolution Mechanisms

Appropriators and their officials have rapid access to low-cost, local arenas to resolve conflict among appropriators or between appropriators and officials.

In field settings, applying rules always involves discretion and can frequently lead to conflict. Even such a simple rule as "Each irrigator must send one individual for one day to help clean the irrigation canals before the rainy season begins" can be interpreted quite differently by different individuals. Who is or is not an "individual" according to this rule? Does sending a child below 10 or an adult above 70 to do heavy physical work meet this rule? Is working for four hours or six hours a "day" of work? Does cleaning the canal immediately next to one's own farm qualify for this community obligation? For individuals who are seeking ways to slide past or subvert rules, there are always ways that they can "interpret" the rule so that they can argue they meet it while subverting the intent. Even individuals who intend to follow the spirit of a rule can make errors. What happens if someone forgets about Labor Day and does not show? Or, what happens if the only able-bodied worker is sick, or unavoidably in another location?

If individuals are going to follow rules over a long period of time, some mechanism for discussing and resolving what is or is not a rule infraction is quite necessary to the continuance of rule conformance itself. If some individuals are allowed to free ride by sending less valuable workers to a required labor day, others will consider themselves to be suckers if they send their strongest workers who could be used to produce private goods rather than communal benefits. Over time, only children and old people will be sent to do work that requires strong adults and the system breaks down. If individuals who make an honest mistake or face personal problems that prevent them from following a rule cannot find mechanisms to make up their lack of performance in an acceptable way, rules can be viewed as unfair and conformance rates decline.

While the presence of conflict-resolution mechanisms does not guarantee that appropriators are able to maintain enduring institutions, it is difficult to imagine how any complex system of rules could be maintained over time without such mechanisms. In the cases described above, these mechanisms are sometimes quite informal and those who are selected as leaders are also the basic resolvers of conflict.

Minimal Recognition of Rights to Organize
The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.

Appropriators frequently devise their own rules without having created formal, governmental jurisdictions for this purpose. In many inshore fisheries, for example, local fishers devise extensive rules defining who can use a fishing ground and what kind of equipment can be used. So long as external governmental officials give at least minimal recognition to the legitimacy of such rules, the fishers themselves may be able to enforce the rules themselves. But if external governmental officials presume that only they can make authority rules, then it is difficult for local appropriators to sustain a rule-governed CPR over the long run. At any point when someone wishes to break the rules created by the fishers, they can go to the external government and get local rules overturned.

Audun Sandberg (1993a, 1993b) provides an insightful analysis of what happens when the individuals using common-pool resources for many centuries do *not* have recognized authority to create their own rules. The formal rules for the northern Norwegian commons were first written as law in the eleventh century and have remained unchanged until 1993 and thus represented "more than 1000 years of unbroken traditions of oral and codified Common Law" (Sandberg, 1993b: 14). The rules, however, specified very generalized rights only and did not recognize

any local governance responsibilities. Since most commons, and especially the northern commons came to be conceptualized as the King's Commons, it was easy to conceptualize that the King was the only law giver with authority to change laws over time. Through a long process, that started with the Protestant reformation and accelerated around 1750, this has eventually led to a conception in Government that all forests and mountains in Northern Norway, that are not private property and which would in other countries be considered a commons, are considered State property (Sandberg, 1993b: 19). The further effort of the state to then ration access to forests, grazing areas, fisheries, and other common-pool resources to those engaged in full-time specialized employment has had an unintended effect of being disruptive to the mixed economic way of life of many Northerners who were part-time farmers, part-time fishers, part-time foresters, and part-time herders (see Sagdahl, this volume). Converting this sustainable way of life into a modern system including heavy reliance on transfer payments to specialized farming, fishing and reindeer ranching, was probably not fully expected by anyone. Now, however, the economic and social base has been weakened substantially enough that simply assigning local authority to make rules related to the use of common-pool resources would probably not be a sufficient way out of a major dilemma.

Nested Enterprises

Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.

In larger systems, it is quite difficult to devise rules that are well matched to all aspects of the provision and appropriation of that system at one level of organization. The rules appropriate for allocating water among three major branches of an irrigation system, for example, may not be appropriate for allocating water among farmers along a single distributory channel. Consequently, among long-enduring self-governed CPRs, smaller scale organizations tend to be nested in ever-larger organizations. It is not at all unusual to find a larger, farmer-governed irrigation system, for example, with five layers of organization each with its own distinct set of rules.

THREATS TO SUSTAINABLE COMMUNITY-GOVERNED COMMONS

The study of community-governed and managed commons provides evidence of immense diversity of physical settings and institutional rules relatively well-matched to the local setting. It is important to recognize, however, that not all community-governed CPRs cope effectively with the array of problems they face over time. Some efforts at self-governance fail before resource users even get organized. Others fail within a few years. Others survive for long periods of time but are destroyed as a result of a variety of conditions. One source of failure is institutions that are not characterized by many of the design principles. Earlier

studies have shown that small-scale CPRs that are characterized by only a small number of these design principles are more likely to fail than those characterized by a larger number of them.

However, even institutions that are characterized by the design principles fail. Thus, we need to speculate about other threats to community governance that arise from observations in the field, theoretical conjectures, and empirical findings of scholars studying small-scale CPRs or related situations. The reader is cautioned that the next two sections are far more speculative in nature than the first two sections.[4] It is important, however, to share speculations so that further research and analysis can be directed toward improving the knowledge claims of some speculations and reducing our confidence in others. Here is a list of eight threats to sustainable community governance of small-scale CPRs that I have come across in different contexts:

1. blueprint thinking;
2. overreliance on simple voting rules as the primary decision mechanism for making all collective choices;
3. rapid changes in technology, human, animal, or plant populations, in factor availability, in substitution of relative importance of monetary transactions, in heterogeneity of participants;
4. transmission failures from one generation to the next of the operational principles on which community governance is based;
5. turning to external sources of help too frequently;
6. international aid that does not take account of indigenous knowledge and institutions;
7. corruption and other forms of opportunistic behavior; and
8. lack of large-scale institutional arrangements related to reliable information collection, aggregation, and dissemination; fair and low cost conflict resolution mechanisms; educational and extension facilities; and facilities for helping when natural disasters or other major problems occur at a local level.

Let us briefly discuss each of these.

Blueprint Thinking

Blueprint thinking occurs whenever policy makers, donors, citizens, or scholars propose uniform solutions to a wide variety of problems that are clustered under a single name based on one or more successful exemplars. David Korten (1980) called this the "blueprint approach" and made a

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4 The threats pointed out here, however, are closely related to the work in sociology on "unintended consequences" (Merton, 1936; Boudon, 1982). Sieber (1981) provides an excellent overview of a number of diverse efforts to remedy social ills that have made them even worse. Sorensen and Auster (1989) and Baert (1991) both point out how prevalent are interventions that generate substantial, if not overwhelming, reverse effects.

devastating critique of its prevalence in development work at the end of the 1970s. As Korten describes it:

> "Researchers are supposed to provide data from pilot projects and other studies which will allow the planners to choose the most effective project design for achieving a given development outcome and to reduce it to a blueprint for implementation. Administrators of the implementing organization are supposed to execute the project plan faithfully, much as a contractor would follow construction blueprints, specifications, and schedules. An evaluation researcher is supposed to measure actual changes in the target population and report actual versus planned changes to the planner at the end of the project cycle so that the blueprints can be revised." (Korten, 1980: 496).

Korten's critique is just as relevant in the 1990s as it was more than a decade ago.

Even advocates of community governance fall into the trap of blueprint thinking. Whenever a policy that calls for the creation of large numbers of farmer organizations in a short period of time is adopted, there is a potential threat of blueprint thinking. Nirmal Sengupta, for example, describes the efforts of the Sone Command Area Development Agency in India to defend itself against questions raised in 1978 by policy makers as to why one part of its objectives was not being met—"that pertaining to the formation of irrigation associations" (Sengupta, 1991: 242-43). The Agency then turned to "the Cooperative Department to frame model bylaws for the irrigation-specific cooperatives called Chak Societies" (ibid.: 243). The model bylaws contained 42 major clauses and several minor clauses, but failed to address how irrigation cooperatives might be similar to or different from cooperatives established for other purposes. In the next year, 22 Chak Societies were initiated in the Sone Command area. But, few of them performed in the way that policy makers thought they should, and the whole idea of registering irrigation associations using the model bylaws was dropped. The only way to get a large number of organizations set up in a hurry is to have an organizational charter and constitution written for all units. Then, one can simply call meetings and have people sign up. Such efforts result in large numbers of paper organizations and little else.

Overreliance on Simple Voting Rules

Closely related to blueprint thinking is the presumption that certain voting rules—either simply majority or unanimity—are the only rules that should be used in making collective decisions. The problem that users face is gaining general understanding of, and agreement to, a set of rules—not simply having a short discussion and a pro forma vote. The extensive theoretical and empirical studies growing out of social choice theory have demonstrated repeatedly that if the members of a community are strongly divided on an issue, it is extremely unusual to find any rule that enables them to achieve a final decision that is stable and can be considered to reflect the preferences of those affected. Substituting a simple

majority vote for a series of long discussions and extensive efforts to come close to a consensus before making decisions that commit a self-governing community may lead to those in leadership positions simply arranging agendas so that they win in the short run. But as soon as rules are seen as being imposed by a majority vote rather than being generally agreed upon, the costs of monitoring and enforcement are much higher. The group has lost quasi-voluntary compliance and must invest more heavily in enforcement to gain compliance.

Similarly, reliance on unanimity prior to major changes may also challenge the long-term viability of a self-governing society. Once formal unanimity is adopted, only one person needs to hold out to delay decisions or impose high costs on most everyone else. The adaptability of a self-governed system may be too rapid if only simple majority votes are relied upon and too slow if only unanimity is used.

Rapid Exogenous Changes

All rapid changes in technology, in human, animal, or plant populations, in factor availability, in substitution of relative importance of monetary transactions, or in the heterogeneity of participants are a threat to the continuance of any self-organized system, whether it is a firm in a competitive market or a community-governed CPR. Individuals who have adapted an effective way of coping with a particular technological, economic, or social environment may be able to adjust to slow changes in one or several variables if substantial feedback is provided about the consequences of these changes for the long-term sustainability of the resource and/or the set of institutions used for governing that resource. They may even be able to adjust to changes in these variables that occur at a moderate rate. The faster that key variables change and the more variables that change at the same time, the more demanding is the problem of adaptation to new circumstances. These kinds of threats are difficult for all organizations. Those that rely to a greater extent on quasi-voluntary compliance are, however, more threatened than those who are able to coerce contributions (Bromley and Chapagain, 1984; Goodland, Ledec, and Webb, 1989).

Ottar Brox (1990) provides a vivid illustration of what happened in the northern regions of Norway when technology, population density, and other factors changed rapidly. As he points out, traditional northern Norwegian fisheries were *seasonal fisheries*. "Large oceanic fish populations migrate during phases in their life or yearly cycles, and occur within reach of coastal fishermen only during short seasons" (Brox, 1990: 231). Using traditional harvesting techniques, "coastal fishermen did not have the boats, gear and preservational techniques necessary to follow the fish populations continually. . . " (ibid.). This had the consequence that it was almost impossible to destroy the fishery. Nor were the part-time farmers and

part-time fishers able to reap most of the resource rent from fishing until the Norwegian Raw Fish Act of 1938, which empowered fishermen the right to negotiate legally enforceable landing prices. Fishers, who for many centuries could not themselves reap the rents from a migratory fishery, now could do so, and could do so in an era of fast-changing technology making it possible to capture and store ever-greater quantities of fish. Further, other fishermen from other countries after the Second World War had the technology and capital to substantially increase effort dramatically above that which could be devoted prior to this era. A fishery that had survived, and even flourished, during many centuries of part-time fishing, rapidly became a threatened resource without adequate institutional means to respond to the changed incentives facing all of the participants.

Transmission Failures

Rapid change of population or culture may lead to a circumstance in which the general principles involved in the design of effective community-governed institutions are not transmitted from one generation to another. When individuals substitute rote reliance on formal rules for an understanding of why particular formal rules are used, they can make arguments for how to interpret the formal rules that undercut the viability of community organization. Relating this back to voting rules, for example, the charter or constitution of a community organization may specify that simple majority rule will be used in making decisions about future projects and how the costs and benefits of these projects will be divided. If the founders of such an organization recognize the importance of gaining general agreement, they will rarely push forward on a large project that is supported by only a minimal winning coalition. In such an instance, there are almost as many community members in opposition as those who support the project. But, if over time, the principle of gaining general agreement to future projects prior to implementation is not conveyed and accepted by those who later take on leadership responsibilities, then decisions receiving only minimal support may be pushed forward. Leaders of communities who rely on minimal winning coalitions for too many decisions may find themselves having to rely on patronage, coercion, or corruption to keep themselves in power rather than on a foundation of general agreement.

Similarly, if those who are required to devote particular resources or refrain from particular actions see these "rules" as obstacles to be overcome, rather than as the written representation of general underlying principles of organization, they may push for interpretations of rules that lead to their general weakening. If each household tries to find every legal way to minimize the amount of labor contributed to the maintenance of a farmer-governed irrigation system, for example, eventually the cumulative effect is an insufficient maintenance effort and the unraveling of the contingent

contributions of all. If one family tries to make a favorable interpretation of how much labor they should contribute, given the land they own, others come to know that this family is interpreting rules in a manner that is highly favorable to them. Others, who would be favored by such an interpretation, begin to use it as well. The total quantity of labor contributed declines. Unless there is a community discussion about the underlying principles that can be used in interpreting rules, practices may evolve that cannot be sustained over time. Then, the danger exists that the unraveling continues unabated until the community organization falls apart.

Turning to External Sources of Help Too Frequently

A threat to long-term sustainability can be the availability of funds from external authorities or donors that appear to be "easy money." These can undercut the capabilities of a local institution to sustain itself over time.[5] This is particularly salient in regard to farmer-governed irrigation systems.[6] Monetary resources for constructing, operating, and maintaining irrigation systems are frequently contributed by the taxpayers of the nation in which the irrigation system is located or the taxpayers of those nations providing economic assistance funds. When these funds are used, the financial connection between supply and use is nonexistent. Whether the resources so mobilized are directly invested in the construction and operation of irrigation systems or are diverted for individual use by politicians or contractors depends on the professionalism of those involved and on active efforts to monitor and sanction diversions of resources. When the farmers themselves are involved in the construction and operation of irrigation systems, they provide low-cost monitoring of how resources for these activities are used. This is lost when the users are not involved in construction or operation. Expensive auditing systems are then needed, but are rarely supplied. Consequently, a considerable portion of the mobilized resources is diverted to purposes other than those for which it was intended.

Further, the design of projects is oriented more toward capturing the approval of those who fund new construction than toward providing systems that solve the problems facing present and future users. To convince politicians that large chunks of a national budget should be devoted to the

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5 The problem of local units becoming dependent on external funding is not limited to the funding provided by international aid agencies. Sieber (1981) reviews some of the reverse effects created by domestic U.S. policy. The supposed aim of Nixon's "New Federalism" reform was to increase the autonomy of local units and strengthen the overall federal system. A study by Hudson (1980) reveals that the policy has an opposite effect in some cities such as El Paso. "El Paso is now more dependent, politically and economically, on federal grants than it was prior to the New Federalism and local autonomy is significantly reduced" (Hudson, 1980: 900, quoted in Sieber, 1981: 186).

6 This and the next two sections draw on E. Ostrom (1992).

construction of irrigation projects, planners attempt to design projects that are "politically attractive." This means that politicians who support such expenditures can claim that the voters' funds are being used to invest in projects that will greatly expand the amount of food available and lower the cost of living.

International Aid that Ignores Indigenous Knowledge and Institutions

To convince external funding agencies that major irrigation projects should be funded through loans or grants, the evaluative criteria used by these agencies in selecting projects has to play a prominent role in the design of projects. Projects designed by engineers, who lack experience as farmers or training as institutional analysts, are frequently oriented toward winning political support or international funding. This orientation does not lead to the construction of projects that serve most users (i.e., small-scale farmers) effectively or encourage the investment of users in their long-term sustenance. Inefficiencies occur at almost every stage. At the same time, this inefficient process leads to the construction of projects that generate substantial profits for large landholders and strong political support for a government.

Processes that encourage looking to external sources of funding make it difficult to build upon indigenous knowledge and institutions. A central part of the message asking for external funds is that what has been accomplished locally has failed and massive external technical knowledge and funds are needed to achieve "development." In some cases, no recognition is made at all of prior institutional arrangements. This has three adverse consequences: (1) property rights that resource users had slowly achieved under earlier regimes are swept away and the poor lose substantial assets, (2) those who have lost prior investments are less willing to venture, further investments, and (3) a general downgrading of the status of indigenous knowledge and institutions.

Corruption and Other Forms of Opportunistic Behavior

All types of opportunistic behavior are encouraged, rather than discouraged, by (1) the availability of massive funds to subsidize the construction and operation of large-scale irrigation projects and (2) the willingness (or even eagerness) of national leaders to subsidize water as a major input into agricultural production. Corrupt exchanges between officials and private contractors are a notorious and widespread form of opportunism; corrupt payments by farmers to irrigation officials are less well-known, but probably no less widespread. Free riding on the part of those receiving benefits and the lack of trust between farmers and officials, as well as among farmers, are also endemic. Further, the potential rents that can be derived from free irrigation water by large-scale landowners stimulate efforts to influence public decision making as to where projects should be located and how they should be financed. Politicians, for their part, win political support by

strategic decisions concerning who will receive or continue to receive artificially created economic rents.

Robert Bates explains many of the characteristics of African agricultural policies by arguing that major "inefficiencies persist *because* they are politically useful; economic inefficiencies afford governments means of retaining political power" (Bates, 1987: 128). Part of Bates's argument relates to the artificial control exercised over the prices paid for agricultural products, a topic that is not addressed in this study. The other part of Bates's argument relates to the artificial lowering of input prices. When they lower the price of inputs, private sources furnish lesser quantities, users demand greater quantities, and the result is excess demand. One consequence is that the inputs acquire new value; the administratively created shortage creates an economic premium for those who acquire them. Another is that, at the mandated price, the market cannot allocate the inputs; they are in short supply. Rather than being allocated through a pricing system, they must be rationed. Those in charge of the regulated market thereby acquire the capacity to exercise discretion and to confer the resources upon those whose favor they desire. Public programs which distribute farm credit, tractor-hire services, seeds, and fertilizers, and which bestow access to government managed irrigation schemes and public land, thus become instruments of political organization in the countryside of Africa. (Bates, 1987: 130)

Thus, there is an added dimension to rent seeking in many developing countries. The losses that the general consumer and taxpayer accrue from rent-seeking activities are one dimension. The second aspect of rent seeking in highly centralized economies is the acquisition of resources needed to accumulate and retain political power. All forms of opportunistic behavior, therefore, are exacerbated in an environment in which an abundance of funds is available for the construction of new and frequently large-scale irrigation projects that provide subsidized water. This is exactly the political and financial milieux that irrigation suppliers have faced during the past 40 years in most developing countries. Developed countries have made vast amounts of money available to developing countries through bilateral and multilateral loans and aid agreements.

Lack of Large-Scale Supportive Institutions

While smaller-scale, community-governed resource institutions may be far more effective in achieving many aspects of sustainable development than centralized government, the absence of supportive, large-scale institutional arrangements may be just as much a threat to long-term sustenance as the presence of preemptive large-scale governmental agencies. Obtaining reliable information about the effects of different uses of resource systems and resource conditions is an activity that is essential to long-term sustainability.

If all local communities were to have to develop all of their own scientific information about the physical settings in which they were located, few would have the resources to accomplish this.

Let me use the example of the important role that the U.S. Geological Survey has played in the development of more effective, local groundwater institutions in some parts of the U.S. What is important to stress is that the Geological Survey does not construct engineering works or do anything other than obtain and disseminate accurate information about hydrologic and geologic structures within the U.S. When a local set of water users wants to obtain better information about a local groundwater basin, they can contract with the Geological Survey to conduct an intensive study in their area. Water producers would pay a portion of the cost of such a survey. The Geological Survey would pay the other portion. The information contained in such a survey is then public information available to all interested parties. The Geological Survey employs a highly professional staff who relies on the most recent scientific techniques for determining the structure and condition of groundwater basins. Local water producers obtain the very best available information from an agency that is not trying to push any particular future project that the agency is interested in conducting. Many countries, such as India, that do have large and sometimes dominating state agencies, do *not* have agencies that provide public access to high quality information about resource conditions and consequences. Recent efforts to open up groundwater exploration in India may lead to the massive destruction of groundwater basins rather than a firm basis for long-term growth.

Similarly, the lack of a low-cost, fair method for resolving those conflicts that spill out beyond the bounds of a local community is also a threat to long-run sustainability. All groups face internal conflicts or intergroup conflicts that can destroy the fundamental trust and reciprocity on which so much effective governance is based. If the only kind of conflict-resolution mechanisms available are either so costly or so biased that most self-governed CPRs cannot make use of them, these conflicts can themselves destroy even very robust institutional arrangements.

COPING METHODS FOR DEALING WITH THREATS TO SUSTAINABILITY

There are no surefire mechanisms for addressing all of the above threats. There are three methods that I would like to discuss in this current paper because they are not frequently mentioned as being important ways of increasing the effectiveness of self-governed institutions. They are: (1) the creation of associations of community-governed entities, (2) comparative institutional research that provides a more effective knowledge base about design and operating principles, and (3)

developing more effective high school and college courses on local governance. There are, of course, many other coping mechanisms, including those adopted by local institutions that have survived for long periods of time and are the subject of the first section of this paper. Thus, I focus here only on three mechanisms that are not frequently thought of in relationship to the problem of sustaining self-governing institutions related to common-pool resources.

Creating Associations of Community-Governance Entities

Those who think local participation is important in the process of developing sustainable resources and more effective governance of resources are frequently committed to doing a good deal of "community organization." All too frequently, this type of organization is conceptualized as fostering a large number of community groups at the same level. If community organization is fostered by Non-Governmental Organizations (NGOs) who then provide staff assistance and some external resources, the organizations may flourish as long as the NGOs remain interested, but wither on the vine when the NGOs turn to other types of projects. A technique that draws on our knowledge of how self-governed institutions operate is helping to create associations of community organizations. As discussed above, most large-scale user-governed resource institutions are composed of several layers of nested organizations.

When community organizations are brought together in federations, they can provide one another some of the back-up that NGOs provide to single-layer community organizations. While no single community-governed organization may be able to fund information collection that is unbiased and of real value to the organization, a federation of such organizations may be able to amass the funds to do so. Simply having a newsletter that shares information about what has worked and why it has worked in some settings helps others learn from each other's trial and error methods. Having an annual meeting that brings people together to discuss their common problems and ways of tackling them greatly expands that repertoire of techniques for coping with threats that any one group can muster on its own. Such organizations can also encourage farmer-to-farmer training efforts that have proved to be highly successful in enhancing farmer-governed irrigation systems in Nepal.[7]

Rigorous Comparative Institutional Research

In addition to the type of exchange of information that those involved in self-governing entities can undertake on their own, it is important to find ways of undertaking rigorous, over-time comparative research that controls for the many confounding variables that simultaneously affect performance. In the

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7 See Yoder (1991), Pradhan and Yoder (1989), and Water and Energy Commission Secretariat (1990) for descriptions of a highly innovative and successful program of assisting farmers to design their *own* institutional rules rather than imposing a set of model bylaws on them.

field of medicine, folk medicine has frequently been based on unknown foundations that turned out to be relatively sound. But some folk medicine continued for centuries, doing more harm to patients than good. The commons that are governed by users and the institutions they use are complex and sometimes difficult to understand. It is important to blend knowledge and information obtained in many different ways as we try to build a more effective knowledge base about what works and why.

Developing Better Curricula on Local Governance

Western textbooks on governance used to focus as much on local as national governance arrangements. During the past half-century, introductory textbooks on American government have moved from a 50-50 split between national and local government, to a 95 to 5 split. The textbooks used in the West have strongly influenced the textbooks used in developing countries. Consequently many public officials learn nothing in high school and college about how local communities can govern themselves effectively or about the threats to local self-governance. Instead, a presumption is made that governance is what is done in national capitals and what goes on in villages is outmoded if not completely useless. Thus, the last recommendation that I will make at this juncture is bring more materials on self-governing communities into the curriculum that is offered in high schools, in professional schools, and in colleges.

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THE ECONOMIC RATIONALE OF COMMUNAL RESOURCES

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Introduction

We are concerned in this paper with the logic of economic organization when several independent producers jointly draw inputs from a natural resource which they share and to which they hold exclusive rights. We use the term communal property to refer to this arrangement and distinguish it from situations where exclusive rights to a resource do not exist and access to the asset is open[8].

The structure of organization is a chief concern of the economics of institutions, which attributes forms of organization not only to economies of scale, but to problems of information and costly enforcement of contracts. In explaining the emergence of property rights and alternative forms of organization, most economists have followed an approach that has been called the naive model[9]. The naive model explains the structure of institutions and organizations in terms of the demand for these arrangements by rational individuals, who are constrained by information and other transaction costs and seek arrangements that maximize the joint value of their assets. The approach is naive because it does not seek to explain the supply of property rights, which is the domain of social and political organizations.[10] Our initial discussion is based on versions of the naive model, but we go on to consider the role of social and political organizations in shaping property rights.

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8 Many scholars prefer to use the term common property rather than communal property for exclusive resources that are shared. Other scholars use the term common property to refer to non-exclusive assets with open access, and the "commons problem" is widely understood as implying the waste associated with open access. Much confusion has been caused by two theoretical concepts sharing the same two words, which in this instance suggests that individual rights rather than sharing may be a more productive arrangement.

9 See pp. 249-262 in Eggertsson, Thráinn (1990). Economic Behavior and Institutions. Cambridge: Cambridge University Press.

10 Milgrom and Roberts (1992) provide an excellent survey of the modern economics of organization. The studies they examine usually assume that the players are located in a laissez-faire environment. Also, many studies ignore the wealth effects of alternative arrangements when individuals seek to maximize the joint value of their assets. See p. 288 in Milgrom, Paul and Roberts, John (1992). Economics, Organization and Management. New Jersey: Prentice Hall.

It is sometimes argued that communal property regimes must deal with categorically different problems of organization than other regimes of exclusive rights. We maintain that all forms of exclusive property rights involve essentially the same measurement and policing problems, and that the appropriate structure of rights depends on technology, physical characteristics of the resources, relative prices, and social and political institutions. In terms of the criterion of wealth maximization, communal property is the optimal arrangement in some situations, but unsuitable under other circumstances. Further, the condition of open access is associated with all forms of exclusive rights, including individual property, and arises because the marginal benefit of enforcing full control over all attributes of a valuable asset tends to fall short of the marginal cost. [11]

We begin by discussing why one expects to find communal property regimes in some and not in other situations and proceed to look at the variables that push resource regimes in the direction of communal ownership. These issues are examined in terms of the naive model, as social and political institutions are assumed to be exogenous. [12]We then introduce the wealth effect and examine how the struggle over distribution can affect the structure of communal property regimes. The next step is to consider the supply of exclusive property rights. We continue by examining some of the factors that may undermine communal property and finally conclude with a few thoughts about property rights in the Saami rangelands in Finnmark, Norway.

Economic factors and the choice of an exclusive resource regime

Imagine a group of individuals (households or firms) that contemplates the utilization of a contiguous natural resource such as rangeland, a forest, or a fishery. The individuals are capable of collective action (but collective action

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11 Barzel, Yoram (1989). Economic Analysis of Property Rights. Cambridge: Cambridge University Press.

12 Following North (1990) we distinguish between organizations and institutions. Organizations are groups of individuals that play together according to rules that are both internal and external. The external rules, formal and informal, and their enforcement characteristics are referred to as institutions. The definition implies that the set of institutions that a player confronts depends on his location and status in society (a dictator faces another set of institutions than her subjects). The term property rights refers to the power of an agent to control valuable margins of scarce assets. Society presents individuals with various rights and duties and their enforcement, but also individuals themselves privately enforce their rights. Although it is not common practice in the literature, we distinguish between internal (endogenous) and external (exogenous) property rights. External property rights correspond to institutions. Individuals incur transaction costs when they enforce internal property rights to prevent either outright theft or the appropriation of value by partners in exchange. However, from the aggregate or social viewpoint there is no distinction between internal and external property rights, and transaction costs refer to the aggregate cost of operating a regime of property rights. North, Douglass C. (1990). "Institutions, Institutional Change, and Economic Performance." Cambridge: Cambridge University Press.

requires the use of scarce resources); the objective of the group is to maximize the joint value of their resources (the choice is not constrained by individual wealth effects), and the enforcement of property rights is entirely with the group and its members (although exogenous social norms, customs, and conventions affect the cost of enforcement). The users can choose from a large menu of regimes, each characterized by several dimensions.

The number of independent users that share the entire resource or portions of it is a key dimension of a resource regime. At one extreme we have open access, when the community decides not to incur the cost of excluding outsiders. Then there are various regimes of exclusive rights ranging from the sharing of the entire resource by the group (communal property) to individual holdings (individual or private property). In between communal and individual property are intermediate communes, which are subgroups of two or more individuals who share property.

Another dimension of regimes is the size of each individual unit and the potential for mergers. For instance, it is conceivable that the individual producers could minimize costs by merging into one firm that would become the sole user of the resource. This dimension was explored by Coase (1937) in his study of the nature of the firm.[13] Yet another margin concerns the degree of precision and detail that the community decides to give the rules for operating the resource. The costs of explicit rules are balanced against the benefits of limiting potential disputes over uncertain rights. Libecap (1978) uses nineteenth century data from Nevada´s richest mining area to test and find support for the thesis that property rights will be made more precise as resources become more valuable.[14] Finally, we note that the community must determine the extent of the rights to use, earn income from, and transfer or dispose of the resource.

Let us consider more closely the factors that are supposed to push a resource regime in the direction of exclusive rights, which is an issue that has been given considerable attention in the literature. In a pioneering article, Demsetz (1967) explains the introduction of exclusive rights in land among Indian hunters in the eastern part of Canada in terms of the cost and benefits of internalizing externalities from non-exclusive use of the resource. In this case, the driving force of and a sharp increase in output demand which induced the Indians to divide open hunting regions into smaller hunting

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13 Coase, Ronald H. (1937). "The Nature of the Firm." Economica 4 (November):386-405.

14 Libecap, Gary (1978). "Economic Variables and the Development of the Law: The Case of Western Mineral Rights." Journal of Economic History 38 (No. 2, June): 399-458.

territories.[15] Demsetz´s approach is employed by Anderson and Hill (1975), who explicitly include the cost of exclusion to explain the evolution of exclusive rights to the utilization of land, water, and cattle on the Great Plains of the American Mid-West during the second half of the nineteenth century.[16] Field (1986, 1989) has refined the Demsetz approach on two margins[17]: first, by explicitly considering both the cost of excluding outsiders, exclusion cost, and the cost of controlling the propensity to excessive use when a resource is shared, governance cost, and second, by considering a continuum of communality, ranging from individual ownership through a series of intermediate communes of increasing size to a commune of the whole.

A brief description of the Field model may help us to highlight critical variables that affect the relative efficiency of communal property. In the model, it is assumed that the community will select the arrangement that maximizes the aggregate net returns from a natural resource, such as rangeland. There are two corner solutions, individual property and communal property, and the internal solutions involve sets of intermediate communes of different sizes. The resource consists of units of homogeneous quality; the individual producers are also homogeneous; and their production functions are identical. All inputs other than the natural resource are privately owned. The creation of value is based on three activities:

A) The transformation of inputs into outputs that is described by a transformation function corresponding to the conventional production function.
B) The exclusion of intruders by monitoring, fencing, and other means. Successful exclusion is rewarded by greater output at each level of input use, which implies that the transformation function shifts up.[18] The exclusion function can be seen as a production function which depends both on the technology of exclusion and social institutions and organizations.
C) The policing of insiders to limit excessive utilization when two or more individuals share (a portion of) the resource. We refer to this activity as governance. The group decides on the level of utilization that maximizes the value of the resource and assigns user rights to each individual. The relationship between

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15 Demsetz, Harold (1967). "Toward a Theory of Property Rights." American Economic Review 57 (May, No. 2): 347-359.

16 Anderson, Terry L., and Hill, P.J. (1975). "The Evolution of Property Rights: A Study in the American West." Journal of Law and Economics 18 (No.1): 163-179.

17 Field, Barry C. (1986). "Induced Changes in Property Rights Institutions." Research Paper. Amherst: University of Massachusetts, Department of Agriculture. Field, Barry C. (1989). "The Evolution of Property Rights." Kyklos 42 (No. 3):319-345.

18 Inputs or outputs appropriated by intruders are given zero value in the model.

inputs and level of control achieved is described by the governance function, and the cost of governance is balanced against the resulting increase in net income.

Various assumptions can be made about the nature of the exclusion and governance functions. In the Field model exclusion costs depend directly on the length of the borders, which are at a maximum when the resource is divided into individual properties and at a minimum when the resource is one property shared by the whole group. Internal governance problems arise when two or more individuals share a property, and governance costs rise directly with the number of joint users on each plot and peak when the resource is one property. If there were no governance costs and exclusion costs, the division of the resource would be determined by the economies of scale in the transformation function.[19] Below we assume that there are constant returns to scale and focus attention on the role of governance and exclusion in determining the degree of exclusivity.

Consider again the complex optimization problem confronting the community of users. Net income depends not only on the allocation of inputs in conventional production (transformation), but also on the use of inputs in exclusion and governance; furthermore, both governance cost and exclusion cost are influenced by the division of the resource into properties.[20] Many small intermediate communes imply relatively low governance costs but high exclusion costs, and few large intermediate commons have relatively large governance costs and low exclusion costs. In sum, the degree of exclusivity depends on a trade-off between governance and exclusion costs, other things equal.

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19 A formal version of the Field model is found in the 1986 working paper. Firm size is not a choice variable in the formal model, which implicitly excludes the possibility that individual producers merge into large firms. See footnote 10.

Merger is explicitly considered by Lueck (1992), and Caputo and Lueck (1992) in an important extension of the naive model. Lueck (1992) explores the optimal use of a fixed (natural) resource. The choice variables include group size, and three contractual arrangements: a) a fixed payment contract (a firm) where a single party owns the fixed resource and hires effort from the other individuals; b) a communal property contract where the group members supply their own inputs and equally share the fixed output; c) a communal property contract where the members only share access to the fixed resource. Caputo and Lueck (1992) extend the model in Lueck (1992) in various ways and compare private ownership with sharing over three possible margins: a) output derived from the resource; b) access to the resource; c) investment in the resource. Again optimization involves choosing the group size. Lueck, Dean (1992)."Common Property as an Egalitarian Share Contract.", Working Paper, Baton Rouge: Department of Economics, Louisiana State University. Caputo, Michael R., and Lueck, Dean (1992). "Common Property: Dynamic Incentives and Contract Choice." Working Paper, Davis: Department of Agricultural Economics, University of California.

20 The allocation of inputs between the three activities is not optimal unless there is equality among the marginal (net) rates of return on inputs used in transformation, exclusion, and governance.

Economic forces supporting communal property regimes.
The higher the exclusion costs relative to governance costs, the more likely will a community that strives to maximize wealth select large communal arrangements. Therefore, in order to understand the economic logic of communal property, we must examine the factors influencing the levels of the cost functions for governance and exclusion.

Exclusion depends on technology, the physical characteristics of the resource, relative prices (including the prices of inputs in the exclusion function and the output price), and on the social institutions that constrain the players. In extreme cases, and given the state of technology, the physical characteristics of a resource can make it prohibitively costly to divide it into exclusive sub-units, which leads to the corner solution of a single communal property. Exclusion costs are also influenced by the size of the area required for individual operations. For instance, in arid or infertile regions the typical individual may demand a large geographic area for grazing her flocks or need to vary the pastures with the seasons or climatic changes. When the cost of monitoring or fencing individual properties is high, communal regimes become an attractive alternative, as does the reliance on natural boundaries, when possible.[21]

The relative prices of inputs in the exclusion function are an important factor influencing the choice of communal property regimes, for instance in communities where the price of timber and other material for fences is high. Also, an increase in output price creates new incentives for outsiders to intrude and makes it more costly to maintain any level of exclusion. The technology of exclusion is an important determinant of exclusion costs, and primitive exclusion technology increases the relative effectiveness of communal arrangements. When there are important economies of scale in exclusion (particularly in operating a system of individual properties), a small community of users may favor communal property for (some of) its natural resources. Although it is not self-evident, the political integration of a country may bring scale economies in exclusion and increase the attractiveness of individual property. The interaction between transformation technology and exclusion technology should also be noted. The cost of exclusion depends on

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21 For instance, in the mountain pastures of Iceland the typical farmer required a large area for his or her flock of sheep, and the relative price of fences was high. The pastures were managed as communal property. See Eggertsson, Thráinn (1992). "Analyzing Institutional Successes and Failures: A Millennium of Common Mountain Pastures in Iceland." International Review of Law and Economics 12: 423-437.

Note that instead of using large communal areas to meet variable weather conditions, relatively small individual plots could be instituted along with an active trade in grazing rights between individual owners and users. However, high transaction costs could make the introduction and operation of a market in grazing rights inefficient.

what is produced and how it is produced, and the choice of output and production methods is not independent of exclusion (and governance) cost. Furthermore, a change in transformation technology (or a change in relative prices) can affect the choice of regime. For instance, a new transformation technology in agriculture can make the production of fodder on individual plots the optimal alternative and eliminate the dependence on pastures; or new fishing technology may introduce foreign and domestic vessels (and open access) in a fishery that used to be the communal property of coastal fishermen.

It is important to realize that a continued upward shift in exclusion costs, with a constant governance function, first pushes a system toward communal ownership but eventually, as the upward drift continues, places the resource in the public domain. In many instances, communal property is the only practical alternative to open access, and because of their proximity the two arrangements are often confused.

Governance costs depend on social institutions, technology, relative prices, and the physical characteristics of the resource and its environment, just as exclusion costs do. Low governance costs for large groups of users encourage communal property.

It has been argued, for instance by Runge (1992) and Bromley (1992), that poverty is the cause of communal property because the arrangement is frequently found in poor communities. Runge states that "low levels of income imply that formalized private-property institutions are outside the village-level budget for resource management." And Bromley adds: "In fact, as Runge reminds us, low-valued resources are more likely to be managed under common [communal] property for the simple reason that there is insufficient economic surplus to support the more expensive private-property regime. I make the same point elsewhere."[22] We prefer different reasoning. The statement that poor communities cannot afford exclusive rights may apply to the purchase of expensive consumer goods, but not to the choice of property regimes. In fact, poor communities can afford only regimes that maximize the net output from their natural resources, the difference between gross output and costs. The observation that communal property regimes are found relatively frequently in developing countries, is to be explained in terms of the available technology in transformation, exclusion and governance, relative prices, and social institutions. Many low-income communities rely on a mixture of individual and communal rights: for instance, the livestock,

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22 See p. 33 in Runge, C. Ford (1992). "Common Property and Collective Action in Economic Development." In Daniel W. Bromley (ed.). Making the Commons Work. Theory, Practice and Policy. San Francisco: Institute for Contemporary Studies Press. Note also p. 5 in Bromley´s introduction to the volume.

farmland, tools, and housing are often the property of individual economic units (households) while grazing land remains communal property.[23] That communal property regimes are found in wealthy communities as well, such as Switzerland with its celebrated Alpine pastures, also undermines the poverty argument.[24]

The wealth effect and communal property regimes

In our discussion so far, we have ignored the individual wealth effects of introducing alternative property rights regimes. Even though it has been assumed that new property rights regimes are only chosen if they increase aggregate wealth (or minimize unavoidable losses), it must be recognized that all changes in property rights involve winners and losers. Therefore, the losers have an incentive to prevent changes that are expected to worsen their (relative) wealth position, unless they are guaranteed compensation, which is often impractical. When side-payments are impractical, the outcome depends on the power of the losers relative to the winners, which is partly determined by the community´s political structure.

Consider again the previous case of a community of users choosing a resource regime. The community now confronts a new constraint: each individual has the power to veto all proposals that change the status quo, and no rational (and selfish) individual will agree to a new regime that makes him or her worse off than before. Let us assume that the current situation is one of open access with excess utilization of the resource. The group does not maximize the net economic yield from the resource, but the current yield is sustainable and the resource not in immediate danger of destruction.[25]

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23 The poverty argument for communal rights could be rescued if the introduction of individual rights required large-scale lump investments that bear fruit only in future periods. An isolated community that cannot borrow and is too close to subsistence to save is not able to make such investments. It is an empirical question whether a financial constraint is an important explanation of communal property regimes. Note that implicit in the poverty argument is the notion that communities would do better under individual property rather than communal property, if only the financial constraint were lifted.

24 See Stevenson´s (1991) extensive study of the Swiss case. In his econometric investigations, Stevenson compared communal property with individual property in Alpine grazing and found that outcomes of communal regimes were inferior to those in individual regimes. Stevenson gives several theoretical and empirical reasons why his statistical results may not be correct. However, if the results are correct, the Swiss may indeed have ideological attachment to their communal arrangements and enjoy them like consumer goods. Stevenson, Glenn G. (1991). Common Property Economics. A General Theory of Land Use Applications. Cambridge: Cambridge University Press.

25 Imagine that the users are restrained by costs and thus prevented from devastating the resource. The cost constraints could be due to the inelastic supply of a cooperating input, such as water on grazing land or fishing vessels in a fishery.

The group is faced with a dilemma. Their calculations show that a change from open access to communal property (rather than to individual property or intermediate communes) would increase the total wealth of the community, but some individual members could easily lose from the change in regimes. As side payments are ruled out by high transaction costs, the introduction of exclusive rights hinges on the community´s ability to constrain the communal regime in such a way as to make sure that no individual will lose from the change.

Roberts (1990), using a straightforward graphic analysis of supply and demand, has analyzed the situation above.[26] First, it is easy to show that the introduction of a (Pigouvian) tax, for limiting the use of the resource to the efficient level, makes all previous users worse off, unless the revenue from the tax is returned to them.[27] However, the tax revenue does more than cover the consumers´ surplus lost by the users, when the price of entry is raised.

As the use of a tax for aligning social marginal costs and benefits is information intensive, a system of marketable coupons is more practical in a world of costly information. With marketable coupons the community would establish the efficient total level of use for the resource and apply some formula to issue coupons to previous users, giving each a share in the total. Again, if the coupons are sold to the users at market price, they are worse off than before, unless the proceeds are returned to them. However, even if the coupons are given for free, the task of assigning shares to previous users in such a way that no one is made worse off becomes a complex task. Consider two individuals with equal levels of usage in the free-entry equilibrium, but individual A has a greater price elasticity of demand for the resource than individual B. If both receive the same share of coupons when communal property rights are introduced, Roberts (1990) shows that B, because of his low elasticity of demand, is made relatively better off than A. Equal treatment of the two requires that A receive a larger share of the coupons than B.

When the price elasticity of demand is similar for all individuals in the group, the allocation of coupons relative to the level of prior usage or relative to some proxy for demand, such as land ownership in the case of private farmers using communal pastures, is likely to guarantee that no one is made worse off and that the relative wealth position of the individuals does not change substantially.

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26 Roberts, Russell D. (1990). "The Tragicomedy of the Commons: Why Communities Rationally Choose "Inefficient" Allocations of Shared Resources." Political Economy Working Paper. St. Louis: Center in Political Economy, Washington University.

27 Roberts (1990), p. 5. Also see Weitzman, Martin L. (1974). "Free Access vs. Private Ownership as Alternative Systems for Managing Private Property." Journal of Economic Theory 8 (June): 225-234.

Finally, Roberts shows that unrestricted resale of coupons can make some individuals worse off than they were in the open-access equilibrium, particularly if the coupons are sold to outsiders who drive up the price.[28] The trouble does not arise if the allocation of coupons correctly reflects the consumers´ surplus lost by each individual, but when that fails some individuals will veto unrestricted resale of coupons, even though unlimited resale maximizes the total wealth of the group.

Several scholars, such as Ostrom (1990), have emphasized that agreements on efficient communal property regimes are reached more easily in a homogeneous than a heterogeneous group. Johnson and Libecap (1982) and Libecap (1989) discuss how heterogeneity among fishermen limits the fisheries regulations that they can agree on.[29]

We have discussed how the wealth effect influences the choice of property rules by a small group of producers, such as the farmers in a rural village. When resource regimes are selected by an external authority, such as a national government, the interplay of inside and outside interests, and complex procedures for making decisions, can make the story much more complex.

The supply of exclusive property rights

We now leave the naive model behind and briefly consider the supply of exclusive rights. For social scientists who employ the rational choice model, the establishment and successful operation of a system of communal property rights by rational, non-altruistic individuals poses several puzzles. The first puzzle concerns the supply of a mechanism for selecting a system of communal property. The services of individuals who provide this apparatus have the characteristics of a public good and, therefore, are likely to be supplied in inadequate quantity. Second, the choice of constitutional and operational rules for managing the resource regime is likely to involve hard bargaining over the distribution of expected gains, possibly with indeterminate results. Third, individual compliance with rules that restrict use of the

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28 Of course, technically these individuals could be compensated for their loss.

29 Ostrom, Elinor (1990). Governing the Commons. The Evolution of Institutions for Collective Action. Cambridge: Cambridge University Press. Johnson, Ronald N., and Libecap, Gary D. (1982). "Contracting Problems and Regulations: The Case of the Fishery." American Economic Review 72, (No. 5): 1005-1022. And Chapter 5, "Contracting in Fisheries," in Libecap, Gary D. (1989). Contracting for Property Rights. Cambridge: Cambridge University Press.

resource is also a public good, and free riding may undermine the regime when monitoring is costly.[30]

Before we go further, it is important to note that these collective action problems are not limited to communal property but shared by all attempts to establish exclusive rights. In terms of the rational choice approach, the creation of any system of exclusive rights for a community always requires some curtailment of the propensity to free ride. All changes in property rights have wealth effects which invite bargaining over distribution, and transaction costs always make exclusive rights incomplete and cause a certain amount of waste.

The decision by a group to restrict access to a resource can be represented as a contract among its members, and all contracts are incomplete because of transaction costs, according to contract economics.[31] However, the nature of the open access problems varies from one contractual structure to another.

In the case of individual property, residual rights are exercised by an owner who both has residual control and receives (under ideal conditions) the net residual benefits of her actions, which encourages the owner to make efficient decisions that maximize wealth. However, when the proprietor expands her operations beyond the unitary firm and hires agents, she must deal with incomplete contracts and shirking by the agents, which lowers the joint value of the cooperating assets. In order to limit such losses, the proprietor usually attempts to realign the incentives of her agents by monitoring and with contractual arrangements which, for instance, link their pay to the fortunes of the firm. The internal problems of the firm (opportunism, shirking, free-riding) mount as the structure becomes more complex and changes from individual proprietorship to a partnership or to a public corporation. In the public corporation it is not clear whether any party, such as the stockholders, directors, managers or the workers, both has residual control and receives the residual income.[32] However, in all these instances various arrangements have evolved for limiting the incentives problems, including competition in the market place.

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30 For an excellent survey of the current state of the theory of collective action, see Sandler, Todd (1992). Collective Action. Theory and Applications. Ann Arbor: University of Michigan Press.

31 For an introduction to the theory of implicit and explicit contracts and various applications of the theory, see Werin, Lars, and Wijkander, Hans, eds. (1992): Contract Economics. Oxford: Basil Blackwell.

32 Milgrom and Roberts (1992), pp. 314-315.

Communal property arrangements, just as other forms of economic organization, depend on contracts that are structured to limit transaction costs. Recently, the complexities of communal property regimes have been documented and analyzed by various scholars, of whom Ostrom (1990) is a noted example.[33]

Why do rational actors supply the institutions of communal property? How do they overcome the collective action problem? In responding to such questions about the supply of property rights (which the naive model does not consider), the theoretical literature has not converged on a single answer, but several approaches to the problem can be discerned. We will briefly consider some of these.

The collective action problem is frequently analyzed in terms of game theory, particularly as a Prisoners´ Dilemma where non-cooperation is the dominant strategy. Incentives to cooperate are introduced by considering not a single game but repeated games or supergames. Others claim that the problem of cooperation is best modeled by games, such as the Assurance Game or the Game of Chicken, which are more likely than the Prisoners´ Dilemma game to lead to some cooperation, if the game is played only once.[34] In the continuous case, hybrids of games have been suggested.[35] Many studies distinguish between formal rules that are provided by political organizations and informal rules, such as customs and norms that are not purposefully created but evolve spontaneously.[36]

Many scholars have bypassed the fundamental question of how to reconcile rationality on the part of the individual with rationality on the part of the group, and focus on the role of coercion in overcoming the collective action problem. These social scientists "see in collective dilemmas reasons for the existence of institutions: forms of hierarchy in which sanctions are employed

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33 See footnote 2.

34 For an excellent discussion of these issues, see Taylor, Michael (1987). The Possibility of Cooperation. Cambridge: Cambridge University Press.

35 The pure game-theoretic approach catches the group before it forms a community and before the individuals are constrained by social institutions, such as norms, conventions and customs, which implies that the members have not developed a common language, religion, set of customs, or network of family and kinship ties. It is an amusing thought to try to visualize these isolated speechless individuals gathered to select a system of property rights and play complex games with each other. However, it must be admitted that the introduction of prior rules begs the question of the origins of cooperation.

36 North (1990). See footnote 5.

to make self-interested choices consistent with the social good."[37] Hechter (1990) associates the emergence of coercive organizations in traditional societies with the joint production of private goods in situations where individual behavior is easily visible. These organizations of producers are then used to control free-riding in the supply of public goods.[38]

The scholar can also equip his players with internal norms and values that change the structure of the payoff matrix in their games and introduce cooperation as the dominant strategy. Although not formally stated in terms of game theory, pioneering work along these lines was undertaken in the first half of the century by a number of investigators, such as Evans-Pritchard, who studied traditional societies in Africa.[39] These studies report how customary law and ideology in traditional societies contribute to the maintenance of order. Vengeance groups, collective responsibility, the institution of compensation, exogamy and relations of kinship, the system of beliefs surrounding the institution of witchcraft, and a host of other arrangements have been interpreted as raising the cost of non-compliance and promoting cooperation.

In the naive model of property rights discussed in previous sections, social and political institutions do not enter directly, but affect outcomes by shifting the exclusion and governance functions. One can speculate that certain social structures may be likely to contribute to relatively low governance costs for communal property, while other social institutions may support low exclusion costs for individual property. For instance, it is sometimes argued that the thrust of norms and customary law in many traditional societies is to restrain individualism and lower governance costs, while traditional societies often lack specialized organizations for enforcing individual ownership rights, particularly when ownership rights can be traded.[40]

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37 P. 387 in Bates, Robert H. (1988). "Contra Contractarianism: Some Reflections on the New Institutionalism." Politics and Society 16 (No. 2-3): 387-401.

38 Hechter, Michael (1990). "The Emergence of Cooperative Social Institutions." In Hechter, Michael et al., eds. Social Institutions. Their Emergence, Maintenance and Effect. Berlin: De Gruyter.

39 Gluckman (1956) has summarized and interpreted some of their findings. Bates (1983) has retold the story in the language of game theory. Bates, Robert H. (1983). "The Preservation of Order in Stateless Societies: A Reinterpretation of Evans-Pritchard´s The Nuer." Chapter 1 in Essays on The Political Economy of Rural Africa. Cambridge: Cambridge University Press. Gluckman, Marx (1956). Custom and Conflict in Africa. Oxford: Basil Blackwell.

40 Here we are faced with the fundamental question of whether social and political institutions lead an independent life or merely reflect technologies and economic forces. The answer is, both.

The demise of communal property regimes

Communal property regimes can give way to either open access or more exclusive (individual) property rights. We now consider in what direction economic growth is likely to push a system of communal property. There is little help to be found in formal economic models, such as the Field model: an increase in either of the two critical variables associated with economic growth, the demand for the resource and population, has uncertain effects on the exclusivity of the resource regime. The reason for this indeterminacy is that each variable affects both the cost of exclusion and the costs of governance in many ways. For instance, an increase in output demand that is reflected in a higher output price, shifts up the governance cost curve and creates an incentive for smaller communes or individual property. However, an increase in output price can also affect the cost of exclusion by increasing the incentive for encroachment, which means that additional resources are required to achieve the same level of exclusion as before. The cost curve for exclusion shifts up which directs the system in the opposite direction, toward communal property.

Furthermore, it is beyond the scope of formal models, to consider directly the impact on exclusivity of the numerous developments that usually accompany economic growth, such as technological change in transformation, governance and exclusion, organizational innovation, changes in the location of industry, the nature of products, and new forms of political and social organization. Economic growth with increasing population and falling transportation costs may introduce open access by overwhelming the capacity of small appropriator organizations to provide exclusion.[41] Economic growth may also bring integration and restructuring of political units and a greater capacity to manage individual properties. Further, economic growth can contribute to the breakdown of social structures in traditional societies and raise the governance cost of communal property, and with weak social structures the capacity to exclude may also be diminished.[42]

There are myriad possibilities and special cases. The impact of economic growth on communal property arrangements in particular cases has been analyzed informally by several authors. For instance, Ensminger and Rutten (1990) study how economic growth has dismantled a communal system among the Orma, who were nomadic pastoralists in a district of northeastern

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41 The term "appropriator organization" is due to Ostrom, Elinor (1992). "The Rudiments of a Theory of the Origins, Survival, and Performance of Common-Property Institutions." In Bromley, Daniel W., ed. Making the Commons Work. Theory, Practice and Policy. San Francisco: Institute of Contemporary Studies Press.

42 The breakdown of communal (or any) property regime need not involve the formal removal of the rules that define the regime, but a weakening of their enforcement.

Kenya.[43] The study shows how economic growth has altered the geographic location of the industry and increased the diversity of interest within the community by introducing a sub-group of sedentary livestock producers who produce for commercial markets and demand different property rights than the nomads.[44] The new heterogeneity has increased the conflict over collective decisions. Also, with economic growth the role of the appropriator organizations has diminished while the role of the national government has increased, the government seeming to favor commercial producers. The decentralized enforcement of a stateless society has been replaced by third-party specialists.[45]

The Orma story is not solely one of increased demand for the output with a resulting increase in overgrazing and encroachment, but also a story of major changes in the structure of political and social institutions. With the national government now sharing exclusion costs, the local exclusion cost curve shifts down, which increases local demand for exclusive rights and promotes a move away from communal property.

Does the nationalization of rule-making, governance, and exclusion contribute to a more or less efficient utilization of natural resources? There is no definite answer to this question. On the negative side, decision makers in government are often less affected personally than an appropriator organization by decisions that waste resources. They may sacrifice local interests to national or special interests, and their remoteness suggests that they may have less information for making decisions and receive weaker feed-backs about the consequences of their actions than appropriator organizations. Also, as national decision makers often face softer economic constraints than appropriator organizations, they are more likely to indulge in personal preferences that are out of tune with economic reality; for instance, they may have ideological preferences for individual property or communal property. On the other hand, local users may not be able to resolve satisfactorily their bargaining over the increase in wealth that is expected to flow from changes in property rights, and a powerful outsider could possibly break the deadlock

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43 Ensminger, Jean and Rutten, Andrew (1990). "The Political Economy of Changing Property Rights: Dismantling a Kenyan Commons." Working Paper. St. Louis: Center in Political Economy, Washington University.

44 Rainfall is localized in the region and the sedentary households "solve this problem by keeping only small milking herds in the village and hiring herders to take the majority of their stock to remote and highly mobile cattle camps." Ensminger and Rutten (1990), p. 23.

45 In the case of the Orma, at one point decentralized control was successfully maintained with family ownership of wells, and the control of access to water was used to regulate access to grazing. Ibid., p. 3.

and introduce a new structure that sharply increases the value of the resource.[46]

Conclusions

We have used the criterion of wealth maximization to study the choice of regimes of exclusive rights. On the wealth criterion, optimization requires that costs be minimized. It was argued that communal property is a form of exclusive rights that, in specific circumstances, has absolute advantage in minimizing the aggregate costs of production, governance, and exclusion. We attempted to show how the relative efficiency of communal property depends not only on economic factors but on the nature of social and political institutions.

The choice of regimes of property rights is complicated by the so-called wealth effect and by the problem of collective action. We used the example of a transition from open access to communal property to illustrate why rational agents might place inefficient constraints upon communal property, such as restrictions on the resale of user rights.

We were mostly concerned with the choice of resource regimes by small appropriator organizations, but recognized that national and local governments often have a large role in specifying and enforcing resource regimes. It was also recognized that economic growth is associated with various changes in social institutions and technology, in addition to increases in demand and in population, which makes it impossible to generalize about the impact of economic growth on the viability of communal property. Finally, it must be recognized that the objective function of those who choose the structure of resource regimes may contain other elements than wealth, narrowly defined.

The case of communal grazing pastures of the nomadic Saami reindeer herders of Finnmark in northern Norway is a clear illustration of the

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46 Consider the vast dissipation of oil reserves in many parts of the American Southwest that results when several independent producers share the same underground oil reservoir. According to Libecap and Wiggins (1985), asymmetric information about the value of each lease prevents independent users from agreeing on jointly operating their reservoir. An outside government could force an agreement and set general rules that require joint operations in all cases. However, positive political theory tells us that decisions by governments are plagued by information and transaction problems, and individually rational behavior by public decision makers can bring irrational outcomes. Libecap and Wiggins (1985) report that the state governments of Texas and Oklahoma failed to design rules that encouraged unitization of oil fields, whereas in Wyoming, where oil fields were mostly on federal land, the federal government designed a structure of property rights that encouraged unitization. Libecap, Gary D., and Wiggins, Steven N.(1985). "The Influence of Private Contractual Failure on Regulation: The Cost of Oil Field Unitization." Journal of Political Economy 93 (No. 4): 690-714.

difficulties of designing a positive theory of communal property. Prior to the large-scale involvement by the Norwegian state, a simple economic model incorporating transaction costs might have gone far to explain the structure of property rights in the reindeer industry.[47] The Saami took their herds through a sophisticated annual cycle of spring, summer, fall, and winter pastures with the sizes of communes, herds, and appropriator organizations, the Siida organizations, varying systematically over the cycle, much in the spirit of the Field model.[48] Also, Saami society instituted procedures for resolving disputes on the basis of customary law, although the details of the system are apparently not known today.[49] The property regime appears to have been reasonably efficient. Not a single historical example of overgrazing in the Saami reindeer regions is known, although the Saami have been nomadic herders of domestic reindeer in Finnmark at least since the 1600s.[50]

In the modern system, the Siida organizations are no longer autonomous. Their former authority has been transferred to the national government and its agencies which regulate the industry in detail, determining, for instance, grazing districts, grazing periods, and the maximum number of reindeer that can graze in a district. The authorities can even determine the size of individual flocks.[51] The administrative structure of the industry is rather complex with three levels (industry, district, and subdistrict levels) not counting the Ministry of Agriculture which tops the pyramid.[52] To the extent that the objectives of the top decision makers can be deducted from formal declarations, they are complex and even contradictory. The agreement of 1976 between the Ministry of Agriculture and the National Association of Saami Reindeer Herders lists the following objectives:
a) to maximize the production of food from the pastures, without weakening the resource base,
b) to guarantee personal incomes in the industry that are comparable with incomes in the other sectors of the economy,

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[47] The discussion of the Saami case is based on several of the essays contained in Stenseth, Nils Chr., Trandem, Nina, and Kristiansen, Gørill, eds.(1991). Forvaltning av våre fellesressurser. Finnmarksvidda og Barentshavet i et lokalt og global perspectiv. Oslo: Ad Notam forlag.

[48] Sara, Aslak Nils and Kristiansen, Gørill (1991). "Reindriften i Finnmark årssyklus, driftsstrategier og forskningsutfordringer." In Stenseth et al., eds. See footnote 40.

[49] Ibid., p. 168.

[50] P. 183 in Bjørklund, Ivar (1991). "Saamisk reindrift som pastoral tilpassningsform. Noen betraktninger om økonomisk modernisering og kulturell endring på Finnmarksvidda." In Stenseth et al. See footnote 40.

[51] See p. 185 in Bjørklund, Ivar (1991) See footnote 42.

[52] Kristiansen, Gørill (1991). "Organisasjon og forvaltning i reindriften." P.184 in Stenseth et al. See footnote 40.

c) to guarantee secure employment and traditional residence,
d) to guarantee that the reindeer industry develop in such a way that its central role in Saami culture is preserved.[53]

Over time, the Saami have become increasingly sedentary, and motor vehicles, including snow-scooters, have lowered the cost of monitoring large herds over long distances. Also, the incentives in the reindeer industry have been affected by the instruments of government policy. These instruments include various forms of subsidies, and some scholars argue that an increase of about 100% in the size of the reindeer herds in the period since 1976 can be explained in large part as a response to government programs.[54] Crowding in the communal pastures is reflected in the falling weights of the animals and signs of overgrazing.[55] The evidence suggests that the national government has in part replaced the former system of communal property with open access.[56]

Why do national governments introduce open access and place resources in the public domain? We can think of three possible explanations:
a) It suits the interest of the decision makers, for some reason, which implies that they are satisfied with the outcome.
b) It is an instance of the collective action problem where decisions by rational individuals bring outcomes that no one likes.
c) The decision makers either lack data to make better decisions and/or they are using the wrong model of reality to make their decisions.

All three explanations are possible, and the answer to the puzzle is essentially an empirical question that we leave to the reader.

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[53] See Bye, Karstein (1991). "Målsettinger og virkemidler i reindriftspolitikken." P. 175 in Stenseth et al. See footnote 40.

[54] P. 186 in Bjørklund (1991). See footnote 43.

[55] Lenvik, Dag and Trandem, Nina (1991). "Forvaltning av tamrein i Nord-Norge:status og Muligheter." And Johansen, Bernt et al. (1991). "Det biologiske ressursgrundlaget for Finnmarksreinen. Both in Stenseth et al. See footnote 40.

[56] Open access is both an indirect and direct result of the new law for the industry. As an example of a direct effect, the law has given free access to pastures that by tradition were exclusively owned by specific individuals or groups. There are some similarities between the Norwegian government creating open access in the pastures in Finnmark and the chronic overgrazing on the Navajo Reservation as the result of the policies of the U.S. Interior Department and the Navajo Tribal Council. The policies were intended to preserve the pastoral culture of the Navajo, but in effect they legislated a common property condition for the range and forced many Navajo to leave their traditional employment of sheep raising and accept wage work or welfare. Libecap, Gary D., and Johnson, Ronald N. (1980). "Legislating Commons: The Navajo Tribal Council and the Navajo Range." Economic Inquiry 18 (January): 69-86.

DISTRIBUTIONAL AND POLITICAL ISSUES IN MODIFYING TRADITIONAL COMMON-PROPERTY INSTITUTIONS

by

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I. INTRODUCTION.

Throughout the world, indigenous property rights systems are under pressure. Local arrangements for allocating access and use of resource stocks, including inshore fisheries, grazing lands, forests, and animal herds, have historically been a durable means of maintaining the resource and preventing the dissipation of resource rents. Often, these arrangements have been common-property institutions, whereby non-group members have been denied access, but group (community) members have been granted usufruct rights to the resource. Although problems of calculating and assigning individual allotments and insuring individual compliance with harvest rules have existed under common-property conditions, so long as the group was reasonably small, homogeneous, and had shared preferences or objectives regarding the resource, serious depletion was not an issue. Long-standing equilibrium conditions emerged.

These conditions and the associated effectiveness of local common-property institutions in preventing open-access losses (Gordon, 1954), unfortunately are under stress. They are vulnerable to rising resource values, new technology, new entry, and new legal codes, drafted elsewhere in the society. Advanced harvest technology and capital equipment have dramatically increased the effects individual extraction can have on the stock. Further, rising resource prices and the depletion of stocks elsewhere have invited entry by non-traditional users, who do not adhere to local harvest rules. This entry, outmigration from traditional societies, and the introduction of other cultures have weakened social cohesion within traditional groups and the effectiveness of common-property arrangements.

Indeed, unlike more formal, impersonal private property rights, traditional institutions, which are based on local information, repeat contracts, and shared preferences, are singularly ill prepared to respond to major new entry pressures. If, instead, new entry is limited and the problem is one of a breakdown of traditional rules, then a solution is the more formal definement of individual property rights within the existing structure. The shares of all current members must be renegotiated, reduced, and made more flexible if

total harvest is not to increase with entry. This negotiation, as described below, however, can involve distributional issues that tax the political framework of traditional institutions. Compliance problems also will increase, if new entrants do not recognize the legitimacy of the traditional commons institution. Moreover, as existing shares are reduced to lessen pressure on the resource, the incentive to cheat increases.

Modifications of traditional institutions can be through the assignment of transferable quotas for fishing or for formal grazing permits for herding. If, however, entry is more significant, then broader public policy intervention is required to define property rights, since traditional arrangements are unlikely to provide a complete framework for addressing open-access problems.[57] New rules, however, must recognize existing practices to be effective, but substantial adjustments may be required.

Accordingly, in the face of the potential collapse of or at least, of severe pressure on many of the world's indigenous common-property arrangements, calls have been made for public policy intervention to devise ways to supplement or strengthen local common-property institutions. Adding public policy, however, brings a new set of problems. A new set of actors--politicians, agency officials, other claimants and interest groups--are added to the original users. This creates a new bargaining setting that is more complicated with less clear results for members of traditional groups. Other interests will be weighed in the political process, so that it is no longer predictable that the arrangement will benefit or be consistent with the desires of the original indigenous group.

This paper examines a number of issues with regard to the modification of property rights: First, the incentives to change existing property rights arrangements as new conditions emerge are summarized; second, bargaining issues that are raised due to distributional concerns are highlighted; third, the incentives of politicians, bureaucrats, and new entrants, and the implications for existing resource users are introduced; and fourth, two case studies from U.S. inshore fisheries and Indian grazing practices are presented for insights into how distributional issues have affected political bargaining over open-access problems and how those issues have affected the public policy response.

II. INCENTIVES TO MODIFY PROPERTY INSTITUTIONS.

Property rights are the social institutions that define or delimit the range of privileges granted to individuals to specific assets, such as parcels of land or

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57 Ostrom (1990) provides case studies and analyses of how locally-based institutions can address or be modified to address open-access problems. Johnson and Libecap (1980, 1982) and Libecap and Johnson (1980) indicate the problems encountered in different resource settings when external agencies disregard existing property rights and resource practices.

water, fish, wildlife, and mineral deposits. Although property rights institutions vary from strictly-defined private property rights to common-property arrangements for specified groups, included in all rights structures are the rights to exclude non owners or non-members from access, the rights to appropriate the stream of rents from use of and investment in the resource, and rules regarding the transfer of individual property rights. As such, property rights institutions critically affect incentives for decision-making regarding resource use and hence, economic behavior and performance. By allocating decision-making authority, property rights also determine who are the economic actors in a society and define the distribution of wealth.

Property rights institutions exist in order to avoid the losses of open-access conditions, where there are no restrictions on access and use. Under these circumstances, the value of the resource is dissipated through excessive and wasteful use practices. These include too rapid harvest rates because individuals do not take into account the social costs of their harvest decisions. As a result, total output by all parties using the open-access resource exceeds the social wealth-maximizing level. In addition, short time horizons dominate so that the user costs of production are ignored and long-term investment is neglected. Finally, competition for control diverts labor and capital inputs from production to predatory or defensive activities, and the associated uncertainty of control limits the emergence of markets for the exchange and allocation of the resource to higher-valued uses. In the absence of some type of market signals, the resource will not flow smoothly or routinely to new uses as economic conditions change.

Traditional societies with limited resources and production opportunities have understood well the dangers of unregulated access and use of valuable resources. Generally, the very survival of the community has depended upon successfully addressing the open-access problem. Hence, the intricate and sophisticated network of rules that have been assembled over time to manage locally-based natural assets, which include customs or policies regarding who can have access, harvest practices and rates, transferability, and dispute resolution.

These traditional institutions, however, are now under unprecedented pressure. The old equilibriums have been upset and in many cases, new institutional arrangements are required to address the open-access problem. New mechanisms are needed to arrive at a cooperative solution, but the parties that must cooperate are a much broader and more heterogeneous group than before and the distributional issues involved in assigning access and resource rents are much more difficult.

III. DISTRIBUTIONAL ISSUES IN CONTRACTING FOR PROPERTY RIGHTS.

In general, individuals within a group will negotiate among themselves to modify existing property rights institutions in order to mitigate the losses of the common pool, as soon as there are net benefits of so doing. Forces that drive these adjustments in property rights include declining harvests and income, new competition from others, and production possibilities to which the old arrangement was poorly attuned. But with new entry, no longer can the negotiations for institutional change take place solely within the traditional group. The interests of new entrants, politicians, and bureaucrats must be considered. The bargaining setting is much more complex, and dispute resolution and monitoring compliance with new property rules and harvest rates become more difficult.

These problems compound existing ones about the distribution of the gains and costs from changes in property rights arrangements. While the aggregate gains from reducing open-access problems through the redefinition of property rights are unlikely to be controversial (and empirically, this seems generally to be the case), the allocation of wealth and political power inherent in any adjusted rights structure will be a source of dispute. New property rights arrangements will not only have different production effects, but they will have different distributional implications as well. Some parties will clearly be made worse off, while others may benefit. Some parties will have their traditional harvest practices and the lifestyles associated with them limited, while other parties may be denied access altogether. These distributional effects occur even when there are significant aggregate gains. Distributional negotiations and devising a management and allocation scheme that is politically acceptable becomes the center of the problem in outlining a new property rights arrangement.

In political bargaining over institutional change, the positions taken by individual parties are determined by their expected net gains from the new arrangement with respect to status quo conditions. The benefits of the status quo are a function of current property rights, which define the individual's share of aggregate production, and the productive capacity of the resource. Those who have small shares under existing arrangements or who suffer particularly from the decline in harvests are most likely to expect some benefit from adjustments in property rights arrangements. Others who have adapted well to existing open-access conditions or who have disproportionately large shares will be reticent to make major changes, particularly if there is uncertainty regarding their future shares. Each bargaining party will attempt to mold the resulting arrangement in ways that maximize his share of the aggregate returns. This maneuvering affects the timing and nature of the property rights that are adopted and the aggregate benefits that are obtained.

Accordingly, in modifying common-property practices to address open-access conditions, not only does a new management scheme have to be devised to limit harvests, but a new formula for allocating access and use must be created. This is not only a key problem within the traditional group, but it becomes the key political problem once public policy is brought into supplement traditional arrangements.

The issue, then, becomes one of devising an allocation mechanism to assign the gains and costs from institutional change in acceptable ways, while addressing the open-access problem. Because over harvest, the depletion of the stock, and other conditions associated with open-access require restrictions on future exploitation, some parties will be adversely affected by the institutional change. They may be temporarily or permanently denied access and use or have their traditional use practices dramatically changed. By compensating influential parties that might be harmed in the proposed change, a political consensus for institutional change can emerge. Those share concessions, however, necessarily alter the nature of the property rights under consideration and the size of the aggregate gains that are possible. If influential parties cannot be sufficiently compensated through share adjustments to win their support, otherwise beneficial institutional change may not occur. Even though society is made worse off by the failure to address the new open-access problem, disputes over the distribution of access and resource rents can block a cooperative solution.

In principle, it is possible to imagine a side payment scheme that would compensate those who otherwise would oppose a socially-desirable change in property rights. But empirically, the record suggests that these side payments often will either be incomplete or not forthcoming, delaying collective action. Questions arise as to who should receive payments, who should pay, the size of the compensation, and its form. All of these issues are subject to dispute. These problems, for example, have affected the timing and assignment of individual quotas in fisheries, of grazing permits, of crude oil production quotas, and orange shipment quotas.[58]

Questions arise as to the basis for assigning quotas or other forms of use rights. Two possibilities are to grant them on the basis of prior possession or on the basis of previous production. Prior production as a criteria for shares, however, may involve severe information problems in documentation or verification. Previous possession does not consider new entrants, and fairness issues may arise of the distribution scheme leads to a skewed assignment of

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58 See, Johnson and Libecap (1982), Johnson and Libecap (1980), Libecap and Johnson (1980), Libecap and Wiggins (1985), Libecap (1989c), and Hoffman and Libecap (1992).

property rights.[59] A uniform allocation formula is a conventional alternative because it reduces the information problems associated with verifying past production and allows for inclusion of new entrants. It also avoids more complex and politically-risky distributional arrangements and addresses fairness criteria. But uniform allocations disadvantage particularly skilled or successful parties, who may have adapted well to the status quo. These individuals will have reason to oppose adjustments in property rights because they bear more of the costs and receive fewer of the benefits of the new arrangement. Conflict also will arise regarding the means for entry or exchange of property rights, since these practices often will involve outsiders. Finally, strategic bargaining by key parties to increase their share in the new arrangement can block or delay agreement, if unanimity rules are required to institute change.

All things equal, the intensity of political bargaining over distributional issues and the likelihood of successful property rights change will be influenced by i). the size of the aggregate expected gains from institutional change; ii, iii). the number and heterogeneity of the bargaining parties; iv). the skewness of the current and proposed share distribution, and v, information problems. The larger the expected aggregate gains, the more likely politicians can devise shares to make influential parties better off, so that institutional change can proceed. On the other hand, the larger the number of bargaining parties, the greater the number of claims that must be addressed by politicians in assigning or modifying property rights, making institutional change more difficult. Time and precedent are critical factors in determining the number and bargaining power of claimants. Past political agreements regarding property rights define a set of actors or vested interests who can create advantages for future bargaining by molding political institutions to their benefit. Previous agreements also affect bargaining by setting precedents and expectations among competing groups regarding the expected gains from collective action to change property rights. The more heterogeneous are the private bargaining parties, the more difficult is the formation of coalitions and a consensus on the proposed assignment of rights. Further, a very skewed existing rights arrangement leads to pressure in political contracting for a redistribution of wealth. Indeed, those parties without current property rights are motivated to lobby for redistribution even if there are no aggregate benefits from institutional change. Finally, information problems raise contracting costs by intensifying disputes over how the proposed change will affect individual parties and what share adjustments are necessary for compensation. Failure to agree on such compensating shares may convince those who do comparatively well under the current arrangement, even open-access that they will be made worse off by the institutional change.

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59 For discussion of fairness issues, see Hoffman and Spitzer (1982, 1985); Fogel (1992).

IV. PUBLIC POLICY AND POLITICAL BARGAINING TO CHANGE PROPERTY RIGHTS.

Consideration of the details of political bargaining is necessary for predicting the ultimate impact on traditional users of public policies to respond to open-access problems. Because property rights are politically determined, and especially in appeals beyond the traditional community to public policy, the definition and enforcement of property rights will occur in the political arena. The very existence of an open-access problem indicates that the informal customs and agreements which required little or no state intervention and were sufficient in the past, are now inadequate. However, lobbying politicians and other government officials for new or increased government support for modifying and protecting traditional use practices will activate other interest groups in the political process, as well as involve the additional interests of politicians and bureaucrats. With a broader array of competing interests, greater government intervention in the definition and enforcement of property rights will make bargaining more complex and require concessions from traditional users in the form of redistribution of resource rents to other influential constituents. The bargaining parties include private claimants (traditional users, plus new entrants, environmental groups, and other constituents), politicians (incumbents and aspiring office holders), and bureaucratic officials (who will administer public policy regarding the management of the resource). All have an incentive to devise a management scheme that advances their interests, and these may not be consistent with the interests of traditional users.

Politicians will play an important role in brokering any new arrangement, but they will have a different incentive structure and face a different array of costs and benefits than do the other parties involved in bargaining to change rights arrangements. For one thing, they have short time horizons. Politicians have no particular reason to be concerned about very long-term, sustainable resource uses. The demands they face are immediate, and there are no futures markets in votes. Current practices in the United States regarding the funding of social security and a lack of sustained interest in reducing the federal deficit are examples of an inherent short-term bias in political decisions. Additionally, vote-maximizing politicians must respond to many competing interests to insure reelection or the maintenance of political power. They have incentives to maintain status quo distributions, and do so by balancing competing demands for resource access and use, so that no group will get all that it wants through public policy.

This suggests that if traditional users are not well-organized and are not politically influential, then the demands of other constituents, perhaps the new entrants, will

prevail. Indeed, traditional groups with histories of reaching agreements and maintaining traditional common-property institutions will likely be small, and since income from traditional harvest practices is apt to be low, such groups are generally relatively poor. Education levels and experience in using the political process may be limited. The political influence of competing groups of claimants depends upon their wealth, size, and homogeneity (Stigler, 1971; Peltzman, 1976; Becker, 1983). This suggests that traditional users will not be particularly effective lobbyists in their own behalf in the competition for resource access and use as property rights are being adjusted. In addition, with different political jurisdictions involved, as is a standard case, there will be different and competing politicians, ranging from national politicians (and if more than one country is involved, there will be multiple national politicians with competing interests at stake) to local politicians. All have different constituencies, and will make resource use decisions with their own objectives in mind. Traditional users may have ties to one group of politicians (local), but lack critical ties to national politicians.

Necessarily, agency officials, who administer statutes in devising public policy, also have a short-run bias. They must be responsive to elected officials. Although there is latitude in the devising of administrative rules and perhaps an ability of agency officials to act on their own preferences, agencies cannot stray too far from the desires of the existing electorate (Weingast and Moran, 1983). Indeed, agency decisions regarding the administration of public policy are critically affected by the need to form political alliances with influential constituents for appropriations, staffing, and maintenance of regulatory mandates. Additionally, agency officials are not residual claimants. That is, they do not bear the full costs or benefits of their administrative policies, and hence, have less incentive to devise policies that maximize the rental value of the resource than do actual resource users.

For these reasons, one cannot predict that public policy outcomes will necessarily be in the long-run interest of traditional users, even if legislation or the initiating call for government intervention is made in their behalf. Traditional users become but one of many competing interests at stake. In general, the greater the magnitude of the open-access problem, the more likely there will be a response from politicians to devise a new property rights arrangement. Once problems have become very severe, interest groups are more likely to form cohesively and effectively to pressure politicians for action. This suggests, however, that a political response to an open-access problem will not occur until late, after much of the damage has been done.

Given the various competing parties and potential for conflict over the allocation of property rights and the prediction that a political response is apt to be delayed, institutional change is likely to be an incremental process with

modest adjustments from status quo conditions. The role of time and precedent in influencing the number of vested interests and the expected returns from collective action suggest an historical path dependence for property rights institutions.

These arguments imply that caution is in order regarding the efficacy of public policy intervention to address open-access problems faced by traditional users. The closer that solutions rely on existing practices, the more likely they will advance the welfare of current users and at the same time, protect the resource. The arguments also suggest that within traditional groups and across other competing users, negotiations to modify existing property rights arrangements will raise distributional concerns that will affect the new institutions that are put into place and their effectiveness in mitigating rent dissipation. Some of these issues are illustrated in the following empirical examples from the United States.

IV. U.S. INSHORE FISHERIES.

In some cases, at least, public policy has not been very supportive of traditional (or at least, long standing) use practices. The political influence of other, competing users has been a critical factor. For example, Higgs (1982) describes the vibrant nature of the Pacific Northwest inshore salmon fishery at the turn of the century, when salmon were abundant and could be harvested at low cost due to their anadromous nature. Because salmon returned from the ocean to the streams from which they were spawned to deposit and to fertilize eggs, they could be harvested from fixed sites along streams leading from the Pacific Ocean, using fish wheels and gill nets. A system of private property rights to those sites emerged along major rivers, such as the Columbia, similar to the well-developed property systems used earlier by Indians.

As early as 1892, however, there were concerns about the entry of new fishermen and the impact on the stock of the growing rise in total gear used in the fishery. Declining productivity created intense hostilities among various groups of fishermen, who were identified by the types of equipment that they used. Each group blamed over fishing and its consequences on others and attempted to have the fishing privileges of their rivals curtailed. Public policy solutions were demanded, and state legislatures were drawn into the fray. Gill netters increasingly were able to secure legislation in Oregon and Washington that placed discriminatory restrictions and taxes on the operators of fish wheels. Ultimately, the low-cost, productive fish wheels were outlawed by the two states. However, removing one group did not solve the open-access problem. Conflicts over access and harvest continued among owners of fish traps in Puget Sound, commercial purse seiners, who relied on vessels, and sports fishermen. New political coalitions of fishermen formed to lobby for restrictions on their competitors. Because of their small numbers and highly

visible, large catches, fishermen who used fish traps were especially vulnerable. With the growing political influence of numerous sports fishermen and those commercial fishermen who used vessels, regulations eventually were adopted to forbid fish traps. By the early part of the twentieth century, these historical fishing practices disappeared.

As fishing pressure continued, new regulations were authorized by state legislatures and molded by regulatory agencies to force the interception of salmon in the ocean at much higher costs. Capitalization and labor costs increased as the number of boats and fishermen rose. As the stock of salmon declined from more intensive harvest, a principal regulatory response was to construct costly hatcheries and to shorten the fishing season in an attempt to raise aggregate catch. The progressive shortening of seasons intensified the rush of fishermen to complete their harvest early and added pressure for larger and faster vessels. Moreover, tensions among competing fishing groups continued as each sought to obtain legislation that favored it and posed constraints on its rivals. No long-term satisfactory solution has obtained, despite continued regulatory efforts, and the value of the salmon fishery in the two states has declined.

Similar problems in satisfactorily addressing open-access problems have been encountered elsewhere, and their persistence is not due to some technological imperative or lack of scientific analysis. In examining property rights and regulation in the Texas Gulf Coast shrimp fishery, Johnson and Libecap (1982) describe the actions of fishermen unions in devising locally-based rules for limiting access and harvest. The Gulf Coast Shrimpers' and Oystermen's Association along the Mississippi coast devised rules to restrict entry and harvest. Under union rules, fishermen were permitted to sell only at or above the association's floor price. By setting a minimum price for small, immature shrimp that had to be paid by local packers, which generally exceeded market prices, the rules reduced the quantity of small shrimp demanded by the packers. Accordingly, the higher price required for small shrimp acted to redirect harvest to later in the season and thereby increase the yield of higher-valued larger shrimp. The market price per pound for larger shrimp set by the union for payment by packers was equal to the market price. Shrimp purchased by packers at less than the mandated price would not be peeled by union peelers. The union also obtained state legislation that recognized its practices and fixed minimum sizes for harvest. The analysis of harvest price data by Johnson and Libecap indicate that the union was successful in delaying harvests in Mississippi and in raising the size of the shrimp caught and marketed there, relative to neighboring Louisiana. Even so, this effort, as well as similar efforts by fishery unions on other U.S. coasts were struck down by the U.S. Justice Department as violations of the Sherman Antitrust

Act at the behest of those fishermen who were denied access by local union rules.

In the absence of locally-based arrangements, fishermen in most U.S. inshore fisheries have relied upon public policy with at best, spotty results. Over fishing remains a common characteristic, and catch and incomes have fallen. Neither fishermen nor regulatory agencies have been able to devise very satisfactory harvest rules. Until recently, few quotas arrangements were adopted. To avoid the redistribution problems associated with quota design, fishermen could agree only on across-the-board regulations, such as season closures or equipment restrictions.

Disputes have arisen over the impact of harvest restrictions and on the response of the stock to regulatory practices. Due to differences in skill among fishermen, catch and income have varied sharply. In the design of institutions to reduce open-access losses, each party has been concerned with how the new arrangement will impact its share of total catch. For better fishermen, there has been the hazard that allowable catch and income under any new institutional arrangement would be less than they received under the status quo. These redistribution concerns have existed for a long time and have limited agreement on institutional change until fisheries became severely depleted with all harvests low. At that point more of the bargaining parties have been able to see their welfare improved by controls on catch, and agreement has become more likely. Unfortunately by that time, the costs of the open-access problem have been long standing and the stock seriously depleted.

Among the competing contracting parties have been commercial fishermen of various kinds and sports fishermen. Because of their large numbers as voters, sports fishermen have been politically influential and have succeeded in promoting regulations that have often displaced commercial fishermen and any informal property rights arrangements they may have devised.

Historically, a political consensus has emerged among commercial and sports fishermen only for regulations that tended to avoid controversial distributional issues, and instead, focused on visible yield-enhancement--hatcheries, season closures, gear restrictions and entry controls on outsiders. Until recent depletion has change bargaining stands, limited access schemes and individual quotas have been a much less popular regulatory approach.[60]

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60 Similarly, Hoffman and Libecap (1992) find that orange growers could not agree on prorationing rules in Florida under citrus marketing orders because of disagreement on the impact on particular growers and shippers. No quota design could be devised that brought agreement. Hence, unlike California, Florida growers have relied instead on across-the-board shipping holidays (season closures), and uniform grade and size restrictions to limit shipments to market.

Limited access schemes usually involved issuing a restricted number of fishing licenses and allowing entry only to licensees as a means of reducing overall harvest rates and pressure on the stock. With the number of licenses kept small relative to the number of fishermen, who would fish under open-access conditions, and entry restricted to license holders, rents could be increased. If the licenses were considered to be a permanent assignment of access to the fishery and were transferable, they could become a valuable property right. Because of the potential wealth assignment involved, determining who would receive the initial licenses and the procedure by which they would be granted have been important problems to be resolved. Political influence based on numbers, cohesion, and wealth have been more critical determinants of who received licenses than have been other criteria, such as the impact of various fishing groups on fishery rents or past use practices. Because total rents could be increased and redistributed through restrictive licensing, some fishermen therefore could be made better off relative to their position under the status quo. Within the group receiving licenses, however, the problems of designing and enforcing intragroup controls on fishing remained, especially in the absence of local arrangements, which generally have been prohibited by law.

Recently, individual, transferable quotas have become a more common response to this problem, since they restrict entry and limit individual catch. But their long-run acceptance and use still have faced the concerns of fishermen. With transferable quotas, some of the equal access questions that may be politically important have been resolved. For example, markets have developed for the transfer of quotas to allow new fishermen to enter or to allow some of those who were excluded to reenter the fishery.

There has been, however, the problem of the initial assignment of quotas. If the quotas were granted to incumbent fishermen, they would receive a wealth transfer. Politicians have considered imposing taxes on the value of the license, perhaps to compensate those who were excluded from the fishery. Similarly, if the licenses were sold by the government through price discrimination schemes, the government could extract all of the rents so that fishermen were no better off under regulation. In either case, the adoption of taxes or pricing policies in limited-access schemes could reduce the welfare gain to fishermen from the new program and sharply reduce their enthusiasm for it.

There have been other issues regarding the size of the quota and whether it would vary among fishermen and across the season. Variable quotas to reflect past harvest practices and differences in skill have been considered a means of

building support among successful fishermen for regulation. These practices, however, have been found to be uncommon in a variety of empirical studies, where uniform, across-the-board quotas are predominant.[61] Uniform quotas would be responsive to equity concerns, which are common political goals.[62] They, however, disadvantage more skilled fishermen. Adjusting quotas across seasons and within seasons by regulatory agencies to respond to new estimates of the condition of the stock also could be an important feature of regulation, but it introduces uncertainty for fishermen in calculating the expected gains to them from the adoption of a quota system. Further, uncertainty regarding the size of annual quotas, the duration of quota policies, and the nature of other regulatory actions have added to the difficulties facing fishermen in calculating individual benefits from the new arrangement relative to the status quo. Moreover, uncertain quotas could encourage fishermen to violate their allotments, raising enforcement costs and reducing the effectiveness of the policy in enhancing the growth of the stock and aggregate fishing incomes.

Nevertheless, regulatory officials and politicians have some incentive to adopt temporary quotas. A permanent quota system could sharply reduce the administrative authority of regulators and justification for agency staffing and budgets. Further, permanent quotas limit the ability of politicians to respond to changing political demands for free access to the fishery. With transferable permanent quotas, subsequent exchanges of access rights would be through market transactions and not through political assignments. Finally, there would be political pressures opposing a permanent quota system from fishermen who have their access and harvest opportunities reduced, as well as from input suppliers, ranging from fishing crews to vessel and equipment manufacturers and retailers, who have a stake in a less restrictive regulatory regime.[63]

This summary indicates some of the bargaining problems encountered in devising regulatory schemes to address open-access problems in fisheries. They have not been easy ones to circumvent. Moreover, public policies and judicial responses to open-access problems often have not considered (or ruled out) locally-devised arrangements. This has reduced the effectiveness of regulation in protecting the resource.

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61 For example, see the regulatory case discussed by Hoffman and Libecap (1992) regarding orange marketing orders. See also, Johnson and Libecap (1982).

62 See Fogel (1992).

63 For discussion of individual quota systems and their advantages and costs, see Scott (1989), Libecap (1989b), and Neher, Arnason, and Mollett (1989).

V. GRAZING PRACTICES AND REGULATION ON U.S. INDIAN RESERVATIONS.

American Indians, particularly those in the Southwest, have pastoral economies. Almost all are under stress as the number of herders has increased, and over grazing and deteriorating range quality are common results. This problem, unfortunately, has existed since the 1930s and again, no effective, long-term solution has been devised. There are conflicting goals of maintaining traditional pastoral cultures by granting tribal members access to the land in the face of rapidly increasing populations and of safe guarding the sustainability of the range resource. There seems to be no evidence that these conflicts are being resolved in a satisfactory manner, despite the passage of 60 years.

Grazing practices, the extent of overgrazing, and the quality of rangeland vary across the reservations (Johnson and Libecap, 1980). Regulatory practices by tribal councils and outside government agencies, such as the Bureau of Indian Affairs, have had mixed effects on the resource stock and on the welfare of tribal members. Political factors, both within the tribes and in government agencies, have played a critical role in formulating regulatory policies regarding property rights and rangeland use. The experience indicates that one cannot be too sanguine that either tribal governments or the Federal Government can provide property rights arrangements that preserve the resource and advance the well-being of tribal members.

In the U.S., the Federal Government holds title to Indian land, and formal use rights, where they exist, are granted to individuals through the Bureau of Indian Affairs (BIA) and local tribal councils. In assigning grazing rights, the BIA has emphasized the equal distribution of tribal land. In the process, it has rejected existing claims of large herders where they have been associated with overgrazing and where their holdings have been deemed unequal. Historically, large herders have established informal control of range land on many southwestern reservations through prior appropriation and continued occupancy.[64] There are economies of scale in herding, so that large herders have higher per animal returns. Absent an ability to obtain formal property rights to their land, large herders in many cases have engaged in 'limit grazing' to reduce the threat of entry by other herders on their customary lands. Under limit grazing, herders stock beyond the level that would otherwise maximize rents in order to reduce the expected gains from entry.[65]

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64 The notion of occupancy and beneficial use as a means of legitimizing claims is a common practice. It was the basis for U.S. homestead allocations under federal land policy in the nineteenth century, and remains the basis for land claims by squatters and others with otherwise formal title in Brazil. Failure of title holders to occupy and 'use' their lands makes them vulnerable to entry by others. See, Alston, Libecap, and Schneider (1992).

65 The limit grazing model is developed in Johnson and Libecap (1980).

Although, this practice of overgrazing is an effective means of defining and enforcing customary grazing areas, it weakens plant stands and makes the range vulnerable to erosion and the introduction of unpalatable species.

Recognizing and enforcing the land claims of large herders to allow them to discontinue overgrazing practices and to encourage them to invest in the long-term quality of the land has not been politically feasible for either tribal councils or the BIA. Large herders have been viewed as better able to bear the costs of imposed stock reductions to improve range quality. More importantly, large herders have controlled a disproportionate amount of reservation land. Recognizing their claims would deny the potential claims of other tribal members, and in any event, federal policy since 1933, has been to emphasize the communal nature of Indian lands. Finally, large land holdings prevent the granting of herding privileges to additional members, and as populations have increased, the demand on popularly elected tribal councils for herding opportunities has correspondingly risen. Hence, recognizing the land claims of large herders has been inconsistent with other political goals.

Accordingly, in many cases either uncompensated, forced redistributions of land have occurred through BIA policies with an emphasis on an equal distribution of the land (Navajo and Zuni reservations) or the claims of large herders have been tacitly admitted, but no clarification of rights has occurred (Cochiti, Santo Domingo, San Felipe, Sandia, Santa Ana, Taos, Santa Clara, Tesuque, Name, and San Juan reservations). Naturally, uncompensated redistribution has been resisted by herders and has been politically controversial. Unfortunately, while redistribution has brought about a rise in small herds on the Navajo reservation, for example, it has not resulted in range improvement practices. Indeed, with the rise of small herds and the political pressures to facilitate new entry by additional herders, total stocking has increased and property rights have become less, not more confused. Not surprisingly, rangeland conditions have deteriorated (Libecap and Johnson, 1980).

VI. CONCLUDING REMARKS.

As per capita incomes rise around the world, there is greater concern about the rational use and conservation of natural resources. The professed goal is a sustainable interplay between man and the environment. Historically, traditional common-property institutions have been quite successful in small, homogeneous communities in maintaining resource stocks and the community wealth on which they are based. Recently, with rising populations, migration, new entry, and the introduction of new technology, these traditional arrangements have been placed under stress. Policy discussions have emerged regarding institutional changes away from traditional practices to more formal rights assignments to promote more sustainable resource uses. In some cases,

pressures have arisen for more formally defining the use rights granted community members, which have previously been informal and vague. Indeed, a common result of rising resource values and greater competition for resource use is a demand for an increase in the specificity of property rights.[66] Other pressures have risen to both reduce the number of individuals who can exploit the resource and limit the harvest rates of those who are allowed to continue exploitation. These raise critical distributional issues that affect political support for institutional change. Resolving distributional conflicts over the redefinition of property rights, however, fundamentally changes the nature of the institution that ultimately can result, with implications for its effectiveness for managing the resource stock. Additionally, as traditional users turn (or are turned) to outside politicians and administrative agencies to address resource use problems, new objectives and interests are added. The melding of a broader array of competing political objectives for resource assignment and use may not lead to policies that advance the interests of traditional users or that significantly protect the resource. Accordingly, caution is necessary in calling for public policy intervention, and once a path of regulatory change is taken, the distributional concerns of the various parties involved must be considered, if collective action is to be successful in safeguarding the resource and the traditional societies that depend upon it.

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HUMAN RIGHTS AND RESOURCE MANAGEMENT - AN OVERVIEW

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1. Introduction

The interrelationship between human rights and resource management.

Until recently, human rights and resource management would generally be perceived as rather separate legal areas. Ideas of human rights were developed at a time when resources were seen as unlimited.

Today the link is more obvious. Degradation of natural resources and the environment threatens the economic base and welfare of millions of people. We now see more clearly than before how access to natural resources, and the wise management of such resources, is a condition for the fulfillment of many human rights, in particular social, economic and cultural rights. The scarcity of natural resources in many parts of the world raises questions of balanced exploitation and fair distribution of these resources. - The relevance of this relationship becomes even more evident when we consider the conditions of future generations.

On the other hand, the fulfilment of human rights to information and participation, and political freedom, may be important to secure a wise and balanced management of resources. The massive environmental problems in the former socialist countries may serve as a reminder of this. - But neither is democracy a guarantee for environmental protection and sustainable use of resources. Too often, short term economic growth and job creation is given political priority by politicians being primarily concerned with the next general election.

This paper looks into some of these interrelationships between human rights and management of natural resources from a legal point of view.

The concept of human rights

It may be useful first to clarify the concept of "human rights". In this paper "human rights" mean the fundamental rights - for individuals or groups - expressed

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67 I thank professor dr. juris Torkel *Opsahl*, Institute of Public and International Law, for advice and assistance in preparing this paper and Lise *Rakner*, Christian Michelsens Institute, for useful comments.

in international instruments in such a way that they have become international law. A “right" for individuals or groups usually means a corresponding obligation for the state to respect or fulfill it in their national law and policy. States that do not respect or fulfill these rights, break international law. Through various means, a number of organizations - intergovernmental as well as non-governmental - strive to have these rights implemented and respected everywhere.

This is a developing branch of international law, where new aspects of these rights or even "new rights" are recognized through the dynamic process of adopting new binding texts or practices.

The concept of "human rights" is based on the idea that certain human values and interests are of a *universal and fundamental nature*. They apply to "citizen and alien, friend and enemy". As such, they should be respected and fulfilled by all states, and they should form the foundation of national legislation, preferably as constitutional norms. Internationally, the human rights are expressed in the Universal Declaration on Human Rights adopted by the United Nations in 1948, UN's two comprehensive Human Rights Covenants of 1966[68], important regional instruments such as the European Convention on Human Rights of 1950 and the African Charter on Human and Peoples´ Rights of 1981, and in sectoral conventions at global[69] as well as regional level.

Some human rights represent basic limitations on the legislator. Their purpose is to *protect* the individual against abuse of power by the state (or the minority against the majority). They limit the state´s freedom of action. Other human rights oblige the state to take certain actions, to *provide* services to meet certain human needs and aspirations.

This distinction between "protection" and "provision" corresponds roughly to the distinction between the civil and political rights on the one hand, and the economic, social and cultural rights on the other. These two sets of human rights are expressed separately in the two covenants.[70] It should be mentioned that the legal nature and status of the two types of human rights differ somewhat. The civil

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68 International Covenant on Economic, Social and Cultural Rights (CESCR) and International Covenant on Civil and Political Rights (CCPR).

69 Such as the International Convention on the Elimination of All Forms of Racial Discrimination of 1965, Convention on the Elimination of All forms of Discrimination against Women of 1979, and Convention on the Rights of the Child of 1989.

70 Broadly speaking, the civil and political rights are the inheritance of western democratic and liberal values, while the economic, social and political rights are more in line with the ideology of former socialist states. The division might be seen as a reflection of the ideological gap between East and West during the years of the cold war.

and political rights are, generally, easier to ensure and enforce through strictly legal means than the economic, social and cultural rights.

Some human rights deal with the *participation* of the citizen in society. Expressions of this are found both among the civil and political rights, and among the economic, social and cultural rights. They represent in several respects a link between these two types of rights. It will appear from this paper that rights related to information and participation are highly relevant in the area of management of natural resources.

Originally, human rights were rights of the *individual*. But during the latest decades, the concept of human rights has gradually widened - some will say: become less clear, and less operational. Several international instruments establish rights to be enjoyed by "peoples", groups etc. The legal status of such "collective rights" or "peoples´ rights" raises particular problems. Attempts have been made to describe them more generally as "third generation rights", having in common an element of *solidarity*. Right to peace, security, disarmament, development and a healthy environment are examples of what is often referred to as "third generation" human rights. In such thinking, the "first and second generation rights" are understood to represent, respectively, the elements of (individual) *liberty* as is characteristic of traditional civil and political rights, and (social) *equality*, which has been said to be the typical aim of economic, social and cultural rights.[71]

2. A "human right to natural resources"?

Is there a "human right" to natural resources - a right to possess and exploit such resources? Let us first consider if there is such a right as an *individual right.* One point of departure here is the *"right to property"*.

The (individual) right to property.

The right to property is one of the "classical" human rights - mentioned in the 1789 French Declaration on Human and Citizens´ Rights (art. 17 - the last)[72]

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71 These terms have also been presented as a reflection of the famous human rights slogan "*liberté, égalité, fraternité* ". It is perhaps trivial to observe that no revolution, and least of all the French one, has succeeded in making all three concepts operational. On the other hand, historically they need not necessarily appear one after another, as "generations"; the values and interests they represent may, if properly balanced against each other, be harmonized and protected by law simultaneously, as three distinct dimensions of a legal system rather than "generations".

72 "La proprieté étant un droit inviolable et sacré, nul ne peut en être privé, si ce n´est lorsque la nécessité publique, légalement constatée, l´exige évidemment, et sous la condition d´une juste et préalable indemnité."

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and in the Fifth Amendment of the US Constitution[73], and it is found in many of the more modern national constitutions. In international law, the right to property is expressed in very general terms in the UN Declaration (article 17). It is placed among the civil and political rights:

> "(1) Everyone has the right to own property alone as well as in association with others.
>
> (2) No one shall be arbitrarily deprived of his property."[74]

The Declaration is, however, not legally binding in the strict sense.[75]

When looking at the two *Covenants* on human rights, one search in vain for articles stating the right to private property. One may assume that this issue was too controversial to be adopted by the UN at a time when nearly half the world´s population lived in communist-ruled societies where private property to means of production had been formally abolished.

We must turn to *regional conventions* on human rights to find expressions of a "right to property". The European Convention on Human Rights does not itself include an article on the right to property, but such an article is found in the First Protocol to the Convention, article 1:

> "Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.
>
> The preceding provisions shall not, however, in any way impair the right of a State to enforce such laws as it deems necessary to control the use of property in accordance with the general interest or to secure the payment of taxes or other contributions or penalties".[76]

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73 "No person shall be...deprived of life, liberty or property without due process of law; nor shall private property be taken for public use without just compensation." The Ten Original Amendments to the US Constitution are called the Bill of Rights. They came into force in December 1791.

74 The *travaux préparatoires* of this article show that it caused much controversy. A number of different proposals where discussed before its final wording was adopted, see the article by Gudmundur *Alfredsson* in A. *Eide* and others (ed.): "The Universal Declaration of Human Rights. A Commentary", Scandinavian University Press 1992.

75 UN declarations and recommendations of this type are often referred to as "soft law". They are not legally binding in the strict sense of international law, like trieaties. But the commitments they lay down, often gradually develop from political declarations to legal obligations, working their way into international conventions and national legislation, or becoming customary law.

76 A similar provision is found in the African Charter: "The right to property shall be guaranteed. It may only be encroached upon in the interest of public need or in the general interest of the community and in accordance with the provisions of appropriate laws."

According to this article, the "right to property" is clearly limited in its real content. The state may expropriate private property for public use. And the state may control the use of property "in accordance with the general interest". Hence, the state may regulate - and even prohibit - (private) natural resources to protect public interests. The article does not give the individual a "right" to use or exploit natural resources.

The article has been subject to interpretations by the European Commission and Court of Human Rights. In interpreting the second and third sentence they have expressed a general principle of "reasonable balance" between the interests of the individual and the society in its application, and have judged state actions by this yardstick.[77] One consequence of this principle is a right for the citizen to compensation if his property is expropriated, at least as the main rule. But national authorities have a considerable freedom in defining the level of compensation.

In Norway, the "right to property" has found its (indirect) expression in *article 105* of our written Constitution (Grunnloven), which states:

> "If the welfare of the State requires that any person shall surrender his movable or immovable property for the public use, he shall receive full compensation from the Treasury."

The use of natural resources is regulated by an extensive legislation in Norway, giving central and local government the authority to restrict the use and exploitation of these resources. Agriculture, forestry, fishery, mining and the use of watercourses are subject to extensive legislation and government control. Land use are strictly regulated through local and national planning instruments, and special nature conservation measures may restrict the use of land even further.

The main legal issue in this connection is not whether the state may regulate and restrict the private party´s use of his resources, but to what extent such regulations and restrictions have to be *economically compensated* by the state. The main rule in Norwegian law is that regulations and restrictions do *not* give right to compensation. However, regulations that virtually eliminate any economically valuable use, may in extreme cases be subject to compensation.[78]

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77 In 1982, Sweden became the first country found by the European Court of Human Rights to have violated this article, in the case of *Sporrong & Lönnroth v. Sweden*. The article is discussed in Michael *Bogdan*: "Äganderätten som folkrättslig skyddad mänsklig rättighet", Raoul Wallenberg Institute Report no. 2, Lund 1986.

78 The question of compensation for restrictions on the use of private property is a central one in Norwegian law. It has also been a controversial issue. However, several decisions by the Supreme Court during the last 25 years - some of them in plenary - have to a large extent clarified the matter. Through these decisions, the right to compensation has been limited rather strictly.

So, the right to property, as an individual human right, is *not a right to use or exploit the resources* of the property freely and without restrictions. The state may regulate strictly the use of natural resources, regardless of whether they are privately or publicly owned. The economic content of the right to property is defined through the application of the general principle of compensation in case of expropriation or - to a limited extent depending on national law - regulation on the use.

It should be added, however, that certain sectoral human rights instruments explicitly states a right for certain groups to own property - in various forms and with different legal content. One example is the provisions on right to land and other natural resources in the ILO conventions on indigenous and tribal people, to which I shall revert.[79]

Another possible individual right linked to the use of natural resources, could be *the right to work*. People whose living is directly linked to the use of natural resources, such as farmers, herders and fishermen, might argue that the right to work in their case is without meaning if they do not have a right to exploit these resources. The right to work is expressed in article 6 of the CESCR[80], and in the European Social Charter[81]. The general view is, however, that these provisions are too general and conditional to establish a right for the individual with legal force.[82] The mass unemployment in the world clearly illustrates the weakness of this "right". There is no clear reason to give people who are directly dependent on the exploitation of natural resources for their work, a better protection than others in this respect.

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79 Another example is the Convention on the Elimination of all Forms of Discrimination against Women, which - generally speaking - establishes the right to acquire, inherit and dispose of property for all women.

80 The full text of the article is the following: "1.State Parties to the present Convention recognize the right to work, which includes the right of everyone to the opportunity to gain his living by work which he freely chooses or accepts, and will take appropriate steps to safeguard this right. 2. The steps to be taken by a State Party to the present Covenant to achieve the full realization of this right shall include technical and vocational guidance and training programmes, policies and techniques to achieve steady economic, social and cultural development and full and productive employment under conditions safeguarding fundamental political and economic freedoms to the individual."

81 Part I, para.1: "Everyone shall have the opportunity to earn his living in an occupation freely entered upon."

82 See Torkel *Opsahl*: "Internasjonale menneskerettigheter. En foreløpig innføring", Oslo 1991.

The "peoples´" right to dispose of their natural resources.
In international law, the right to dispose of natural resources has been defined as a "peoples´ right". This principle is expressed in the two Covenants on Civil and Political rights, and Economic, Social and Cultural rights. Article 1 para 2 of both instruments provides that:

> "All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit and international law. In no case may a people be deprived of its own means of subsistence."

In talking about "peoples", these articles differ from the other articles of the two Covenants, which mainly deal with individual rights. They are directly linked to *the principle of peoples´ right to self-determination,* expressed in article 1, paragraph 1 of the two Covenants:

> "All peoples have the right of self-determination. By virtue of the right they freely determine their political status and freely pursue their economic, social and cultural development."

It appears that the issues of peoples´ right to self-determination and right to dispose of their natural wealth came up during the preparations of the two Covenants much as a reflection of the process of decolonization. Whether these principles should be included in the Covenants on human rights was highly controversial. It was finally adopted by the UN only with a small majority. As an argument to include it, it was claimed that the right of peoples to self-determination is an indispensable condition for the full enjoyment of the human rights treated in the Covenants.[83]

There is, in the two Covenants, no reference to the right of *States* in this respect. However, states permanent sovereignty over their natural resources is a basic principle in international law. How does the right of "peoples" to natural resources as expressed in the two Covenants relate to this right of states?

In cases of clear identification between state and people, this dichotomy does not represent any problem. The principle of state sovereignty over natural resources, and peoples` right to dispose of "their" natural resources, become in fact and legally identical. Its substantive content is that *other states* cannot exploit the resources without the consent of the state.

The peoples´ right approach becomes more complex, and less clear in law, when several "peoples" - for example different ethnic groups, minorities etc. - together constitute a state. Is the real content of article 1 paragraph 2 of the Covenants a

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83 See Johan *Nordenfelt*: "Human rights - what they are and what they are not" in Nordic Journal of International Law, 1987:1. Nordenfeldt is generally very critical to widening the concept of human rights through "collective" or "peoples´" rights.

right for such groups to exploit the natural resources of the land to which they traditionally belong - if necessary against the will of the state? In other words: is the state sovereignty over natural resources subject to limitations in the form of consent of the "people" directly concerned? And absolutely limited by the sentence: "In no case may a people be deprived of its own means of subsistence"?

This question has been central, and controversial, in discussions on the legal situation of indigenous peoples and other minorities - particularly their right to land and other resources.[84] One practical aspect of the right to land and other natural resources for these groups is their right to oppose the destruction of their livelihood.

The wording of article 1 itself does not give a clear answer. However, it appears clearly from the preparatory work and later discussions in appropriate fora that an ethnic minority within a state cannot claim the right to self-determination on the basis of the first paragraph of the article. This is regardless of whether the members of the ethnic group see and define themselves as a "people". The notion of peoples´ self-determination is subordinated to the conception of the unity and integrity of the state. Also, there seems to be agreement in international law that the word "people" must have the same meaning in paragraph 2 as in paragraph 1 of the article.

The conclusion is that this article in itself does not protect ethnic minorities within a state against the exploitation by the state of natural resources on which they base their living.[85] And one seek in vain for other rules to this effect in customary international law or other general human rights conventions.

The issue will be further discussed in chapter 5 *infra* in relation to article 27 in the UN Covenant on Civil and Political Rights and the ILO Convention on indigenous peoples, which treat - directly or indirectly - the right of indigenous peoples to land and to have their natural resources protected.

The right to development

An other basis for a collective right to exploit natural resources might be the "right to development". It could be argued that "development" depends on adequate access to natural resources. The UN General Assembly adopted the

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84 The issue is thoroughly discussed in the Norwegian Public Report (NOU) 1984:18 "Om samenes rettsstilling" on the legal situation of the Saami people in Norway.

85 This understanding of article 1 of the two covenants was also implicit in the Action programme adopted by the international conference on the rights of indigenous peoples in Geneva in 1981. It has however been critiqued as too "statist", see for example the debate in James *Crawford* (ed.): "The rights of peoples", Oxford 1988.

Declaration on the *Right to Development* in 1986.[86] The idea of such a right was first advanced by a Senegalese jurist in 1972, and was strongly supported by the developing countries. The Declaration is of a very general nature, and many questions remain open as to the real content of this right - as well as its legal status and implications. It is an important example of the "third generation" of human rights mentioned earlier in this paper, and has as such been controversial both legally and politically.[87] Its main message is a call for economic growth, poverty alleviation, social justice and participation by all.[88] There is no article in the Declaration explicitly dealing with the use or management of natural resources. But there is a general provision in its article 8 which lays down an obligation for the state to ensure access to "basic resources" for all:

"1.States should undertake, at the national level, all necessary measures for the realization of the right to development and shall ensure, inter alia, equality of opportunity for all in their access to basic resources, education, health services, food, housing, employment and the fair distribution of income. Effective measures should be undertaken to ensure that women have an active role in the development process. Appropriate economic and social reforms should be carried out with a view to eradicating all social injustices.

2. States should encourage popular participation in all spheres as an important factor in development and in the full realization of all human rights."

3. Protection of natural resources and sustainable development.

State sovereignty and natural resources

According to international law, states have the sovereign right to exploit their own natural resources. As already indicated, however, protection and conservation of the natural resource base may in many respects be as important, from a human rights point of view, as the right to use the resources. Has the State, according to international law, a general obligation to protect natural resources and the environment? There is no clear answer to this crucial question. The subject deserves a brief presentation.[89]

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86 G.A. Res.41/120, adopted by a vote of 146 to one (the United States) with six abstentions.

87 USA and other western countries have been particularly critical. However, at the World Conference on Human Rights in Vienna in June 1993, the Right to Development was approved by consensus as a "universal and inalienable right and an integral part of fundamental human rights."

88 The first Global Consultation on the Right to Development as a Human Right was held in Geneva in January 1990, see R.L. *Barsh*: "The Right to Development as a Human Right: Results of the Global Consultation", in Human Rights Quarterly, vol.13, no. 3, August 1991.

89 The international law concerning environmental protection is very rich, with some 150 global and regional treaties altogether. It is also the most rapidly developing part of international law. In this paper, it is possible only to touch briefly some main points of general relevance.

There are several expressions of general state obligations to protect the natural environment in declarations and recommendations from international organizations and conferences. Important examples are the Stockholm Declaration from 1972 and the World Charter for Nature adopted by the UN General Assembly in 1982. As already pointed out, however, these texts are not legally binding.

There are also numerous conventions and treaties laying down specific obligations for states in the area of nature conservation, pollution abatement etc. For example, a general provision concerning protection of the marine environment is found in UN Convention on the Law of the Sea (UNCLOS) article 192: "States have the obligation to protect and preserve the marine environment". This obligation applies to the marine environment both within and outside national jurisdiction[90].

Together, the existing global and regional conventions correspond to many of the most important tasks and needs in the field of environmental protection. However, many states have not ratified the conventions. Many conventions are not yet in force, and even if they are formally in force, they are not always applied by all member states.

Outside the areas of international treaties, international law generally does not oblige the states to protect their own environment and natural resources. As a consequence, a state may degrade its own natural resources and environment without violating international law.

One of the crucial issues in future discussions of international environmental law is the possible conflict between this right for the states to exploit their resources freely, and the need for restrictions and safeguard measures in order to protect the atmosphere, the world´s biodiversity and the global biosphere in general. The international discussion on the protection of tropical rain forests is a case in point.

The sovereign right of the state to exploit its own natural resources has however certain limitations in international law: when there are common resources or transfrontier problems. It follows from general principles of international *customary law* that states must respect the interest of other states when several states share common natural resources such as an inland waterway or living resources in the sea. According to the same principle, a state cannot use its resources in such a way that it damages resources of

90 Other parts of UNCLOS could also be mentioned in this regard. For example, article 61, para 2 states: "The coastal State, taking into account the best scientific evidence available to it, shall ensure through proper conservation and management measures that the maintenance of the living resources in the exclusive economic zone is not endangered by over-exploitation..."

other states. This has become particularly relevant in relation to transfrontier environmental problems.

This principle was expressed in the famous Principle 21 of the Declaration of the 1972 Stockholm Conference on the Human Environment, which states the following:

> "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction".

This principle is also expressed in several international Conventions, among them the UN Convention on the Law of the Sea. It was repeated in the Declaration on Environment and Development adopted at the UN Conference on Environment and Development in Rio de Janeiro in June 1992, and in the conventions on climate change and biodiversity, which were signed in Rio.

The concept of "sustainable development"

The issue of protection and conservation of natural resources have got a new dimension by the introduction of the concept of *"sustainable development"*. This is the central concept and idea in the report from the World Commission on Environment and Development - "the Brundtland report".[91] Since the report was presented in 1987, the idea and objective of "sustainable development" has gained widespread political support.

The concept is unclear in many respects and is interpreted in very different ways. The basic idea, however, is simple. Sustainable development is defined by the Brundtland commission as: "A development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

It contains both the concept of *needs* to be met today and in the future - in particular the basic needs of the poor part of the world - and the concept of *limitations*: we must manage the natural resources and the environment in such a way that sufficient is left to our children and grandchildren. A "sustainable development" is the combination of economic development and environmental protection. From a human rights point of view it includes both the economic, social and cultural rights - the "right to development" in a broad sense - and the "right" for present and future generations to protection of the natural resource base.

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91 "Our Common Future", Oxford 1987.

It presents us with a double moral challenge: solidarity with the poor people of today´s world, and solidarity with the next generation. "*Intergenerational equity"* is one legal expression of the idea behind "sustainable development".

Through the objective of sustainable development, human rights and wise management of natural resources merge. In this, it represents an interesting development from the Human rights Covenants of 1966. In these, to use the natural resources is seen as a people´s right in itself. In the perspective of sustainable development, the emphasis is not so much on the right to exploit resources, but rather on the *obligation to exploit resources sensibly* - as a means of meeting basic needs for all. And it introduces an important time perspective: Proper management of our natural resources today is a condition for the fulfilment of basic human rights in the future.

The objective of sustainable development got broad political support at the Rio Conference. But the conference did not contribute to clarifying the meaning and implications of the concept. Neither did it break much new ground in national and international law concerning management of natural resources.

Nevertheless, the notion of "sustainable development" is now moving into legal texts. It is, in different forms, already included in several international treaties, and in national legislation. For example, in both Norway and Denmark it has been included in the object clause of important new laws concerning natural resources and the environment. Hence, it is rapidly developing from primarily a political objective to a legal concept - a "legal standard". This may have interesting consequences also from the point of view of individual's rights, and in particular, the weight of future generations interests in legal considerations and decisions.

4. "Right to environment" as a human right?

With growing environmental problems worldwide, it has been much discussed how the law can be developed further to contribute to a more effective protection of nature and the environment. Many lawyers have argued in favour of developing a *"right to a healthy environment"* as a material human right.

Already in Stockholm in 1972 such a view was present. Principle 1 of the Stockholm Declaration states:

> "Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations."

During the two decades that have passed, many legal and political fora have discussed this idea further. More than 50 states around the world now make -

in different ways - reference to environmental protection in their constitution as a basic objective and obligation for the state or a "right" for its citizens. The fact that a good and healthy environment is a condition for the fulfilment of already recognized human rights, such as the right to life, health, welfare and home also contributes to the process of giving environmental conditions legal relevance.

Many important trends now contribute to strengthening the legal status of environmental protection in international law. However, there is still no general recognition of an enforceable "right to environment" - neither as an individual nor as a collective right.[92]

It would be unrealistic not to acknowledge the complexities involved in this issue. It is not simple to grant legal status to such very broad - and in many ways relative - concepts and goals as a good or "healthy" environment. The notion of human rights is not necessarily the best starting point for meeting the legal challenges in the field of resource management and environmental protection. For example, its anthropocentric character overlooks nature´s intrinsic value, and it provides little guidance when the interests of the present and future generations have to be weighed against each other. It may, in some respect, be more relevant to define the human *responsibilities and obligations* towards nature, and towards our grandchildren - as was also underlined in principle 1 of the Stockholm declaration.

These issues were discussed at the Rio Conference in June 1992. In general, however, the Conference did not contribute much to clarify or strengthen the legal status of environmental protection in a human rights perspective.

In reality, the Rio Conference refused the idea of a "human right to environment" - both as an individual and as a collective right. In spite of the efforts during the preparatory process, any reference to such a right was deleted from the Rio documents. The Rio Conference was not even willing to repeat the formulations of Principle 1 of the Stockholm Conference. The corresponding Principle 1 of the Rio Declaration on Environment and Development was formulated as follows:

> "Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature."

The general obligations of states concerning protection of natural resources and the environment are generally rather weak in the Rio Declaration - in fact

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92 On this issue, see *i.a.* A. *Kiss* and D. *Shelton*: "International environmental law", London and New York 1991, and the discussion in D. *Shelton*: “The Right to Environment” in “The future of Human Rights in a changing world”, Essays in Honour of Torkel Opsahl, Oslo 1991.

weaker than the Stockholm Declaration. The basic problems of poverty in developing countries dominate the document. Much in contradiction to the basic idea behind the concept of sustainable development, it appears that environmental protection still is seen as contrary to economic development and poverty alleviation in many developing countries.

The right to information and participation

Instead of pursuing the idea of developing a "right to environment" as a *material* human right, it may be more fruitful to look into some of the *procedural* rights as a means for securing proper management of natural resources: decision-making processes, participation and information.

The public´s right to information and participation is essential. If this right is sufficiently clarified and acknowledged, it may be an important key to basic changes in decision making, and to promoting sustainable development and a good management of natural resources. It has a basis in some of the human rights, which have already been accepted, and it can be made sufficiently precise and practicable to be legally enforceable in most countries.

In the broadest sense, this is a question of the political system in general, democracy, and right to information. Expressions of this are found in the Universal Declaration on Human Rights, articles 19 (freedom of opinion and expression), 20 (freedom of peaceful assembly and association), and 21 (the right to take part in the government of the country), as well as the corresponding articles 19, 22, and 25 in CCPR, and art.8 in the CESCR (right to form trade unions).

The right to information is now broadly recognized as an important issue in relation to environmental protection. While the “right to environment” in a material sense may be problematic, procedural rights in this area are more easily accepted and applied, in particular:

- the right to be informed about the environmental situation in the area, and the environmental consequences of new projects (i.a. environmental impact statements),
- the right to participate in decision-making processes, and
- the right to legal and administrative remedies against decisions in this area.

On this issue, the Rio Declaration on Environment and Development took a step forward. Its Principle 10 states:

> "Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making

processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided."

Trends in Norwegian Law: The new Article 110 b of the written Constitution (Grunnloven)

On May 25, 1992 the Norwegian Parliament, the Stortinget, adopted a new section in our written Constitution dealing with the protection of the environment (§ (Article) 110 b).

The article states that every citizen has the right to an environment which does not endanger health, and to a nature where diversity and ecology are preserved. The management of natural resources must be far-sighted and balanced, in order to ensure this right also for future generations. To this end, there shall be a right to information about the state of the environment.

The principles expressed in § 110 b are formulated in terms of "rights" for individuals, combined with a directive to state authorities to issue more detailed provisions about the implementation of these principles. The history of this constitutional amendment[93] shows that Parliament neither intended to adopt a general subjective right nor a mere programmatic declaration. It can thus be argued that it will have legal implications apart from those set out in implementing legislation, *i.a.* for the interpretation and application of other rules of law, and for the exercise of executive and administrative discretion.[94] [95]

5. The rights of indigenous peoples to natural resources.

The issue of ethnic minorities and indigenous peoples´ right to land and other natural resources is an important and controversial issue in international law. There is a delicate balance between sovereignty and territorial integrity of states on the one hand, and the promotion and protection of minority identity on the other - with separatism as a possible extreme result. It is significant that

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93 See in particular Innst. S. nr. 163 (1991-92) with references, and the debate in Parliament, S. tid. pp. 3735-3743, and earlier Inge Lorange *Backer*: "Grunnlovfesting av miljørettslige prinsipper", Institutt for offentlig retts skriftserie nr. 6/1990.

94 See Inge Lorange *Backer* in Knophs Oversikt over Norges Rett, 10th ed., 1993. It is, for instance, arguable that this new provision will weaken the claim of individuals to compensation for restrictions on the use of property when these are imposed by environmental legislation, i.e., it strengthens the "Polluter Pays Principle". Some Supreme Court decisions had, however, already drawn similar conclusions, e.g. Rt. p. 1279 and l987 p. 80,, see also *Backer*: "Grunnloven og miljøet", Juristkontakt no. 7, 1991, and Carl August *Fleischer*: "Miljø- og ressursforvaltning. Grunnleggende forutsetninger", 1991.

95 The Supreme Court of Norway has in two recent decisions referred to art. 110 b as an element of interpretation, when weighing environmental considerations against other considerations in individual cases.

the UN Declaration on Human Rights does not have any provision dealing with the issue, in spite of the fact that "protection of minorities represents one of the most important predecessors to modern, international human rights protection".[96]

The most important general provision dealing with this issue in international law, is article 27 of the Covenant on Civil and Political rights, which states:

> "In those States in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practise their own religion, or to use their own language."

It should be noted that the right described in article 27 is an individual right, but by reference to "the other members of the group" it indirectly also gives protection to the "group". The wording is cautious and vague. It leaves many questions open to interpretation. It has even been discussed if the article applies to indigenous people at all. Today this is fully recognized.

However, the article does not deal explicitly with the issue of indigenous peoples´ rights to land and other natural resources. One question is whether it should be interpreted to imply a right for minorities not only to enjoy their culture in the strict sense of the word, but also a right to the *material conditions* for this culture, such as the natural resources on which the culture and lifestyle are based. This has been a much discussed issue in relation to the Saami population and culture in Norway.[97]

There are different views on this issue. The core of the matter is really the meaning of the expression "enjoy their own culture". "Culture" can be given a narrow meaning, such as "the arts and other manifestations of human intellectual achievement regarded collectively"[98], or a wider, more anthropological meaning, such as "the customs, civilization, and achievements of a particular time or people"[99], including learned patterns of behaviour and the ideas that underlie behaviour. This wider interpretation of the word culture inevitably leads to interpreting article 27 as also protecting the natural resources on which the culture and lifestyle of indigenous peoples is based.

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[96]Citation from Manfred *Nowak*: "UN Covenant on Civil and Political Rights Commentary", Strasbourg 1993.

[97]See in particular NOU 1984:18 "Om samenes rettsstilling" and Ot.prp. nr. 33 (1986-87) Om lov om Sametinget og andre samiske rettsforhold (sameloven) - which formed the basis for the new Norwegian legislation concerning the Saami rights. - The question was briefly discussed by Norway´s Supreme Court in plenary in the "Alta-case", but no conclusion was drawn, see Norsk Retstidende (Rt.) 1982 p. 241

[98]The first definition of the word in The Concise Oxford dictionary of 1991

[99]The second definition of the word in The Concise Oxford dictionary of 1991

The text of the article, as well as the *travaux préparatoires*, does not exclude a wide interpretation. But neither do they provide a clear legal basis for such an interpretation. The issue has been much discussed in human rights fora. The UN Committee on Human Rights has had the issue before it on several occasions in connection with national reporting. There seems to be a tendency to include questions related to material conditions of indigenous peoples when discussing reports on article 27. In several recent cases of individual complaints related to article 27 the Committee has accepted that traditional economic activity - and implicitly the natural resources on which it is based - may fall under article 27 if it is an essential element in the culture of an ethnic community.[100] The arguments now seem rather strong in favour of giving article 27 importance as a source of law also for the protection of natural resources, insofar as the existence and availability of these resources are a prerequisite for cultural survival of members of indigenous groups.

It should be underlined that article 27 deals with "ethnic, religious or linguistic minorities" in general, and not only indigenous peoples. When interpreting and implementing the article, the historically founded claims of indigenous peoples must carry more weight than any claims made by other minorities, in particular colonizers or other immigrant groups ("new minorities"). Indigenous peoples are particularly close to and dependent on the nature in which they live. Hence, it is difficult to argue for a wide interpretation of article 27 for all types of minorities, although the text itself does not indicate any differentiation in this respect.

It should also be noted that article 27 cannot be interpreted as forbidding any interference in the land or natural resources. The crucial issue is whether interference is so extensive that it really threatens the culture.

The rights of indigenous peoples are treated more directly and comprehensively in the *ILO Convention of 1989 Concerning Indigenous and Tribal peoples in Independent countries.* This convention is a partial revision of an ILO Convention on the same issue from 1957.[101] These are the only global conventions dealing with issues related to indigenous people. So far very few states have ratified the 1989 convention, and it is not yet in force.[102]

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[100] *Lovelace v. Canada* (complaint no. R 6/24, 1981), *Kitok v. Sweden* (application no. 197/1985) and *Ominayak/Lubicon Lake Band v. Canada* (application no. 167/1984). In cases of individual complaints, the Committee acts under the Optional Protocol of the Covenant.

[101] ILO Convention no. 107 concerning the Protection and Integration of Indigenous and other Tribal and Semi-Tribal Populations in Independant Countries. The basic idea in this convention was the assimilation of indigenous people into modern society. Only a few states have ratified the Convention.

[102] The convention was ratified by Norway on June 20, 1991.

On the issue of *land rights* its article 14 states:

> "1.The rights of ownership and possession of the peoples concerned over the lands which they traditionally occupy shall be recognized. In addition, measures shall be taken in appropriate cases to safeguard the right of the peoples concerned to use lands not exclusively occupied by them, but to which they have traditionally had access for their subsistence and traditional activities. Particular attention shall be paid to the situation of nomadic peoples and shifting cultivators in this respect.
> 2. Governments shall take steps as necessary to identify the lands which the peoples concerned traditionally occupy, and to guarantee effective protection of their rights of ownership and possession..."

This article concerning indigenous peoples´ material right to land is supplemented by articles concerning their *right to participate in decision-making* concerning natural resources. In general, indigenous peoples shall be consulted in all matters concerning their situation and the implementation of the convention (articles. 6 and 7). Articles 15 and 16 are particularly relevant to issues related to management of land and other natural resources. Article 15 states:

> "1. The rights of the peoples concerned to the natural resources pertaining to their lands shall be specially safeguarded. These rights include the right of these peoples to participate in the use, management and conservation of these resources.
> 2. In cases in which the State retains the ownership of mineral or sub-surface resources or rights to other resources pertaining to lands, governments shallestablish or maintain procedures through which they shall consult these peoples, with a view to ascertaining whether and to what degree their interests would be prejudiced, before undertaking or permitting any program for the exploration or exploitation of such resources pertaining to their lands. The peoples concerned shall wherever possible participate in the benefits of such activities, and shall receive fair compensation for any damage which they may sustain as a result of such activities."

If relocation of people is found necessary as an exceptional measure, it shall take place only with their free and informed consent. It may be fair to say that the right to information and participation is a "compromise" solution between the acceptance of minorities´ exclusive rights over the natural resources of their traditional territory, and the principle of state sovereignty.

Since the convention is new, and few countries have ratified, the precise content and implications of these articles are uncertain at this stage. In particular, the meaning of article 14 is under discussion. In relation to the question of Saami rights to land and other natural resources in Norway, the importance of the convention is limited. This question is still subject to research and discussion in the committee working with Saami rights issues.

The very fact that such a convention was adopted by the General Conference of the ILO indicates a growing international understanding of the need to

protect the natural resources on which indigenous people depend for their cultural survival and development.

Since 1982, a working group within the UN has been working on a Declaration of Rights of Indigenous Peoples.[103] The draft articles as agreed upon by the members of the working group at first reading in 1992, are innovative in many respects. Many of them would, if adopted, go far beyond minority rights in existing international law. The draft underlines the close interrelationship between natural resources, economic activity and culture of indigenous people.[104] However, it remains to be seen whether there will be sufficient political support for such radical provisions in the further negotiations. Other recent discussions may create a certain doubt in this respect.[105]

6. Should we pursue further the concept of human rights as a means for sustainable resource management?

The dynamic and positively loaded concept of human rights has created a temptation to mobilize its persuasive force for many and widely different

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103 A UN Declaration on the Rights of Persons Belonging to National and Ethnic, Religious and Linguistic Minorities was adopted by the General Assembly in December 1992, GA Res. 47/135.

104 These issues are dealt with in several draft paragraphs, for example: Paragraph 16: "Indigenous people have the collective and individual right to own, control and use the lands and territories they have traditionally occupied or otherwise used. This includes the right to the full recognition of their own laws and customs, land tenure systems and institutions for the management of resources, and the right to effective measures by States to prevent any interference with or encroachment upon these rights...." Paragraph 21: "Indigenous peoples have the right to maintain and develop within their lands and other territories their economic, social , and cultural structures, institutions and traditions, to be secure in the enjoyment of their traditional means of subsistence, and the right to engage freely in their traditional and other economic activities, including hunting, fishing, herding, gathering, lumbering and cultivation. In no case may indigenous peoples be deprived of their means of subsistence. They are entitled to just and fair compensation if they have been so deprived."

105 The latest intergovernmental discussion on the human rights of indigenous peoples and other minorities took place at the World Conference on Human Rights in Vienna in June 1993. The final document from the conference - "Vienna declaration and programme of action" slightly strengthens and widens the formulation in article 27 of CCPR by stating: "The persons belonging to minorities have the right to enjoy their own culture, to profess and practise their own religion and to use their own language in private and in public, freely and without interference or any form of discrimination." The World Conference also "recognizes the inherent dignity and the unique contribution of indigenous people to the development and plurality of society and strongly reaffirms the commitment of the international community to their economic, social and cultural well-being and their enjoyment of the fruits of sustainable development.." The action programme calls on the Working Group on Indigenous Populations to complete the drafting on the rights of indigenous people, and recommends a UN International Decade of the World´s Indigenous People to begin in 1994. As a whole, however, the Vienna Declaration in itself does not contribute very much, neither clarifying nor strengthening indigenous peoples´ right to land and other resources.

causes. The question that increasingly needs to be posed, is whether it is a good policy to pursue this concept further into new fields, or to newly discovered problems.

As the sketchy overview of this paper shows, "human rights" are indeed a very mixed group of legal norms. Some imply a quite precise right for the individual to be protected against certain clearly defined actions by the state. The respect for and fulfilment of such rights do not depend much on economic conditions or cultural traditions in the state. Other human rights are more complex, vaguely formulated and in reality much dependent of economic development and other more fundamental conditions to be fulfilled. Their legal content and status is therefore uncertain and their fulfilment in reality much left to each state. The possibilities for the international community to identify violations and enforce these rights are limited.

Clearly, it can be argued that a further "dissolution" of the concept of human rights may mean even less of operational rules and more of just empty symbols. This may entail less respect for the concept itself, and make effective enforcement even more illusory. As it has been said: Human rights become more a question of politics than of law and ethics. Many human rights lawyers therefore see a danger in broadening the human rights field and make it less and less precise as a legal concept and instrument.

On the other hand, there has been a positive - although slow - development in the field of human rights in many parts of the world. Surely, in a number of states gross violations of even the most "basic" civil and political human rights are still common, and in the poorest countries of the world the fulfilment of the economic, social and cultural rights seems further away than ever before. But there are also positive trends, partly linked to the process of democratization in many developing countries, and partly to many states´ growing respect for decisions and recommendations by international human rights institutions. Norway is a case in point: the European Convention on Human Rights and other human rights instrument influence policy, court decision and general legal development to a larger extent today than just ten years ago.[106] The fact that the human rights concept has been broadened and become more vague does not seem to have influenced this trend in a very negative way.[107]

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106 A recent public report recommends that large parts of the international instruments on human rights should be incorporated into Norwegian law, see NOU 1993:18: "Lovgivning om menneskerettigheter".

107 The Vienna Conference may not have been a great step forward, but at least it confirmed the universal nature of human rights, and the will of all member states to enhance international cooperation to fulfill them. It should be remembered in this connection that UN has got many new members during the last decade, and now number more than 170 states with a great variety of interests and priorities.

Surely, to define a problem or a social objective as a question of "human rights", and give it a status as such in international instruments, does not necessarily lead to a quick solution. It is not a "sesam-sesam". It might even be counterproductive, as a time consuming *détour*. But most likely it will contribute to a legal process, step by step, which gradually will give the objective or the consideration more weight in both international and national decision making. The idea of a "right to environment" may be refused by international lawyers and politicians as too vague and impossible to make operational and enforceable. But at the same time, we witness that during the last 20 years some 50 states have included the objective of environmental protection in their constitution - many with words similar to article 110b in the Norwegian constitution which says that everybody has the right to a healthy environment and to a nature which ensures reproduction and diversity.

Individual and subjective rights in the traditional sense of claims, which entails corresponding obligations for the state and society, may have only a limited role to play as regards resource management. But it may play a role. And resource management should be an area of increasing attention in the human rights work. Environmental degradation and destruction of natural resources are already threatening life and well-being for millions of people, thus making the fulfilment of many human rights even more difficult and remote. And looking into the future, the problems may become even more dramatic for the next generation. Scarce resources may become one of the most important causes for social unrest, conflicts and wars, social injustice and suppression of human rights. Therefore, management of natural resources and human rights issues should to a greater extent be combined in the international discussion and work in this field. Sustainable development should be a basic idea and common denominator.

For the protection of minorities and indigenous peoples and their natural resource basis, the development and enforcement of international instruments with a "human rights label" may be a particularly important strategy. Human rights carry important moral arguments. What else could stem a rapid exploitation of natural resources and degradation of the natural and cultural diversity, in a world where the economic and cultural forces of "modernization" and industrialization seem to become more and more centralized, global, growth oriented and powerful?

But in the area of resource management and environmental protection, the idea of "rights" for individuals and groups are only one side of the coin. It is as much a question of *limitation* of the freedom of action. What is necessary

is also *more responsibilities and duties* - and not only for individuals, but also for "legal persons" such as companies and other collectivities, and ethnic and social groups, as well as for the state.

At the same time, the exploitation and management of resources pose problems, which cannot be solved at the national level. Thus, there is a strong need for *more international law* in this field, and a more effective international system for its enforcement. Most of this international law will have to be developed in international fora which have environmental protection and sustainable development as their primary mission, and which are rather far from those dealing with human rights issues. After all, it is primarily on these arenas - and in the national parliaments and in the business community world wide - that the future of the global environment and resource management will be decided.

LEGAL RIGHTS REGARDING RANGELANDS IN NORWAY - WITH EMPHASIS ON PLURALITY USERS-SITUATIONS

by

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Abstract: Falkanger discusses the state of regulation of plurally owned and used land in Norway. He begins in a useful way by defining his terms. He focuses on different types of ownership; individual, joint, and state. He makes reference to the legal rules that establish joint ownership.

I. *Some introductory remarks*

Before dealing with the indicated topic it is necessary to define or explain some basic concepts. The central word in the title is "rangeland", which is not found in legal dictionaries, nor in the Oxford Concise Dictionary. Here it will be used in a somewhat loose sense, corresponding to the Norwegian word *utmark*,[108] i.e. land outside towns and built up-areas not being cultivated farm land. Positively designated, rangeland will in the present context include forests, natural grazing land as well as barren mountain areas and glaciers. In this sense, rangeland is very often utilized by a number of persons - as will be explained below. This fact is apparently the basis for the introduction of the concept *non-private resources*, indicating that there is not one person exclusively enjoying the benefits which may be derived form the rangelands. From a lawyer's point of view it is questionable whether this term is adequate, due to the basic Norwegian concepts on ownership and delimited rights. This may be explained - very briefly - in this way:[109]

Norwegian property law is based upon the concept that land is owned by one or several persons (natural persons or bodies corporate). The contents of ownership will depend upon the circumstances in the individual case: The property may e.g. be subject to leases, mortgages, easements etc., considerably restricting the owner's enjoyment of the land. Thus, the actual contents of ownership are the residual rights, and these rights may be further limited or increased in the course of time, e.g. restricted when the property is mortgaged, increased when mortgages are redeemed. Persons with a right in a property, without having the status of owner, are considered as holders of

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[108]The term *utmark* is defined in the Act on Outdoor Life of 28th June 1957 No. 16 Sect. 1.

[109]For a more detailed explanation of the concept of ownership, as well as the manner in which the courts decide on who is the owner, see *Falkanger*, Tingsrettslige arbeider (Real Property Studies), 3rd ed. 1990 pp. 20 *et seq.*

limited rights, which are positively delimited. E.g., in principle, the contents (the effects) of a lease depend upon the contract whereby it is created. Obviously, there may be cases where it is difficult to decide whether A or B should be named as owner and the other one as a holder of positively delimited rights.[110]

The implication hereof is that in a plurality-user situation one or more of the participants may be considered as owner(s) while others are considered as holders of limited rights of different types. In practical terms they may appear on the same footing, but legally there is a fundamental difference between an owner and and a non-owner utilizing rangelands.

Clearly, the law is not static. In order to have a complete understanding of the legal regime of today it is necessary to know quite a lot of the historical development of the legal rules, and also whether there today are winds of change and in which directions these winds might be blowing. With the given limits, it is, however, necessary to restrict the description to a general overview of the present legal situation in Norway. The presentation will be general, also in the sense that the specific problems related to Finnmark will be very briefly commented on as these are the theme of a separate chapter.[111]

II. *The rangelands: ways of exploitation and possible user conflicts*

In order to get a better understanding of the possible conflicts, when there are several users of the same area, and the legal machinery for avoiding or solving such conflicts, it may be useful to enumerate the benefits which may be derived from rangelands. This may be done by listing the resources as follows:

(1) forests
(2) grazing land for cattle and sheep
(3) fish and game
(4) peat (for heating purposes, etc.)
(5) nuts, berries, flowers
(6) minerals
(7) water
- for consumption
- as a source of power

(8) building ground
- for an expanding town, etc.
- for recreational cabins

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110 Here it must suffice to mention the "classical" conflict: A utilizes the grazing resources and B the forest resources. Is A or B to be considered as the owner with the right to have the benefits from other use of the land (e.g. the rent from leases for cabins, the right to develop water falls)? Or is the property jointly owned by A and B, with the understanding that parts of the benefits are to be exclusively utilized by A (grazing) and B (forest yield)?

111 See *Torgeir Austenå* pp. xy et seq.

(9) last, but not least, the use of the rangelands for recreational purposes as well as the importance of the rangelands in a wider, environmental, ecological sense should be stressed.

It is apparent that there are a number of possibilities of conflict between various groups of users in respect of these resources. Using waterfalls for production of electricity may reduce or eliminate fishing, or the development of a waterfall may be considered as disastrous from an ecological point of view, etc. The possibilities of conflicts exist also when the use of the land is on one hand only, which the last example clearly shows. In the present context focus will be on situations where more than one person or group of persons rightfully is utilizing rangelands for various purposes. It is according to the Norwegian legal tradition natural to distinguish between the rules generally considered as belonging to the private law sector, and on the other hand public (administrative) law whereby the interests of the society as such are the basis (protection of agricultural land, of environment, etc.).

III. *The private law regime*

The starting point is that the person considered as the owner of a land area has the exclusive rights of disposition - legally and factually. He is omnipotent unless there are specific grounds for delimiting his powers. Even when disregarding public law - which will be dealt with in IV - there are, however, important practical exceptions to the main rule of owner supremacy.

1. *Joint ownership*

First of all it should be noted that the owner may have a co-owner. Joint ownership regarding rangelands is a very old institution in our country, and even to-day considerable areas are subject hereto - often in the form that the joint property is connected with ownership to certain farms: A number of farmers in a community have jointly owned grazing land; the rights in the grazing land cannot be sold separately, they have to follow the farm.

In particular, with a great number of joint-owners there are conflict of interest-possibilities in many respects. Two acts are of particular importance: the Act on Joint Ownership of 1965 and the Act on Reallocation of Land of 1979

The Act on Joint Ownership of 1965[112] defines the rights and duties of the joint owners. These rules are of a supplementary nature; i.e., they are applicable when there is no express or implied agreement between the co-owners covering the same situation as a rule of the act. Some of its stipulations merit a short mentioning. Regarding the physical use of the land, the act is

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112 Act on Joint Ownership of 18th June 1965 No. 6. Further on this act, see *Falkanger op. cit.* pp. 71-124.

conservative: Each of the joint owners is entitled to use the land in the customary, traditional manner. But it is added in Sect. 3 that the land also may be used for other purposes "which are compatible with the present time and other circumstances". Within this framework, each owner is entitled to use the land, e.g. for cattle grazing, but only to an extent corresponding with his part in the joint ownership. The expenses involved in the preservation of the property shall be divided between the owners, basically according to their ownership interests.[113]

It is apparent that with many owners it may be advantageous to have some kind of organization, preferably with a board or a steering committee which has the powers to take decisions on behalf of all the owners. The act is, however, somewhat restrictive in these respects. Majority decisions are subject to rather extensive protection of the minority, and there is no obligation to have formal bodies.[114] It is up to the owners - or rather the majority of the owners - to decide whether there should be a board and whether there should be formal rules on owner-meetings, voting procedures, election of officers, etc.[115] It should be added that some acts of a more specific nature also have rules on majority decisions.[116] As an example the Farming Act of 1955 may be mentioned. This act gives greater powers to the majority regarding questions of farming and forestry, than the 1965 act does, but the minority is protected in as much as it has a right of recourse to the agricultural authorities.

If an owner does not fulfill his obligations in respect of contributions to the up-keep of the jointly owned property, exceeds his rights to use the property, etc., the co-owners cannot easily get rid of him. Of course, injunctions and damages may be demanded, in accordance with general principles of law. In addition the Act gives the rule that any owner may at any time require that the joint ownership is dissolved,[117] primarily so that the land is physically divided between the owners in conformity with their ownership shares. If physical division is not possible (technically, legally or commercially), the property has to be sold with a distribution of the net revenue to the former owners. However, these procedures are not applicable in the instances where there, in principle, is the mentioned connection between the farms and the jointly

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113 See Sect. 9, compared with Sect. 8.

114 See Sects. 4 and 5.

115 See Sects. 6 and 7.

116 See in particular Farming Act of 18th March 1955 No. 2 Chapter IX, and further Game Act of 29th May 1981 No. 38 Sect. 29.

117 See

owned rangeland.[118] But in such cases another remedy is available, viz. a right to demand reallocation of land in accordance with the Act on Reallocation of Land of 1979[119]. If such a demand is accepted, the jointly owned land will be distributed so that now each piece of land will have one owner only. This reallocation may include not only the jointly owned land, but also the farms to which the jointly owned land belongs.

2. *Delimitation of ownership (one or several owners)*

The powers of an owner - regardless of whether there is one or more owners of the same land area - are delimited in various respects. Some of them shall be mentioned:

a. The rights to minerals, with specific gravity 5 or higher, do not belong to the owner of the ground. Norwegian law adheres to the principle that the finder has the right to exploit mineral resources, and for this purpose he may use the necessary land areas - against compensation to the owner.[120]

b. Of great importance are the rights which in Norwegian are called *allemannsrettigheter* - i.e. rights belonging to literally everyone, and which directly translated are *all men's rights*. These rights flow from general law, dating back to times immemorial, but are now to a great extent codified.[121] The all men's rights include a number of different types of use of property belonging to others - e.g. the right to walk over and stay on foreign property for a limited period of time, to camp and bathe there, and to pick wild berries and nuts.[122] However, in most instances these rights enjoy a weak protection. The owner may decide to use the land for a purpose which is not compatible with the exercise of the all men's rights. If he e.g. cultivates an area or build a house thereupon, then the rights of the public cease. Only in exceptional circumstances is a person, now deprived of his former use, entitled to compensation. But up to the moment when the owner changes his use of the area, the public in general may enjoy the indicated rights, and an attempt on the part of the owner to restrict the exercise of these rights is illegal. To some extent the

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118 See Joint Ownership Act Sects. 13 (2) and 15 (5).

119 Act on Redistribution of Land of 21st December 1979 No. 77, see *Austenå & Øvstedal*, Jordskifteloven med kommentarar (Land Reallocation Act with commentaries), 1984..

120 See Act on Mineral Resources of 30th of June 1972 No. 70. Oil resources in Norway itself (the existence of which are highly unlikely) belong to the state, cf. Act of 4th May 1973 No. 21, as does oil and other natural resources off shore, cf. Act of 22nd March 1985 No. 11 and Act of 21st June 1963 No. 12.

121 See in particular the Act on Recreational Activities of 28th June 1957.

122 For an overview, see *Falkanger*, Eierrådighet og samfunnskontroll (Ownership and State Control), 3rd ed. 1986, pp.172-178.

conflicts between the owners and the public are solved or at least diminished by decisions or statements by particular administrative bodies (Norw. "friluftsnemnder", i.e. "outdoor life-councils"). In a longer perspective it should be noted that there is a tendency to extend the all men's rights - typically, it is a broadly held view that the possibilities of fishing and hunting for the public should be increased. This is one element in to-day's emphasis on recreational activities and "back to nature"-attitude. At the same time there are indications that the protection given the all men's rights are being strengthened - in particular when the rights are of importance for making a living.[123]

c. Finally it should for, the sake of completeness, be added that an owner is entitled to create encumbrances on his land of such a nature that they remain as encumbrances also when the property has passed to another owner. The encumbrances may vary widely: leases, mortgages, rights of preemption, restrictive covenants, easements, etc. Obviously, the relationship between the owner and the holder of a limited right in the property may give rise to difficulties. Such difficulties have primarily to be solved by construction of the promise, etc., creating the right (the encumbrance). In addition there are a number of acts defining the rights and obligations of the parties, e.g. as between owner (mortgagor) and mortgagee.[124] In most instances these acts are of a supplementary nature; they will be relevant only when no regulation - or sufficiently clear regulation - can be obtained by construing the promise or contract whereby the encumbrance was created. But in some instances an act may be of a peremptory character, e.g. setting a maximum time limit for the lease of fishing rights in a river, the underlying principle being that it will be harmful if important resources permanently are taken away from the property.[125]

3. *State owned land*

The state may have acquired land through an ordinary sales contract, through expropriation, etc. In such cases the relationship between the state as owner and on the other hand: persons with specific rights and the public with its all men's rights, is in principle the same as when the owner is a private person.

But the majority of state owned land is not acquired in this manner. Roughly one third of the total area of Norway is state owned, and the dominant part hereof has been state owned for hundreds of years. One simple way of

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123 See e.g. Supreme Court decision in Rt. 1985 pp. 247 *et seq.*

124 Act on Mortgages and Other Charges of 8th Febnruary 1980 No.2. See as further examples Act on Easements of 29th November 1968, Act on Leases of 30th May 1975 No. 20, Game Act (see note 9) and Act on Salmon and Inland Fishery of 15th May 1992 No. 47.

125 Act on Salmon and Inland Fishery (note 16) Sect. 19.

explaining this is that when Norway was populated, the state considered itself as owner of the areas which were not intensively used by the farmers. These areas have a particular status, inasmuch as the farmers in the vicinity - and to some extent also other residents - have rights over the lands. The particular status appears from the name given to such areas, viz. Norw.: *statsalmenning*, which may - with considerable hesitation - be translated by *state owned common.* In a number of cases the ownership to a common has been transferred to the farmers in a defined district, and thus we have a second category of commons, which may be called *district* or *farmer owned commons.* For the present purpose it is sufficient to say a few words on the state owned commons.[126]

The typical legal pattern is as follows:

(1) The farmers have certain rights in the state owned common.

(2) These rights are enjoyed by the farmers in the vicinity of each state owned common. The geographical delimitation depends upon usage and tradition.

(3) In order to have rights in the common, the farm must have a certain size.

(4) The rights in the common may vary from instance to instance. The actual contents depend upon usage. One important limitation should be noted: The rights may be exercised only to meet the requirements of the individual farm - e.g. a right regarding wood or timber is limited to what can reasonably be used on the farm for purposes compatible with farming: as wood fuel, building material, etc.

(5) The typical rights in the common concern:

- (a) wood
- (b) grazing
- (c) fishing
- (d) hunting

(6) When the farmers have exercised their rights, the state, as owner, may utilize the property. This is of importance in two respects: First, if e.g. the forest yield exceeds the quantities which the farmers are entitled to, the state will profit in respect of the excess. And, secondly, if it is possible to utilize the land in a manner not contrary to the farmers' rights (as defined through usage), the state may do so. Thus the benefits derived from leasing plots for buildings fall to the

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126 The rules on commons have gradually been codified. On state owned commons, see Mountain Act of 6th June 1975 No. 31 and Act on Forestry in State Owned Commons of 19th June 1992 No. 60; for district owned commons, see Act of 19th June 1992 No. 59. These acts together with the preparatory documents ("travaux preparatoires") give a good knowledge of the present situation.

state,[127] and, to give one more example, the state may develop waterfalls for production of electricity without compensation to the farmers.[128]

(7) Fishing and hunting rights have, however, gradually to some extent been transferred upon the public in general. Now the general rule is that hunting and fishing in state owned commons may be exercised by anyone being domiciled in Norway - against certain payments, which may be differentiated so that people living in the vicinity of the common pay less. The fees paid shall cover certain expenses, and the excess, if any, shall be used for the economic development of the district surrounding the common.[129]

The administration of the state owned commons is divided: The ownership aspects are dealt with by a special state body: the State Forest Administration. As regards the questions actually concerning the forest, there is cooperation between this body and the Common's Council. The Council is elected by the farmers with rights in the forest.[130] For the other types of use there is a so called Mountain Council, elected by the municipal council.[131]

IV. *Rules of a non-private law nature controlling the use of rangelands*

In modern society there has been an increasing tendency on the part of state to regulate or control the use of real property.[132] Accordingly one does not get a full picture by focusing on the traditional private law rules as has been done above. However, these state control rules are so many that it is impossible even to give an outline. It is necessary to restrict the presentation to some remarks related to protection of the all men's rights or in a somewhat wider perspective: the protection of outdoor recreational activities, which to a large extent are based upon the rules on all men's rights.

This shall be done by giving some examples:

(1) There are rather rigid rules on building, be it houses for permanent residence or cabins for vacation purposes.[133]

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127 See however Mountain Act (note 19) Sect. 12 (3): Half the income from leases for cabins and hotels goes to the "mountain chest", from which expenses relating to the common are covered, see Sect. 11.

128 See in particular Supreme Court decision in Rt. 1963 pp. 1263 *et seq.*

129 See Mountain Act (note 16) Chapters XI and XII.

130 See Act on Forestry in State Owned Commons (note 19) Sect. 1 on cooperation and Chapter 3 on election of the Council.

131 See Mountain Act (note 16) Chapter III.

132 See e.g. *Falkanger*, Eierrådighet etc. (note 15) pp. 20 *et seq.*

133 See Planning and Building Act of 14th June 1985 No. 77, in particular Sect. 20-4.

(2) Building roads[134] and developing waterfalls[135] are subject to state approval.
(3) The forest legislation takes into account the recreational values connected with the forests, with the objective that forests may serve both commercial and non-commercial (ideal) interests.[136]
(4) There is, it seems, an evergrowing legislation - and stricter enforcement - in respect of pollution prevention and environmental protection.[137] Generally, this is beneficial for recreational activities, but sometimes restrictive: In order to preserve nature, the freedom is curbed.[138]

V. *Some concluding remarks*

The rangelands in Norway are to a considerable degree used by more than one person. This is true regarding privately owned property - in particular when it is jointly owned, which frequently is the case. But even if there is one owner only, the land will in most cases be used by others as well, due to specially created rights over the property (encumbrances, seen from the owner's point of view), and due to the all men's rights founded on general law.

The pattern is notably difficult in respect of state owned commons: There are a great number of farmers as users - and in addition the general public by virtue of the all men's right. Otherwise put: We have the possible conflicts between the owner and three groups of users: The farmers, the public, and those to whom the state has conferred rights in its capacity as owner.

The rights and obligations of the users - being owners or others - are to some extent defined by contract, but in important respects directly by written or customary law. Nowadays there is in addition a framework, consisting of a number of administrative law rules. Thus, the final solution of conflicts between the many users of rangelands will depend upon the combined effects of traditional private law and modern administrative law. This synthesis may create problems, because we are at the interface of two different regimes of law:

On the one hand, we have the traditional private law regime, which is court focused: If the parties are not able to solve the problems themselves, then the

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134 Primarily regulated by the Planning and Building Act (see previous note).

135 See Act on Regulation of Rivers of 14th December 1917 No. 17.

136 See Forestry Act of 21st May 1965 Sect. 1 and in particular Sects. 17 a and 17 b.

137 See Pollution Act of 13th March 1981 No. 6.

138 See e.g. Nature Protection Act of 19th June 1970 No. 63 and Salmon and Inland Fishery Act (note 14) Sect. 1 compared with Chapter III.

issues are decided by the ordinary courts - with the traditional possibility of appeal to a higher court.

In administrative law the conflict solving mechanism is different. An administrative body, being responsible for a particular act, does not negotiate with the citizens to a comparable extent; administrative law is characterized by the issuance of decrees and granting permissions. And furthermore, the person not satisfied with a decision will make a complaint to the administrative body one step higher in the hierarchy. But above all, adminstrative decision-making has - usually - a wider objective than that of the courts. The primary task of the courts is to solve conflicts between individuals; the administrative bodies have in most cases to take wider social aspects into consideration.

But also administrative decision-making is in the end subject to court control, however, with the important reservation that a number of discretionary decisions (Norw. "skjønnsmessige avgjørelser") cannot be challenged by the courts.

COMMON PROPERTY IN RURAL AREAS IN NORWAY[139]

by

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1 INTRODUCTION

The phenomenon of land which is "common property" or in some sense collectively controlled, owned, or used, in rural areas in Norway, is closely linked to the historical evolution of settlement and tenure patterns. We call these lands by different names, for instance "allmenning" and "sameige" in Norwegian. For convenience I will use the word "commons" for the whole group to begin with. Some of the laws governing use and management of the commons go right back to customary law in the early Middle Ages, which in Scandinavia means the 10th century. Statutory law dates mainly from the 13th century. I find it necessary to stress this point, because the phenomenon must be studied and understood in its proper historical context. As the commons are of very ancient origin, and the topography, climate, settlement patterns, economy etc. in Norway are varied, it must be expected that the commons are equally diverse. Classification in seemingly homogeneous groups thus becomes rather dubious. It is said that each individual common must be studied separately to get a true and precise understanding of its legal situation. This should be kept in mind when I present my classification scheme and the various features attached to each group of commons. Classification in itself always violates the realities more or less.

There is a mutual relationship between land use on the one hand, and ownership and tenure patterns on the other. Certain uses of land lead to establishment of certain ownership and tenure patterns, which then influence further development of land use, or vice versa, certain types of ownership promote certain types of land use. (Who came first, the bird or the egg?) These relationships could be extremely complicated and diverse, but for our purpose it is important to note that the ownership pattern often tend to "lag behind". This means that certain ownership and tenure patterns can endure for a long time after the land use that created them in the first place has vanished. This general statement could easily apply to some aspects of the commons or Common Property Regimes. It should also be noted that the

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Nordic countries in general have a remarkable continuity in their legal systems concerning land tenure and ownership. This is mainly so because there has been very little migration into the area by alien groups of people in historical times, or other events causing sudden or revolutionary changes in land tenure systems.

Norway has a small population compared to the size of the land area. The actual cultivated agriculture area (arable land), however, is very small relative to the population, at present, ca. 0.2 ha pr. person. And the rather marginal conditions for agriculture make this figure even "smaller" so to speak, compared to more southern countries. This does not mean that the rural societies were proportionally "poor", it just means that the people had to utilize other resources. By and large this meant to utilize maritime resources and the so called "outfields". The outfields (woodlands and mountains) were of great importance for grazing, gathering of fodder (grass, moss, leaves etc.) to keep the livestock during the winter, wood and timber for various usage, hunting and fishing, just to mention a few important uses.

The predominant "original" settlement pattern was, - we asume -, represented by or composed of single farmsteads. Each farm could be very large in terms of area , but most of the land was not cultivated, it was composed of woods, pasture , mountains, rivers and lakes etc. The actual cultivated area was quite small in comparison. However, by successive subdivisions of farms, clustered village like rural communities developed, in modern times particularly in coastal and fjord areas from the 17th century and onwards. These villages have for the most part been greatly changed later on, by the process of land consolidation, during the second half of the last century and the first decades of this century. This process included among other things consolidation of scattered plots and strips into single blocks of land to each farmer, rearrangement of management and use practices in land held in common , and also in many cases removal of farm houses from the old clustered village to the new block of land. In other areas, for instance in the south-east, single farmsteads have always been the dominant settlement pattern. New farmsteads were established at a certain distance from the old farmhouses.

Most types of commons are related to some sort of a "local community". In many countries this will not cause a definition problem ; the village constitutes the obvious local community. The term "local community" will be used by me, in much the same sense as it would have been if we had real villages. But we have to keep in mind that in Norway the local community seldom is a village in this physical sense, meaning a clustered rural settlement (small rural town). We must imagine a combined "agroforest" landscape with scattered farms and single houses or small clusters of houses and farms

in between. Small local urban centers have emerged all over the countryside in this century, but we do not call them "villages", mainly out of tradition, but also because they do not, as a rule, contain agricultural activities. We call them "tettsted".

There are two important concepts to describe settlement units at local levels; the smaller one is called "grend", the larger one is "bygd". Often each "bygd", but certainly each commune, has an "urban" center ("tettsted"). A municipality (commune) is normally composed of more then one "bygd" , and a "bygd" contains many "grender". All these three levels; "grend", "bygd" and commune are relevant for our problem, because they are units for holders of different rights in the different types of commons.

2 THE COMMONS

2.1 Definitions

The terminology in this field is problematic, what should be understood by the term "common property"?

First of all, there must exist rights of some sort, which lay well within the concept (regime) of "ownership" in the legal system. This means that resources with access for everybody are not common property: they are common, but they are not property, and should rightfully be defined as "open access resources". The right for everybody (foreign tourists included) to roam everywhere in the so called "outfields" (mountains, forests, etc.) in Norway, is of this kind.

Secondly, more than one person (physical or judicial) must exercise rights, and these rights must have the nature of being property rights in the resource. From a legal point of view the "rights" of the different right holding persons may not necessarily be of exactly the same type.

There are a lot of problems here. An interesting, but difficult one arise where the resource belong to a large group of persons somewhat vaguely defined, where each member have an equal and unrestricted access to the resource. Should this be called "open access" or "common property"? This and a lot of similar problems are discussed by Stevenson 1991. For my discussion her I will stress the nature of the right in the Norwegian legal system. If the holder or an institution representing the holders collectively is entitled to compensation in the case of violation of the rights, I will call it "common property". Normally this will involve a case of eminent domain (expropriation) to be launched. Even so, if the group might be very large (several thousand families), the membership might be vaguely defined, and there are no regulations of the use. The members in this case undoubtedly have a kind of open access. For Stevenson the main criteria seems to be if the use is

regulated or not, and the example above would be classified "open access" by him. (The crucial point might be what should be understood by "regulation.")

Protection against violation may also take other forms than compensation, for instance prohibition, or very heavy restrictions on alienation of such lands and rights to someone outside the group.

There is another difficult point, and let me clarify it by a simple example. Three neighbour *farmers* buy, inherit or otherwise attain ownership to a piece of land, with equal or unequal shares. The land is thus held in joint ownership by them, but it is not "common property" in our terminology, it is rather so that the ownership (the title) is shared by them. It is one estate (property unit) held in common. It could at any time be sold to one person and thus pass into individual ownership again. In the classification in the cadastral system it would not be labeled "common property", but the register would show one estate (unit) with three individual owners, for the time being holding the title in joint ownership with equal or unequal rights. The reality is that the land is owned by three different persons, we call it "personal joint ownership", even if the "persons" could be companies or institutions, public or private.

Let us then assume that these three *farms* (not the farmers) "own" a piece of land jointly, in such a way that each share legally, and in the cadastral sense, is a part of each farm unit. This means that the share in the jointly owned land is so tightly connected to the farm, that the two cannot be separated in two property units without a legal, in this case a cadastral subdivision procedure. Such subdivisions are subject to very strict customary and also statutory regulations, and permission to separate a farm from its share is very hard to get. And in any case the other shareholders would have the first refusal. The land which is jointly held in this way is by my definition "common property". The actual wording in Norwegian is that the land is "jointly owned by farms", meaning that the shares are appurtenant to the farm of the holder of the right. It is a special category, or "type" of ownership.

This example illustrates how difficult it is to define the concept of "common property" by means of legal categories. In this case we have two seemingly similar situations, both with several "farmers" as holders of joint ownership rights, may be even the lands in question are of the same type. One is by definition "common property", the other is not. On the other hand; to make the concept operational in everyday life it has to be linked to legal classifications. In this case the legal conditions are very different for the two categories. For purely scientific purposes this base in the legal system may be of less importance.

The example also highlights another aspect: Persons do not "own" a share in a commons in the same direct way, and in the same sense, that they own personal belongings or land held in fee simple. Most often the rights, the shares etc. are connected to, or conditional of some sort of *quality* that the persons in question must possess. Most typical such a quality would be permanent residence in the local community, but it could also be status as "farmer", "owner of a farm", (as in the example above) "tenant to a farm", or close kinship to, a person who possess such qualities.

One may also ask if cooperation or collectiveness in actual use (operation) should be emphasized, and entered into the definition. Properties legally held in common may be, and often are, used independently (individually) by the shareholders. I have come to the conclusion that decisive importance must be placed upon the legal rights being common or not, and let the degree of collectiveness in use be part of the description. Consequently, I will classify some properties as "commons", even if the actual use is carried out mainly individually. In some cases the rights of management of the land is tied to more or less autonomous local bodies, based on the cooperation of the families living in the local community. But the land should not be municipal property; in that case it is owned by a public institution, which in itself does not qualify to call it "common property".

It once was quite common, and in some areas it still is, that two or more "persons", or “farms”, hold different rights to different recourses in the same piece of land in the outfields. For example: One owns the trees, another pasture. This situation will in itself not qualify to be named "common property", even if the usages are heavily interdependent and has to be coordinated. But such arrangements are often found together with other conditions that will make it "common".

In Norway the two basic qualities that the individuals must possess to have rights in commons are 1) residency in the local community and/or 2)ownership to a farm, or at least ownership to a piece of agricultural land which once was a farm. Most typically both residency and being a farmer used to be the standard norm, which in practice meant to own a farm and live on it as a farmer. It should be noted that for some types of "commons" residency and/or farming is not required, *ownership to farmland is the decisive factor.*

The demographic and occupational patterns in rural areas have undergone great changes the last decades. For our subject the changes that concern the farms are most significant. There has been a steady decline in the number of farms *in actual use as farming units*. In fact the number of such units (with more than 0,5 ha of cultivated farmland) has been more than bisected , from over 200.000 in 1949 to well under 100.000 in 1994. And the reduction is still

going on, and may even be speeded up in the near future. It is, however, most important to note that most of these "farm" units have by no means disappeared, they are still there as physical units in the landscape, as places for rural households to live permanently, or in some cases for recreational use, *and as ownership units with most of their rights intact*. The agricultural activity might have been abandoned totally, or may be kept at a very low level. If possible the agricultural land is leased to active farmers in the neighbourhood. An extremely low number, compared to other countries, have so far been sold and amalgamated with other farms in terms of ownership. This peculiar development has undoubtedly several reasons which do not need to concern us much here. I just mention that it has to do with our peculiar odal (allodial) law, the taxation system and low tax on such properties, the relative attractiveness of a rural way of life and the relatively abundant access to employment in some rural areas, etc. However, my guess is that the situation is rather unstable. There is of course great variation in this overall picture. In some areas, that in some sense are marginal, most of the farms may be without permanent settlement. In any case, this means that a large and growing proportion of farm units, and consequently also the rights in the commons, in the cases that the rights follow the ownership to the farm, or the residency on a farm, pass from the farming population to others. The rights follow the persons. And these “other” persons might, or might not, live in the local community. The often large areas of outfields that are held individually by the farms undergo the same process. This gives an overall picture of rural resources passing out of the ownership control of the farming population, and in many areas also out of the ownership of the local population. Ironically on may say that our odal law and kinship values and traditions, which is supposed to keep the ownership to farms in the hands of the farming population, produces exactly the opposite result, because it is a right for the landowning families, not for the farming families.

On this background I will discuss briefly the following main categories of common property:

1) State common land,
2) Parish common land,
3) Common property owned jointly by "farms" (sameiger mellom bruk),
4) Common property in the counties of Nordland and Troms, and
5) Common property in the county of Finnmark.

I will not include coastal waters, riparian rights, groundwater and other special rights and types of ownership concerning salt or fresh water, even if they could definitely be of a common nature, and related to a local community. The very special common property rights of the reindeer herders will not be discussed here either. The three first categories above are "settled" and can be described without much uncertainty. The situation in the three northernmost counties, points 4) and 5), is partly controversial and partly in transition.

2.2 State common land

a) Area:

These commons amount to an area of 26.622 km^2, which is ca. 8.2% of the total land area of the country. Most of these commons are mountainous, only 7% (of the 26.622) are productive forests. They are distributed unevenly in the mountainous parts of Southern Norway.

The main land uses today are:

* forest (timber, fuelwood)
* pasture (sheep grazing)
* secondary summer farms with cattle grazing (“seter”)
* grassland for hay production (cultivated)
* fishing
* hunting
* tourism and recreational use of various sorts; hiking, cabins etc.
* hydroelectric power

In addition conservation has to be mentioned, as several national parks and other protected areas are to be found in state common land, due to provisions in the nature conservation legislation.

State common land once covered much larger areas. Over the centuries parts of these areas passed into private hands in different ways. Commons could be sold by the King, to be subsequently subdivided between the buyers and those who possessed rights in the commons. The products of such a procedure could be one part held in fee simple, and another part held in common by the local community, or this part could also be subdivided among the shareholders. When I say "sold by the King" I should be more precise: The King could of course sell only what rightfully belonged to him, his "share" of the commons, not what belonged to the local community.

Owners of adjacent properties could acquire title to commons or parts of commons through long and exclusive use, in the sense that they (illegally) kept others out. By these and similar developments State common lands were taken over by private owners at a large scale, especially in the 18th. century, even if it was against the law, either as individual holdings, or holdings held in common by the new owners. This process was more damaging for the local community at large than the Kings sales, as the "new" owners acquired title to *all* the resources in the commons. The sale of commons is now prohibited by statutory law, and has been so for more than a hundred years, unless in cases where it is to be used for cultivation (reclamation). The final determinations of the boundaries for the State Commons in Southern Norway were made during court procedures by a special commission (Høyfjellskommisjonen) in the period 1909 to 1954.

b) Legal situation

The basic principle of ownership and rights of use are as follows (see Sevatdal 1985): The rights to traditional utilization of the resources in a specific common belong to a specific local community, most often a "bygd". The right of each rights holder in the local community is however restricted by the concept of "household needs". The reality of this is that nobody is entitled to take anything away from the common and sell it. But this is not without some sort of exceptions; the produce of hunting and fishing (game and fish) can be sold, but not the access to the hunting and fishing activity itself. This is similar to selling of milk and meat, but not the right to take in "foreign" cattle for pasture.

What may remain of resources when local needs are satisfied, belong to the State. Within this broad framework there are many refinements, the most important is the concept of "ownership to the ground". This is a direct and linguistically probably meaningless translation of the Norwegian "eiendomsrett til grunnen". Without going into legal refinements, the practical implication is that when all "traditional", customary and positively stated rights holders have got what rightfully belong to them, there might still be something left. And this "something" is said to go with the "ground" as such, hence the need to appoint an owner of the ground; the remainder. Often this rights holder is referred to as "landowner". There are many aspects of this principle, but by far the most important is that completely new types of exploitations that may come up, belong to the one who "owns the ground". The same principle is applied outside the commons too. Development of hydroelectric power is a good example. It is an extremely valuable resource, and a plentiful one in the Norwegian high mountain commons with abundant rain- and snowfall and high elevations. It is now, after dispute and court cases, settled that this resource belongs to the state as "ground owner" in the state commons.

Another example is the "selling" (or rather long term leasing) of building sites for recreational cabins, which is very common in Norwegian mountains. This right also belongs to the state as "owner of the ground", but the annual income from this is shared with the commune in which the common is situated, not the "bygd" that have the rights in the common.

Rights to uses connected with farming, like that of pasture, firewood, timber for building purposes, cultivation etc., are reserved for the farming population in the local community. This means that all (with some exceptions) farming households in the local community have such rights. Absentee owners of farms, or resident owners possessing farms which is not actively farmed, make little use of such rights. But if the farm is "reactivated", or in case new farms are established, the rights will come into being again. In case the farm is

run by a tenant, he is in the possession of the right. At present ca. 20.000 farms actually exercise such rights.

Everyone living in the municipality - which is in general a larger area than "grend" and "bygd" - have equal rights to some sorts of to hunting and some sorts of fishing.

The public, i.e. everybody living in Norway, have access to certain limited types of fishing and hunting.

The legislation derives from medieval times, but the actual laws have of course been modernized many times. At present a new codification of the laws concerning both state common land and parish common land has just been enacted , the "new" laws are dated June 19th., 1992. A basic principle throughout all the history of legislation in this field can, however, be summarized in a statement like this: "The rights and legal conditions in each common should be as it has been of old". This means for example that rights possessed by the actual local community do no change with changing administrative units and boundaries. The boundaries of a local community, relevant for each common, remain the same, even if the boundaries of municipalities are changed.

c) Management

The management and decision making powers are divided between two, or in some cases three, bodies. These bodies correspond roughly, but not precisely, to the "interested" parties; the State, the local community, and the municipality.

An official in the governmental forest service takes care of the ownership interests of the State. The forest service also supervises most other activities that go on in the commons.

The interests of 1) the local community ("bygd") and 2) the public within the municipality are taken care of by two bodies. We must distinguish here between commons with, and commons without, productive forests. In reality this is to distinguish between forest commons and high mountain commons. In forest commons there is a board, elected by those who have rights to the wood, to take all decisions concerning the collective use of these resources. For mountainous commons (i.e. for areas over the timber line), there is a municipal board responsible for organizing the use. This board is elected by the municipal council, but the majority of the members of the board should always by law be persons living in the local community ("bygd").

2.3 Parish common land

This type of commons differs from state common land in the actual ownership (title) to the land itself. While the ownership to the land ("ground") in state common land rests with the State, the parish common land belongs to those farms which possess rights to the wood in the common. This is a rather formal legal definition, in practice we may say that the common belongs completely to the local farming population. Or put in another way: The common belongs to the farms in the local community. So we have two local groups; the owners of the farms that "own" the "ground" itself, in much the same way as the State owns the "ground" in state commons, and the other right holders in the local community ("bygd"). Neither the State nor the municipality council have significant power, all decisions are taken by a board, elected by those farmers who have use rights in the common.

Parish common lands cover an area of 5.500 km^2, of this 1.700 km^2 are productive forests. Most of them are found in two counties in South-Eastern Norway (Hedmark and Oppland), and ca. 17.000 farms have rights in these commons.

A significant fact is that all forest use in these commons are now organized on a collective basis. Each common is managed as one unit as far as utilization of the forest go. This include commercial sale of timber and most often also wood products. As most of the commons also have sawmills, the right holders get the wood products they need from the saw mill, instead of logging themselves. Quite often the sawmills have developed into wood-based industries, owned by the common.

2.4 Land owned in common by "farms" (Sameige mellom bruk)

The translation of the name of this type of commons is difficult, probably impossible, (see comments above about appurtenant rights). In Norwegian we call them "sameige mellom bruk", which literally means "land jointly owned by farm units". These lands are completely "private", in the sense that no public institution as such, at state or local levels, has rights or other kind of power within the regime of ownership. These commons constitute a very heterogeneous group, with various types of ownership. What combine and characterize them are that they are owned in common, not directly by persons or institutions, but by other properties, normally a farm.

This type of commons are very common in outfields in general (lakes, pastures, mountains), but they are not so extensive in productive forests as they used to be, because in such areas they have been largely subdivided (individualized into plots) among the farms, by public or private land rearrangement procedures. But in many cases of such subdivision, especially in the 18th and 19th centuries, most other resources except for timber,

remained common property. The subdivisions included "the wood producing capacity" of the land only, neither the land itself nor pasture and other resources.

In many mountain areas in Southern Norway this type of commons is the dominant type of ownership.

Laws and regulations for management are very different from those that govern state common land and parish common land. The origin and historical developments are also different, but still interwoven in rather complicated ways.

There are mainly two ways in which such commons have originated. One is by way of subsequent subdivision of farms into new farms, in such a way that the outfields of the original farm were kept in various types of joint ownership, according to the feasibility for the use of the resources. Each new farm established by the subdivision process, got a share in the outfields, normally according to the assessed value of the farms in the tax rolls. The various uses (not the ground) could, however, be treated like an "estate", or object of ownership in itself, and be subdivided in various ways, as need arose. For example, one farm might possess the right to the trees (or even to certain types of trees), another the hay-harvesting rights, while the grazing, hunting and fishing, and the "ground" itself, could be held in joint ownership by the farms, all in the same piece of land. The basic principle was to subdivide, or it might be better to use the word "individualize", each type of resource, when need for individualization arose, and keep the rest in common. So the extensive outfield area of the original farm units, historically and present, have to be conceptualized as dynamic systems, in which economy, practical feasibility, legal considerations, and tenure systems are the main ingredients.

Some of these commons have, however, originated in other ways, by some sort of collective action by a local community, for example a group of farms. By this action they obtained collective ownership, and over time the share in the land would amalgamate with the farms. The action could be as simple as buying, but it could also be acquirement of for instance state common land, by excluding others from its use for a long period of time, and performing transactions that rightfully should belong to an owner. In periods the state was in a relatively weak position to protect public interests against such actions. At some stage in history the acquirement would get public recognition, most often by a court procedure. In late 18th century there were a lot of such court cases in the central part of southern Norway, but probably the bulk of such recognitions took place from 1909 to 1954, by the work of the so called Mountain Commission. Some of the really large commons and individual

estates also, of this type in the high mountains have most probably originated this way.

Since 1860 it has been the task, among others, for the Land Consolidation Service to clarify legal matters and settle legal disputes, individualize and/or lay down rules for the collective use, of such commons. In short - to readjust the ownership and tenure patterns in the individual common to the changing needs in the use of the land. This service work within the framework of the judicial system, and its decisions have the power of court rulings. Any case will be activated only after formal request from one of the rights holders, but one is also enough. Even if there are hundreds of shareholders in that particular common, a request from one of them is enough to start a land consolidation court procedure, if the court itself rules that it is necessary and beneficial to all shareholders. This have many important implications for the management of these commons, probably the most important is that each member know that if they do not reach an agreement by themselves, it is always possible for one of the rights holders to bring in an independent decision making body. But of course it could take time and money as court proceedings tend to do. Quite often the shareholders prefer to have these independent “outsiders” to make decisions on tense matters, instead of doing it jointly by themselves, by consent, or by majority rule.

It is, unfortunately, impossible to present comprehensive and reliable statistics for this type of commons. The reason for this strange fact is mainly that each individual unit of these commons does not show up as separate units in the cadastral records and tax rolls. It is the shareholding farms that show up. This is now being changed, but so far it is not completed and statistics are still not available. What can be said is that these commons certainly are more extensive than both state common land and parish common land together in southern Norway. In North Norway it might be otherwise, see below. An indication could be that while approximately 20.000 farms have access to (rights in) state common land, and 17.000 in parish common land, more than 50.000 farms hold shares in commons held jointly by farms. These figures cover the whole country. It is the predominant type of ownership in the mountainous areas in southern Norway. In a modified form, i.e. the timber rights individualized in plots, while pasture, hunting, fishing etc. are still common, it is very common in forest areas in the western part of southern Norway.

The legislation has been modernized quite recently; the most important laws are the "Act on joint ownership" of 1965 and the "Land Consolidation Act" that took effect in 1979. The majority of owners have the power to decide upon the management of the whole property, within the limits, roughly speaking, of suitable land use. They can elect a board to take care of the

management and the day to day decisions. Neither the majority nor the board can decide to sell any part of the common without the consent of everybody. There are also other regulations to protect the minority. Most commonly, the shareholders elect a board to manage mutual interests, but the actual use is mostly individual - not collective.

As stated above it is always possible for one or several shareholders to apply for "help" from the land consolidation service. In that case all disputed questions will be decided upon by the Land Consolidation Court, both judicial matters (disputes concerning ownership and rights) and rules and procedures for the management. For example, the court can decide if the use should be collective or individual. In case the court decides on collective use, it will also organize proper institutions for implementation. In case of individual use, it will lay down direct regulations for how each shareholder may conduct his usage.

2.4 Discussion

There are certain trends concerning the management and use of these three types of common property:

a) Traditional agricultural uses of the commons have declined. For example, hay harvesting in the uncultivated outfields - once very important - has hardly been practiced for several decades. Pasture in the outfields with milk-cows, without any kind of cultivation of the pastures, is of little importance. Grazing with sheep is important, and some types of cattle (heifers, meat-production) are of some importance. In some areas the practice of using secondary summer farms in the mountains (in Norwegian "seter") is still in use, in modernized forms though.

b) The commons have always been reservoirs of arable farmland, partly for establishment of new farms, but recently most important for enlargement of the cultivated land of existing farms. The land thus cultivated is either sold from the common, or the land is rented out on long term contract.

c) Forestry is of great importance and value. In this field there is a tendency towards collective forms of use. For parish common land this is the dominant form, for the two other types of commons, both the legislation and actual policy try to encourage collective forms of use. "Collective" may, however, be a somewhat misleading term. It often means that the property is managed businesslike as one single unit, not necessarily that the shareholders actually work together.

d) Recreational use - building of recreational cabins, hunting and fishing etc. in the commons as well as generally in the outfields, has been

> rapidly increasing in importance and value. Selling the access to such commodities is rather important, and requires collective action. Hunting of big game; elk, hart, roe-deer, and to a lesser extent wild reindeer, is of special relevance to our discussion here, for several reasons. First of all, the stocks of these animals have *increased* dramatically over the last three decades, and also spread to new regions. Secondly the market for recreational hunting has grown very much, thus creating potential for rapid rise of prices. And thirdly, utilization of this resource require collective action on the part of the right-holders. This is, of course, so in the commons, but most other property units are so small, or of such configuration and situation, that cooperation among several owners are necessary for them too. The bulk of the holdings are in themselves simply not suitable units for the management of big game, and quite often the municipal wildlife management board that decide on the number, age, sex, etc. of animals that are to be felled in the commune and on each "hunting" unit, simply does not give permission if the owners do not amalgamate their properties into suitable units. In most local rural communities big game hunting traditionally is an extremely valued activity by the landowners and by rights holders in common land, as well as among the rural population in general. But it is an increasingly "expensive" activity for the rights holders, in the sense that the alternative sales value is high and increasing. One may therefore expect growing tension and stress on the relation among the rights holders, between those who want to hunt themselves, and those who want to make maximum profit out of the resource by selling the access to hunt. Up till now the local culture and values have had the upper hand. This certainly creates favorable conditions for the study of collectiveness in rural Norway. One could also add that there is a great need for alternative employment, and tourism combined with hunting and fishing is certainly one option. Hence a certain political drive towards selling of such resources to outsiders, combined with service activities that render employment.

It should also be noted that in Norway, as in Sweden, Finland, and many other countries, there has always been a common right of way for the general public. That right is valid for everybody and for all kind of outfields, regardless of type of ownership. During winter the right applies to infields as well, when they are frozen. Besides walking on foot or skiing, the right includes picking of wild berries, mushrooms etc., and camping for a few days. This right is of course of great importance for recreation and tourism.

In relation to general regulation and planning of land use, by the various authorities on municipality, county and national level, the commons are mostly regarded just as other types of properties. There is however, one important exception for State Common Land, concerning nature conservation, especially the so called National Parks. The act on nature

conservation (June 1970, §3), states that to protect special values, state land and adjacent private land, could be given the status of national parks. The use of adjacent private land, i.e. not state land, for this purpose has created much debate, and also a ruling in the Supreme Court. There is, however, another controversial aspect, which in general has been neglected, that should have been taken into account. The type of "state land" that is relevant for National Parks is, from a nature conservation point of view, often State Commons. The legal position of the State in the State Commons has been interpreted by the conservation authority so that National Parks preferably and easily could be created on such land. This may be legally sound, but tend to forget the psychology and use rights of the locals. In some cases this attitude has challenged and provoked a powerful and most able local opposition among the rights holders in the commons. This is specially the case with the largest, and certainly one of the most important national parks, Hardangervidda National Park in the central mountain plateau in southern Norway. By various combined actions, judicial, political, and popular in mass media and otherwise, and professional use of strategic alliances with political parties and organizations, and in fact also with certain institutions within the administration, hostile to this type of conservation, this opposition has managed to do severe violations to the protection. The most severe is building of a road for four wheel drive cars right into the heart of the supposed wilderness of the national park, years after the park was established. The example is a good lesson showing what strong and able collective action from united local groups of this kind can do, and how disastrous it can be for central governmental bodies *and the interests they promote*, to ignore collective rights.

The last point to be discussed has to do with local institutions for management of these three types of commons. It is an astonishing fact that historically there seems to have been remarkably few *standardized* local institutions until quite recently. Essentially this means our own century. How can this be? The resources in the commons were important, at times there were scarcity of resources and strong competition. In the other Nordic countries, Denmark, Sweden and Finland we find such institutions, the "Byalag", which developed over large districts from the late middle ages to our own time. They are well visible in documents and the legal system, and were integrated into the administrative system (Erixon 1953/54, Meyer 1949). We would expect to find such institutions in Norway too, especially since Norway and Denmark were in very close union from the fifteenth to the nineteenth century. By a closer look at the sources we do find institutions, or at least traces and remnants of institutions, at "multiple farm" and "grend" levels (Frimandslund 1956, Løne Vinje 1991). They are however very heterogeneous, and very little "public" in the sense that they seldom appear in legal documents, public administration practices and statutory law. They have even to a large extent

escaped the attention of local historians. They are characterized by local needs and conditions in the sense that they address *problems*, they seem to have little intention to be general management institutions for mutual affairs at local level. Still they can have multiple functions, and one of the functions seems to have been to carry out the minimum organized actions required for the management of common property owned jointly by the farms. I have so far found no case where customary institutions of this kind have been active in the management of local interests in state and parish common land.

The research base is at present far too weak to draw conclusions, but a qualified guess is that problems related to the "collectiveness" in all the three types of commons were mainly solved within two regimes; 1) customs and tradition on one hand, including standards for decent behavour (customary law), and 2) statutory law on the other. Formalized institutions at local levels seem to have been of minor importance after the old Norse institution, the "Ting", disappeared. We have many cases where the parties after discussions enter into an agreement in the form of a written or oral contract, obviously based upon statutory law modified for local conditions. If they did not reach an agreement the case would be taken to court. Today management of state common land and parish common land are very much institutionalized, both at local and national levels.

3. COMMONS IN NORTHERN NORWAY

The concept "northern Norway" covers the three counties Nordland, Troms and Finnmark. Various questions concerning common property in this vast area is discussed other places in this book, especially in the contributions by Falkanger, Austenå and Sandvik, and Sandberg. So are the special rights etc. for the Saami reindeer herders. I will just make some few remarks to round off my discussions.

There is (at present) no "Parish Common Land" in North Norway. "Common property owned jointly by farms" is essentially the same for southern and northern Norway, and what is said about this category above covers northern Norway too. In Finnmark there is very little, if any common land of this kind .

That leaves us with the category "State common land". In the three northern counties of Norway, most of the outfields in some sense belong to the State. These are vast areas, covering ca. 68.000 km^2, which is 21% of the area of Norway. But several important aspects should be kept in mind:

1) We have to distinguish very clearly between Nordland and Troms on one hand and Finnmark on the other.
2) The legal conditions of the outfields are in a process of transition at the moment.

3) Historically the State plays a crucial role, and state ownership has traditionally been more extensive and important than in the south.

From a legal point of view these areas used to be classified as a category of their own. They were not regarded commons, but they were not held in fee simple by the State either. For classification purposes they are defined in this way in our National Atlas, (NGO 1985):"*State land in Nordland, Troms and Finnmark, which in historical time has not been subject to private ownership*". These areas, or at least a huge proportion of them, have once been state commons, but were supposed to have lost that status. The State has had a stronger legal position than in state common land in the south, but the local population had a variety of different rights, partly by law, partly by tradition, and partly by acquiring rights and property from the State. But the rights were not supposed to be "proper common rights". The rights to use may belong to individuals, to farms, to the local community, to inhabitants of the municipality or the county, to the Saami who keep reindeer, and to the public in general. So they were indeed "common" in one sense or another.

To be very brief, there are three aspects that should be mentioned conserning the changes going on at the moment:

1. A special commission (Utmarkskommisjonen) for Nordland and Troms,
2. A popular action launched by the farmers organizations in Nordland and Troms, and
3. A special commission, "Samerettsutvalget", that among other functions investigates the present state of land rights in Finnmark.

Ad.1 and 2. As mentioned above there was a judicial commission at work in southern Norway from 1909 to 1954 to determine the boundaries for State common land. A similar commission has been at work in Nordland and Troms since 1985 to work in disputed areas. In addition to clarify and determine the boundaries between state and private land, the commission decide upon the status of state land, as well as the nature and extent of existing use rights in this land. The commission has finished several cases and also made some rulings of general validity for the two counties. The most important one is that the land in question is not a special category of its own, it is State *common* land. The rights to use must be decided for each common, and might differ very much. This ruling has led to political action by the farmers organizations, especially in Nordland. They claim that the same local institutions and powers as in the south should be introduced for management and decision making. In practice this means a board, "fjellstyre", at municipal level, but the outcome remains to be seen.

Ad. 3. The situation in Finnmark is very special. A group of specialists within the framework of the commission "Samerettsutvalget", have just published their results concerning the present state of the rights to "land and water" in Finnmark, NOU 1993: 34. It should be noted that this commission has no power to decide. The commission shall investigate, express its results and opinion, and give advice to the government for further action. The members of the commission are specialists and representatives for the various group interests, and its conclusions are therefore seldom unanimous. The group that has been working on the land rights since 1985 consists of independent specialists only. Their conclusions concerning the nature of the state land are formulated with all the proper reservations real specialists should take, but are essentially so (NOU1993: 34): The state land in Finnmark cannot be classified as state common land in the same meaning this concept has in southern Norway. There are however many similarities, for instance the position of the state as owner of the "ground" and the collective nature of rights to use many of the resources. It is a "common" of its own kind.

4. SUMMARY STATISTICS

All numbers are approximate.

State Common Land in southern Norway:
Type of land: Productive forest 7%, the rest mountain areas above the timber line.
Area: 26.600 km2
Number of commons: 195
Number of rights holding farm units: 20.000
Owner of the "ground" and other "residuals": The state
Access to resources:

a) Pasture, secondary summer farms, cultivation: Local farming population, according to need.
b) Wood: Local farming population according to household need, residuals to the state.
c) Hydroelectric power: The state
d) Hunting and fishing: Everybody in the municipality and the general public.

Decision making bodies:

1. The State Forest Company (Statskog)
2. An elected municipal board (Fjellstyret)
3. An elected board at "bygd"-level (Allmenningstyret)

Collectiveness in use: Individual use dominates
Alienation: The commons as such cannot be sold or subdivided, neither can rights to use, they are inseparable from the farms. With subdivisions of farms the new farms get individual rights to use. Land can be sold or leased for cultivation (reclamation)

Parish Common Land:
Type of land: Productive forest 31%, the rest mountain areas over the timber line
Area: 5.500 km2
Number of commons: 51
Number of rights holding farm units: 17.000
Owner of the "ground" and other "residuals": Local farms
Access to resources:

a) Pasture, secondary summer farms, cultivation: Local farming population, according to need.
b) Wood: Local farming population according to household needs, residuals shared by the group of farms that "owns" the common.
c) Hydroelectric power: The local farms that "owns" the common
d) Hunting and fishing: Everybody in the local community (bygd)

Decision making body: Elected local board
Collectiveness in use: Collective use of forest dominates, otherwise individual.
Alienation: The commons as such cannot be sold or subdivided, neither can rights to use, they are inseparable from the farms. With subdivisions of farms the new ones get individual rights to use. Land can be sold or leased for cultivation (reclamation)

Land owned in common by farms (sameige mellom bruk):
Type of land: Predominantly mountainous areas, but also in other outfields and coastal areas ("fjøra", small islands, skerries)
Area: No statistics available
Number of commons: No statistics available
Number of rights holding farm units: More than 50.000, but no better statistics available
Owner of the "ground" and other "residuals": Specific local farms units - the shareholders
Access to resources:

a) Pasture, secondary summer farms, cultivation: The shareholders only, according to their share
b) Wood: The shareholders only, according to their share.
c) Hydroelectric power: The shareholders according to their share.
d) Hunting and fishing: The shareholders only, according to their share.

Decision making body: The majority of the shareholders according to their share, or an elected board. The Land Consolidation Court may be brought in.
Collectiveness in use: Both collective and individual.
Alienation: Shares can only be sold together with the farm, or a part of the farm. Individualization (subdivision) of the common land into plots can be done by the Land Consolidation Court. To sell any part of the land requires consent of all shareholders.

State common land in Nordland and Troms
Type of land: All types of outfields. Some productive forests, mountains dominate.
Area: 20.000 km2
Owner of the ground: The state.
Access to resources:

a) Pasture, secondary summer farms, cultivation: Local farming population according to traditions
b) Wood: Local farming population according to traditions.
c) Hydroelectric power: The state
d) Hunting and fishing: Everybody in the municipality and the general public.

Decision making bodies: The State Forest Company (Statskog), no local board so far
Collectiveness in use: Individual use dominates
Alienation: The commons as such can *probably* not be sold or subdivided, neither can rights to use, they are inseparable from the farms. Land can be sold or leased for cultivation (reclamation) and other purposes.

State (Common) Land in Finnmark
Type of land: All type of outfields; forests, mountains, water, costal.
Area: Over 90% of the land in the county, close to 48.000 km2
Owner of the "ground" and other "residuals": The state
Access to resources:

a) In general: Local population according to traditions and special laws and regulations
b) Hydroelectric power: The state

c) Hunting and fishing: Everybody in the municipality and the general public.

Decision making bodies:

A special board with an attached administrative service (Jordsalgsstyret and Jordsalgskontoret); both at county level

Collectiveness in use: Individual use dominates

Alienation: Land can be sold or leased out by the state according to laws and regulations, especially the Act on State Land in Finnmark County, dated March 12th, 1965.

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SECTION 2
THE FISHERIES OF THE BARENTS SEA

Introduction

Outside the near shores of the coastal states, the fish used to be a resource with access for all. It was a divisible, non-excludable resource. But technological change made it possible for humans to fish more than the rate of renewal allowed. Several places around the world the overfishing has made the total catch so small that only large subsidies to the fishers has made it possible to continue. The subsidy has further acerbated the situation. But if fish species have not been brought to the brink of extinction, they have at least been fished so low that they have lost most of its value for human societies. They do no longer contribute to feeding the growing human population.

But during this development states have acted to improve on the international management regimes so that they can be used to regulate the catch effort. Its most notable result is the 200 miles extended economic zone where each coastal state claims management responsibility. It is the results of this effort as manifested in the Barents Sea we are turning to here. There is an intimate relation between what happens in the Barents Sea and along the coast of northern Norway. The interdependence of coastal fisheries and the pelagic species is perhaps stronger here than elsewhere. Even if there is evidence of local species of cod in the fjords, the big seasonal fisheries are based on the pelagic species, and the prosperity of the coastal population depends on these seasonal fisheries. This means that one needs to look at both the international and the national management of the fish to understand the pressures forming the policy and the consequences following.

In the first article in this section, “The legal status of rights to the resources in the Barents Sea”, Geir Ulfstein gives an overview of the situation in the Barents Sea. There are problems in the two hundred mile zone around Svalbard. There are problems in the pockets of high seas outside the 200 miles zones of Svalbard, Norway and Russia. And there are problems related to the management of whale and other sea mammals. There also are considerations originating in other problems than resource management, which affect the management regime. Most notable are security considerations and environmental pollution. The problems most in need of some action seems to be the problem of verification of agreed upon management goals and the integration of national management objectives with the international management decisions.

In the second article, “Managing the Barents Sea fisheries: impacts at national and international levels.” Alf Håkon Hoel goes into the management of the Barents Sea in more detail.

In the third article in this section, “To share or not share. That is the question of the commons. Management under scarcity. The case of the Norwegian cod fisheries.”, Bjørn Sagdahl looks at the political processes generated by the problems encountered by Norwegian fishermen because of declining fish stocks. The government has been faced with confronting demands from different groups of fishermen. The political-administrative response has been a problematic political balance between equity and inequality. Sagdahl argues that the solutions adopted have had severe impacts for state of the fish resource in the past. The problem of establishing legitimacy to resource management seems to be prevalent. Sagdahl discusses the political limits for conducting a policy for sustainable development by the existing administrative institutions, and concludes that general models offering managerial solutions often neglect such facts.

In the last article, “Recent attempts at regulating the harvesting of Norwegian arctic cod”, Ottar Brox looks at what Norwegian authorities actually have done to regulate the catch.

THE LEGAL STATUS OF RIGHTS TO THE RESOURCES IN THE BARENTS SEA

by

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1. Introduction

The Barents Sea has long supported one of the world's major commercial fisheries. In the mid and late 1970s, there were peak catches of about 4-4.5 million tonnes a year, which was about 6-7 per cent of the total world marine fish catch. The catch in recent years has, however, been in the order of 1-1.5 million tonnes a year, representing only about 1.5-2 per cent of the world total. The decline in catches reflects natural fluctuations in fish stocks, but it also reflects over-fishing. The challenge is to design a more effective management regime.

This article will focus on the rights to the fish resources in the Barents Sea at the international level, and the legal aspects of their management. It will be demonstrated that the fish stocks to a large extent are international - common - resources. The current management regime will be presented. Possibilities and problems involved in establishing a more effective management regime will also be discussed. Finally, it will be pointed out that fisheries management in this region is affected by some particular problems: disputed maritime areas, special management regimes for some living resources, and non-fisheries issues, such as national security and pollution. These problems must also be taken into account when devising new management arrangements.

2. General legal framework

The general legal framework establishing rights to the living resources and management responsibilities in the Barents Sea is set out in the 1982 Law of the Sea Convention (LOS Convention).[1] Although this Convention is not in force, its general principles on coastal states' rights regarding fisheries management are assumed to reflect customary international law, which is legally binding for all states.

In the 1960s and early 1970s, international fisheries management in the Barents Sea was undertaken on a regional basis under the North-East Atlantic

[1] XXI International Legal Materials 1245 (1982).

Fisheries Commission (NEAFC). Art. 56 (1) of the LOS Convention establishes, however, the coastal state's sovereign rights for the purpose of 'exploring and exploiting, conserving and managing' the living resources in the 200 mile exclusive economic zone. The first point to note is thus that the management regime has changed from a regional regime to management vested in the coastal states.[2] Accordingly, the two coastal states of the Barents Sea, Norway and Russia, have exclusive jurisdiction over the living resources in their 200 mile zones. Since the LOS Convention merely establishes vague conservation duties (art. 61), Norway and Russia are relatively free to decide which conservation measures to be implemented.

Secondly, the most important fish stocks in the Barents Sea are shared between the two coastal states. Shared - or common - fish stocks necessitate cooperation between the owner states. Such cooperation is also an obligation under the LOS Convention art. 63. This means that fisheries management in the Barents Sea is still an international problem, but it is now a bilateral rather than a regional problem. Norway and the USSR (now Russia) entered into a treaty on cooperation on fisheries in 1975[3] and a treaty on fisheries management in the 200 mile zones in 1976.[4]

Thirdly, management is undertaken by the two coastal states, not by local entities such as the Norwegian county of Finnmark or by national fisheries organizations. States may have other aims than merely serving local entities or fishermen, for example promoting oil activities on the continental shelf or protecting national security.

Fourthly, the principle of balance has been essential in the adoption of management measures. It is obvious that balance is applied when exchanging quotas. But this principle is also relevant for the introduction of other conservation measures, because such measures may have effects upon the fishing opportunities of the two states. Russia will for example be more affected than Norway by an increase in the minimum size of fish since the Norwegian Arctic cod migrating in the Russian 200 mile zone is younger than the cod migrating in the Norwegian 200 mile zone. The need for balance may complicate the adoption of agreed conservation measures and thus make management less effective. There may also be a balance between the two states, but an imbalance at the national level, in the sense that certain fishermen may

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2 R. Churchill and G. Ulfstein, *Marine Management in Disputed Areas. The Case of the Barents Sea*, London and New York, Routledge, 1992, Chapter 4, pp. 91-126.

3 United Nations Treaty Series, CMLXXXIII, p. 3.

4 Churchill *et al*., *New Directions in the Law of the Sea*, V, Dobbs Ferry, New York,: Oceana Publications, Inc., 1977, p. 348.

be more obstructed by the measures than others. This demonstrates the need for an integration of fisheries policy at the international and the national level.

Fifthly, no fishing rights for third states in the 200 mile zones in the Barents Sea can be founded upon the LOS Convention. Art. 62 (2) provides that the coastal states shall allow other states access to 'the surplus of the allowable catch' (i.e. the balance between the total allowable catch and the coastal state's own catch capacity). The Convention also deals with who gets what in arts 62, 69 and 70. In the Barents Sea, due to the high catch capacity of Norway and Russia, there is, however, no surplus of fish stocks of commercial interest. The two coastal states are thus free to decide to what extent third states shall be given access. As a consequence, third states' share of the catches of cod in the Barents Sea region dropped from about 20 per cent in 1976 to about 10 per cent in 1987.

An important challenge lies in establishing more effective management of the fish stocks, especially of the shared stocks, in the Barents Sea. To what extent could management regimes applied for other international commons be introduced in the Barents Sea?

A fundamental aspect of management regimes are their effectiveness and the principles applied in the management. Neither the LOS Convention nor the 1975 or 1976 bilateral treaties between Norway and Russia establish precise management goals. In order to assess the effectiveness of the management, the bilateral treaties should state more precisely, which effects are intended, and which principles to be applied. Relevant principles known from environmental treaties are the precautionary principle[5] and the principle of cost-effectiveness.[6]

Another feature of a management regime is the decision-making procedure. Management measures in the Barents Sea are based on recommendations from the International Council for Exploration of the Sea (ICES). Such a scientific body has a great significance for the legitimacy of the measures adopted.[7] The fisheries agreements between Norway and Russia could formalize that management should be based on recommendations from the ICES. Similarly, it could be determined that decisions made by the mixed Norwegian-Russian

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[5] See the 1992 Rio Declaration on Environment and Development, Principle 15 (31 International Legal Materials 874 (1992)).

[6] See, *inter alia*, the 1992 United Nations Framework Convention on Climate Change, art. 3 (3) (31 International Legal Materials 849 (1992)).

[7] Reference may be had to the Intergovernmental Panel on Climate Change (IPCC), which provided the scientific basis for the 1992 Convention on Climate Change, op. cit.

fisheries commissions should be binding, and not merely be recommendations. But it is not to be expected that such amendments would improve management in the Barents Sea. It could, however, be considered to integrate local interests, for example north Norway, in the decision-making.

Verification has become an increasingly important aspect of international treaties. The LOS Convention art. 73 provides that each of the coastal states enforce in its own 200 mile zones. Such coastal states as Norway and Russia have, however, no guarantee that effective enforcement is undertaken in fishing for shared stocks in the 200 mile zone of the neighbour state. Verification procedures are known in treaties on arms control and disarmament, but certain supervisory techniques are also known from environmental treaties.[8] Such techniques should also be considered in fisheries management in the Barents Sea.

The bilateral treaties between Norway and Russia do not contain any provisions on dispute settlement. So far, there have been no disputes about interpretation of the respective rights and duties under the two fisheries agreements, and it does not seem that dispute settlement procedures are essential in improving fisheries management in the Barents Sea.[9]

In concluding, it would seem that the most urgent subject-matters to be considered in improving management in the Barents Sea is to establish more precise management goals and principles, to integrate local interests in decision-making and to establish verification procedures.

3. Disputed areas

Norway and Russia have not agreed upon the delimitation between their continental shelves and between their 200 mile exclusive economic zones.[10] The first contact between the parties took place already in 1967, but so far they have not succeeded in reaching a solution. Pending a final delimitation, the so-called 'Grey Zone Agreement' was entered into by the two states 11 January 1978.[11] This agreement provides an interim arrangement for fisheries in the part of the disputed area lying within 200 miles of the mainland. This agreement has worked well for the area it applies to. There is, however, no

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[8] See P.W. Birnie and A.E. Boyle, *International Law & the Environment*, Oxford, Clarendon Press, 1992, pp. 166-8.

[9] See on dispute settlement in environmental matters, Birnie and Boyle, op. cit., pp. 177-86.

[10] R. Churchill and G. Ulfstein, op. cit., Chapter 3, pp. 54-91.

[11] The Norwegian text can be found in *Overenskomster med fremmede stater*, 1978, p. 436.

such arrangement for the disputed areas further north between the Norwegian Svalbard archipelago and the Russian Novaja Zemlja and Frans Josef Land. This creates problems regarding reporting of fishing activities and enforcement in these areas.

Svalbard's status was disputed for centuries, but eventually this question was one of the territorial disputes addressed by the 1919 Peace Conference in Versailles, which resulted in the 1920 Svalbard Treaty.[12] Norway was granted sovereignty, whereas other states parties were granted extensive rights, especially non-discriminatory rights to certain activities. The application of the Svalbard Treaty in the 200 mile zone around Svalbard is, however, disputed.[13] Norway claims that it, on the basis of its sovereignty, has the right to establish a 200 mile zone around Svalbard, and that other states' rights under the Svalbard Treaty do not apply in this zone. On the other hand, Russia contends that the Treaty prevents Norway from establishing measures in the Svalbard 200 mile zone on a unilateral basis. Other states (except for Finland, which supports Norway's position) have either claimed that their rights under the Treaty apply in the Svalbard 200 mile zone or they have reserved their position. The main effect for fisheries of the Treaty applying in the Svalbard 200 mile zone would be a prohibition against Norway adopting discriminatory fisheries regulations (cf. the Svalbard Treaty art. 2 (1)). This dispute has meant that Norway has been careful in introducing conservation measures, there have been violations of regulations by foreign vessels and Norway has been reluctant to arrest violating vessels. Fisheries management in this zone has been under reasonable control, but further violations may make a more strict management and enforcement necessary.

There is still a remaining pocket of high seas outside the 200 mile zones in the Barents Sea ('Smutthullet'), where uncontrolled fishing by third states has recently occurred. General international law provides that coastal states have jurisdiction in the 200 mile zones, whereas the flag states have exclusive jurisdiction on the high seas. This means that conservation measures on the high seas, to be effective, would have to be agreed upon by all states fishing in such an area. There is some basis in the LOS Convention art. 116 for claiming that coastal states have regulatory control over fish stocks straddling between a 200 mile zone and the high seas, but this question is controversial.[14] Norway has tried to gain control by bilateral arrangements with the relevant states, but more firm arrangements may be needed in the future. It remains to be seen

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[12] League of Nations Treaty Series, II, p. 8.

[13] R. Churchill and G. Ulfstein, op. cit., Chapter 2, pp. 23-54.

[14] See W.T. Burke, 'Fishing in the Bering Sea Donut: Straddling Stocks and the New International Law of Fisheries', *Ecology Law Quarterly*, Vol. 16, No. 1, 1989, pp. 285-310.

whether such arrangements will be adopted on a global, regional or bilateral level. An international conference on this issue was convened under United Nations auspices in August 1993, without reaching agreement; subsequent negotiations are scheduled in 1994.

4. Other management regimes

Most fish stocks are managed bilaterally between Norway and Russia. There are, however, also examples of marine living resources managed on a regional or a global level. Article 66 of the LOS Convention contains special regulations on anadromous species, the most important such species in the North Atlantic being salmon. The state in whose rivers anadromous species spawn is primarily responsible for the management of these stocks. In general, fishing for such species is prohibited beyond the 200 mile zone. Salmon in the Barents Sea is managed through the regional 1982 Convention for the Conservation of Salmon in the North Atlantic Ocean.[15] The management of salmon, however, does not seem to create international problems in the Barents Sea.

The LOS Convention art. 65 allows coastal states to limit or prohibit the exploitation of marine mammals. States are to cooperate in the conservation of marine mammals. Whales are managed through the global International Whaling Commission (IWC).[16] In 1982 the IWC adopted a prohibition on all commercial whaling. Japan, Korea, Peru, Norway and Russia filed objections and the decision was thus not binding for them. However, these states later stated that they would cease whaling and from 1989 there was no commercial whaling.

Marine mammals eat a considerable amount of fish and compete with fish for food. The ban on whaling makes multi-species management in the Barents Sea difficult. Since the minke whale stock is at a sufficient high level, Norway decided to start commercial whaling from 1993. Catch of marine mammals may, however, be met by import restrictions from other states, especially the USA, and by actions by environmental organizations.

5. Non-fisheries issues

Several non-fisheries issues have an impact on fisheries management. The Kola Peninsula bordering on the Barents Sea contains the largest naval base in the world and harbors the most important of Russia's four fleets. This has meant that security issues has played a major role in cooperation between Norway

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15 Text in British Government Paper *Cmnd*, 8830, 1983.

16 The IWC was established by the International Convention for the Regulation of Whaling, Washington, 2 december 1946. Text in United Nations Treaty Series, CLXI, p. 72.

and the former USSR. This has especially affected cooperation in enforcement. With the disappearance of the cold war, cooperation between Norway and Russia should be easier, but security aspects will still be taken into account by the two states.

The Barents Sea may contain considerable quantities of oil and gas. These prospects may also influence fisheries management. There is for example reason to assume that Norway can accept non-discrimination in the Svalbard zone for fisheries purposes, but not for oil and gas exploitation. But since there is a connection between the legal regime in the 200 mile zone and the continental shelf, Norway may not readily accept non-discrimination in the 200 mile zone. The result may thus be that oil and gas interests prevent effective fisheries management in the Svalbard zone.

There have been reports of Russian dumping of nuclear waste in the Barents Sea. If fish in this area becomes contaminated - or if the consumers get such an impression - this may have disastrous effects on fish exports. Consequently there is a link between effective management of nuclear contamination and fisheries management.

Another example of the connection between fisheries management and export is the recent agreement on the European Economic Area (EEA). The European Community got increased quotas in the Barents Sea in exchange for better market access to the European Community.[17] Similarly, Norwegian fishermen fear that the European Community may get even higher quotas under the current negotiations on Norwegian membership in the Community.

6. Conclusions

The 200 mile system has made it easier to adopt adequate management measures in the Barents Sea. Before the introduction of the new ocean regime, all states fishing in this area had to agree in the regional fisheries organization, the NEAFC, on which conservation measures to implement. Now management is left to the two coastal states, Norway and Russia (except for whales and salmon). But because of the shared stocks, the fish in the Barents Sea is still an international common resource.

Fisheries management in the Barents Sea is primarily a question of the effectiveness of the bilateral cooperation between Norway and Russia. This cooperation may be developed, *inter alia*, by drawing upon experiences in the management of other international commons. It has been concluded that in this respect the following matters should be considered: to establish more precise

[17] See Norwegian Government proposition, St. prp. No. 102 (1991-92).

management goals and principles, to integrate local interests in decision-making and to establish verification procedures.

The effectiveness of the management arrangements will, however, also be influenced, first, by questions related to the disputed areas in the Barents Sea: the unsolved delimitation of the 200 mile zones, the 200 mile zone around Svalbard and the remaining area of high seas in the Barents Sea. Secondly, problems with the management of marine mammals may make multi-species management less effective. Thirdly, non-fisheries issues, such as security, oil exploitation on the continental shelves, pollution and export conditions will also limit the number of options available. The most urgent problems to be solved are related to the management problems in the 200 mile zone around Svalbard and in the remaining area of high seas. If unregulated fishing increases in these areas, it could undermine the whole management regime in the Barents Sea.[18]

[18] Not inserted for technical reasons (editor).

MANAGING THE BARENTS SEA FISHERIES: IMPACTS AT NATIONAL AND INTERNATIONAL LEVEL

by

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Life in North Norway has always been - and to a considerable extent still is - based on the rich fish resources off its coasts (Brox 1989, Jentoft 1991). A characteristic of these resources is their internationality - the most important fish stocks are shared between Norway and Russia. Hence, the bilateral fisheries regime set up by Norway and Russia in the mid-70's is of crucial importance to North Norway, as the region's welfare depends upon how well the Barents Sea fishery resources are managed.[19]

1. Purpose and perspective

Taking this as the point of departure, the purpose of this article is to describe the Barents Sea fisheries regime and assess its performance. Following some introductory remarks on resource management in general, the legal basis for the regime and the regime itself are analyzed, its performance with regard to management and distribution of resources among various groups of users are discussed.

According to conventional wisdom two characteristics of fishery resources necessitate their use being subject to management: first, they are conditionally renewable resources, which require that exploitation should not exceed the resource's carrying capacity, if a stable long-term yield is to be expected; and second it is assumed that ownership rights to fish resources are non-existent, leading to a competitive race for scarce resources with disastrous ecological and economic consequences. In order to avoid such "tragedies of the commons" ownership rights to resources must be established, or the right to manage resources must be vested with a public authority (Hardin 1968, Gordon 1954)[20].

[19] This is the perspective of the Norwegian government in two consecutive Reports to Parliament, cfr. Stm. 32 (1989-90): *Framtid i nord* and Stm. 32 (1990-91): *På rett kjøl*.

[20] This menu of choice has been increasingly contested, as the commons paradigm assumes an open access situation which seldom is found in reality. It is suggested that there may also be a third way, commonly termed "co-management", in which the existence of common property is viewed as a solution to, rather than the cause of resource management problems., cfr. Jentoft 1987, McKay & Acheson 1987, Berkes 1989.

The enormous expansion of international fisheries after World War II (Borgstrøm 1968), based on dramatic changes in technology and scale of fishing operations, led to overfishing in many areas within a few decades. In the North Atlantic, for example, the Northeast Atlantic Fisheries Commission (NEAFC) was not able to manage fisheries in an appropriate manner (Underdal 1980). The failure of international regulatory bodies to manage fishery resources according to their sustainable yield was the impetus for the establishment of extended coastal state jurisdiction in the late 1970's. The 200 mile exclusive economic zone concept emerged from the 3rd United Nations Law of the Sea Conference, and essentially entailed that the to manage marine resources within the 200 mile zone -which contained most of the world's fishery resources - was shifted to the coastal states (Ulfstein 1982).

At the international level, the approach to resolving the "tragedy" one (Eckert 1979), thereby abandoning the "public authority" approach represented by the international fisheries commissions established in the 1950's and 1960's.Vesting ownership rights with coastal states does not resolve the "tragedy", for at least two reasons: Both of these traits apply, as we shall see, to the Barents Sea fisheries regimes.

2. The Barents Sea fishery regime

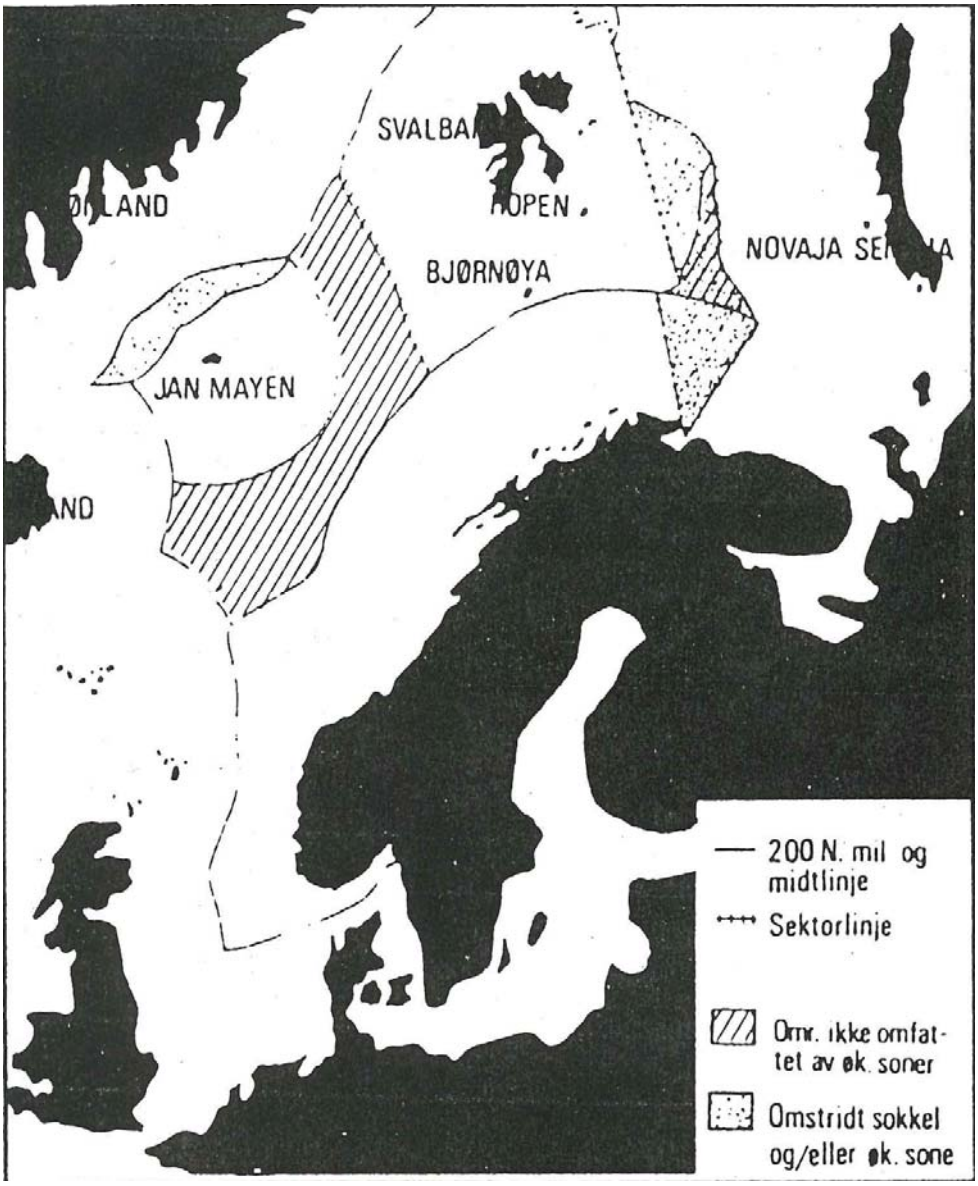
2.1 The resources and the economy

The Barents sea - some 1.4 million square kilometers of shallow waters between the European continent and the Arctic Basin - is among the world's most productive ocean areas. The Barents Sea ecosystem is based on stocks of pelagic fish species on which other species, most importantly cod, feed.
The ecosystem stretches southwards along the Norwegian coast and westwards into the Norwegian Sea (see map).[21]

The total catch from the biological production of the Barents Sea used to be considerable. In 1980 it amounted to some 2. 4 million tonnes of fish, or 3.75 of the world catch. After 1985 the percentage has declined sharply due to the reductions in all major fisheries in this area, most of which were at an all-time low in 1990 when the total yield from the area was only a small fraction of that in 1980. For the years ahead, the prospects are more promising. The capelin fishery was opened again in 1991, and the cod quotas are set to increase the next years. For 1993, the total allowable catch (TAC) for Barents Sea cod was set at 460000 tonnes, almost a fourfold increase the 1990 low of 120000 tonnes.

[21] The catch figures referred to here therefore includes not only the catches in the Barents Sea proper, but also the areas to the west and south where the fish stocks are exploited. The statistical reference areas are ICES areas I and IIa&b.

To the North Norwegian economy, the Barents Sea fishery resources are crucial. Of a total population of 460.000 in the three northernmost counties -Nordland, Troms and Finmark – 13.500 are fishermen[22]. And 6.700 work in the fishing industry in about 540 fish processing plants, which are located in 271 local communities[23]. About 240 of these communities have less than 1,000 inhabitants (Brox et al. 1989:20). Since the work force constitutes about half of the population, about 10 per cent of the North Norwegian population directly on the fisheries for their income. In addition, dependent on work in related industries[24].



[22] Of these, 10.000 are defined as full-time fishermen ("Blad B").

[23] 1987 figures, from the *Fishery Statistics* from the Central Bureau of Statistics.

[24] Not all North Norwegian Communities are situated by the coast, however. Of a total of 58 local municipalities in the three northernmost counties, 43 are dependent on fisheries (Sørlie 1990).

2.2 *A variety of legal bases*

The Barents Sea fishery resources are in a number of areas where different legal conditions apply.[25] In international waters the fishery resources are subject to the open access rule - anyone may fish what he wants. That in fact did occur the summer 1991 when trawlers from Greenland were fishing for cod in the international waters between the Spitzbergen Archipelago and Novaya Zemlja. A bilateral agreement between Norway and Greenland of September 1991 has brought by allowing Greenland a quota in the Norwegian. Trawlers from EC countries took up the practice (in the summer 1992, and provisions for avoiding this in the future was included in the bilateral fisheries agreement between Norway and the EC for 1993.

The 200 mile exclusive economic zones of Norway and Russia are the most important in terms of weight and value of fish caught.[26] The fishery regime here is based on part V of the 1982 Law of the Sea Convention (LOSC), the essence of which is that the coastal state decides on the management and use of the resources within zone.[27] As for resources that are shared, i.e. between the zones of two countries, article 63 of the LOSC states that "these States shall seek ... to agree upon the measures necessary to co-ordinate and ensure the conservation and development of such stocks..." It is left to the states to decide how they will share the resources. They have undisputed rights not only to regulate fisheries, but also to perform other jurisdictional authorities, as specified in part II of the LOSC.[28]

The existence of such a disputed area created problems for the regulation of fisheries, especially third country fishing. In 1977 a practical arrangement for handling these problems was negotiated, and the solution was an area with "shared exercise of jurisdiction", commonly termed the "grey zone". In this zone, which is situated in the southern part of the disputed area and to some extent to the west of it, Norway and Russia regulate and control their own fishermen and the third country fishermen each of them has licensed. As a fisheries arrangement, the zone appears to have worked well (Ulfstein 1987, Hoel 1989).

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[25] The most thorough going analysis of the legal conditions in the Barents Sea is found in Churchill, R. & Ulfstein, G. 1992: *Marine Management in Disputed Areas: the Case of the Barents Sea,* Routledge, London.

[26] The Norwegian 200 mile economic zone was established by an Act of 17 December 1976. The Soviet introduced permanent legislation on their 200 mile economic zone in 1984, but an intermediate arrangement had been in effect since 1976.

[27] Cfr. articles 61 and 62 of the 1982 Law of the Sea Convention.

[28] It should be noted that the Law of the Sea Convention has not yet entered into force. As of July 1991, 47 of the required 60 ratification's were done. The basic rules of LOSC part II and V is, however, international law by state practice. Neither Norway nor Russia have ratified the Convention.

In the 4-mile territorial waters around the Spitzbergen archipelago, the rules of the Spitzbergen Treaty of 1920 state that Norway holds sovereignty over the archipelago, but that all Treaty parties are subject to equal treatment. Also in the 200 mile Spitzbergen Fishery Conservation Zone which Norwegian authorities erected in 1977, fisheries are regulated on a non-discriminatory basis, but the is the 1976 Exclusive Economic Zone Act[29]. The main difference between the Economic Zone and the Fishery Conservation Zone is that the right to exclude foreign fishermen stated in the 1976 Act is said to be preliminary postponed in the latter zone. When establishing the zone the aim of Norwegian authorities was to get the fishery under control, while at the same time avoiding conflicts with other states over the jurisdictional status of the zone[30]. Fishery regulations here are therefore of a non-discriminatory nature, as closure of areas with under-sized fish. Doubts have however been cast as to the long-term effects of this arrangement. The way it is practiced by Norwegian authorities, is by a "gentle enforcement" policy of not reporting their catches, which they are obliged to do under Norwegian law. This may serve to undermine Norwegian jurisdiction in the area (Ulfstein 1987, Hoel 1989).

The upshot of this is that legal basis for regulating the Barents Sea fisheries is very complex. The patchwork of different legal conditions renders management difficult as the rights and duties of the states concerned change This legal complexity used to be compounded by international security concerns it, but to be less important now than a decade ago (Schram Stokke & Hoel 1991). Other policy concerns are important, however, particular the prospects for petroleum resources in the area, which render the resolution of the jurisdictional issues in the disputed area and in the Spitzbergen Zone very difficult. In relation to this, environmental concerns becoming a major policy issue (Brubaker 1991), not least because of Soviet dumping of radioactive material in the Barents Sea and nuclear test detonations at the Novaja Zemlja archipelago.

2.3 *The international fishery agreements*

The international fishery agreements covering the Barents Sea are of two types: multilateral and bilateral. Although the latter are the more important,

[29] The reason is that Norway claims the right to establish an EEZ around Spitzbergen, but has temporarily postponed the implementation of that claim.

[30] See e.g. Frydenlund, K. 1986: *Lille land - hva nå?* . The Russia has lodged an official reservation to the zone, while several nations have reserved their positions with regard to the Spitzbergen Treaty here. Only Finland recognize the Norwegian approach here.

multilateral regimes are also of some significance. The Northeast Atlantic Fisheries Commission (NEAFC) was the major management body until the establishment of economic zones in the late 1970's. It still has high seas fisheries, which in the North Atlantic basically means the blue whiting fishery the Norwegian Sea.

The International Whaling Commission (IWC) has a decisive say in the management of large whales. Since 1976 it has set quotas for the North-eastern Atlantic minke whale stock the adoption of a moratorium on commercial whaling in 1982 and pressure from the US, Norwegian authorities decided to halt commercial whaling from 1988 onwards, awaiting the completion of a comprehensive assessment of whale stocks to be carried out by the IWC (Hoel 1989, 1990). In 1992 the Scientific Committee of the IWC agreed that a stock estimate of 86,700 animals, which that the North-eastern Atlantic minke whale stock well sustain commercial exploitation.[31]

There are a number of bilateral fishery agreements relating to the Barents Sea. The most important of these are the four Norwegian - Soviet agreements.[32] The task of the Joint Commission is to manage resources maximize the long-term yield from resources. In 1990, the total yield from the Barents Sea fisheries was in the order of some 3.7 billion NOK.[33] The potential yield is however considerably higher, as most stocks in 1990 were at an all-time low. Management on a multispecies basis may result in a total yield three to four times higher than (Flaaten 1989:40).

The basis negotiations is the scientific advice and management strategy options

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[31] In response to the abdication of the IWC from its treaty-based management responsibilities, and the development of multispecies fisheries management requiring the role of marine mammals in ecosystems to be taken into account, the Faeroe Islands, Greenland, Iceland and Norway has set up an alternate marine mammals regime: The North Atlantic Committee for Cooperation on Research on Marine Mammals. As the name indicates, this is concerned with research only. For a discussion, se Hoel, A.H. 1992: "Regionalization of International Management of Whales: The North Atlantic Committee for Cooperation on Research on Marine Mammals", *Arctic ,* 1993.

[32] The four agreements are: The 1974 agreement on trawl-free zones, the 1974 agreement on fisheries cooperation, the 1976 agreement on reciprocal fisheries relations, and the 1977 grey zone agreement.

[33] The basis of this calculation is as follows: the 1990 cod catch of 171.000 tonnes, priced at NOK 10 per kilo, has a first-hand value of 1.7 billion NOK. The 23.000 tonnes of Haddock is given the same price per kilo, being worth 0.2 billion, while saithe, Greenland halibut and red fish amount to 183.000 tonnes and are given an average value of NOK 5, totalling NOK 0.9 billion. In addition comes the Norwegian shrimp fishery in this area, amounting to 85.000 tonnes in 1990. The total value, based on an average price of NOK 10 per kilo, amounts to NOK 0.9 million. Marine mammals are not included.

the Advisory Committee on Fisheries Management (ACFM) of the International Council for the Exploration of the Sea (ICES) [34]. The ACFM advice for the Barents Sea fisheries management is the result of research carried out mostly by Norwegian and Soviet scientists, to some extent in joint programs[35]. The international scientific screening and elaboration of national scientific work provides the legitimacy ICES management advice carries with administrators and fishermen in its member states.

According to the 1976 reciprocal fishery agreement quotas are to be set according to "… the need for rational management of the living resources, catching methods, the traditional catch levels of the contracting parties and other relevant factors." There is a considerable the two parties cooperate management (Armstrong & Flaaten 1989).

The three joint stocks, cod, haddock and capelin are shared on a 50-50 basis in the case of cod and haddock, and 60-40 in favor of Norway for capelin[36]. Thus each party's quotas follow automatically when the total quotas (TAC) are set. It is, therefore, a regime to resolve distributional conflicts by raising the total quotas.
The delegations to the meetings consist of government officials, research personnel, and representatives from the fishermen's organizations. The negotiations as follows: scientific advice regarding catch levels is reviewed, total quotas (TAC's) for the shared stocks are established, quotas of the joint and exclusive stocks are exchanged[37], and various types of technical regulations relating to fishing seasons, gears and areas are established. The exchange consists basically in that the Russians give Norway some of its cod quota, while Norway gives Russia a share in her quotas of the exclusive stocks of red fish, herring, and most importantly, blue whiting. The outcome of the negotiations is adopted in a protocol[38], and is formally a recommendation to the two governments. In practice, the recommendations are almost always adopted.

[34] The ICES is a scientific organization, set up in 1902 to provide its member states with scientific advice for the fisheries, having the coastal states in the North Atlantic as its parties.

[35] Joint resource estimation surveys are regularly carried out, and the last years there has also been cooperation on development of multispecies modelling.

[36] The basis for this distribution is the zonal attachment of stocks.

[37] "Exclusive stocks" are stocks owned by one of the parties alone, as for example Norwegian red fish.

[38] Formally these are only recommendations to the respective governments, but in practice recommendations are adhered to.

The most contentious issues over the last ten years have been the questions of mesh size regulations and Norwegian coastal fishing. The former relates to the claim of Norwegian scientists - supported by the ICES - that the mesh size in trawls should be increased, in order to the growth potential of fish. The Soviet counter-argument is that mesh size is not as important to the exploitation pattern as commonly believed[39]. Trawl-free zones set up by Norway in the mid-1970's have been a bone of contention, as Soviet fishermen claim that the zones them from taking the quotas in Norwegian waters.[40]

The issue of Norwegian coastal fishing is rooted in the 1974 Tripartite Fisheries Agreement between Norway, Russia and Great Britain. At that time, the overriding concern was the advent of economic zones, and Norway was a strong advocate of the coastal state preference principle for distribution of fishery resources among nations. A vehicle for giving teeth to this argument was to regulate the ocean-going fleet of all nations, while the coastal fleet remained unregulated. A sentence in the Tripartite Agreement allow for unlimited coastal fishing - even when the total quota was taken - remained in the subsequent bilateral agreement between Russia and Norway, and its essence was not changed before 1984. Soviet resistance to this part of the agreement stems partly from overfishing of the TAC by the Norwegian coastal fleet in the early 1980ies contending that the Norwegian coastal is a wasteful way of exploiting the stock, as it disturbs fish in the spawning grounds. An interesting aspect is that Norwegian scientists scientific advice to the Norwegian negotiating position, that the management problem is to delimit the take of small fish, while Soviet scientists provide advice that supports the Soviet position - that mesh size regulations are wasteful and that fishing the spawning stock should be halted.

The two parties give resources in separate sets of bilateral negotiations. The Faeroe Islands is the more important third country for Russia, while the European Community is the major recipient of the Norwegian share of third country quota. The EC quota is part of an arrangement between the two countries North Sea fisheries, off Greenland[41]. Norway has wished to avoid heavy fishing pressure in the Spitzbergen zone, which holds an immature part of

[39] The Soviet experiments show that most small fish that escape through the meshes in the trawl die anyway. It is also argued that bigger mesh sizes forces the fishermen to increase trawling time, causing a higher mortality rate among young fish, which is precisely what one wants to avoid.

[40] Norwegian authorities - having a better exploitation pattern in mind - prefer Soviet fishermen to take their quota in Norwegian waters.

[41] The European Community buys a shrimp quota from Greenland, which is given to Norway in exchange for fish quotas in Norwegian waters.

the cod stock, and has therefore, not only set up the aforementioned fishery conservation but also tried to divert attention from that area by offering more generous quotas in its EEZ.

2.4 *Internal aggregation in Norway*

At the national level in Norway there is considerable legal complexity as to the status of fishery resources and fishermen's' rights in relation to these. While commonly regarded as a resource which belongs to the nation ("fish is a national resource"), the actual content of the "common property" rights concept is very difficult to handle in legal practice (Fleischer 1990, Ørebech 1990). Beyond legal doubt is however the right of the fisheries authorities to regulate entry into the fisheries as well as fishing itself[42].

The formal point of departure for the internal decision-making process on distribution of northern fishery resources is the result of the bilateral negotiations with Russia. These negotiations are normally concluded by late November[43]. The Fisheries Directorate works out a proposal on how various fisheries are to be regulated, by estimating the quantities that would be taken under open access, and comparing this to the TAC's for shared stocks and scientific advice for exclusive Norwegian stocks as saithe and herring. Thereby one arrives at a measure of "management need", which is greater the scarcer resources are. The regulatory measures and their distributive implications are specified in great detail in a proposal on how next year's fisheries may be managed.

Within a few weeks from the tabling of the regulatory proposal the Director of fisheries meets with several of the fishing industry's organizations, the Marine Research Institute and environmental authorities in the Regulatory Council to discuss the proposal. The Council has 13 members, six of which belong to the fishermen[44]. The shore-side of the fishing industry have three members, while the Fisheries Directorate have two members and the Marine Research Institute one member. The Directorate for Natural Resource Management has one had representative since 1989. The fishery interests thus hold a majority in the Council. These are however more often than not fairly divided among themselves, and for that reason, the NFA does not always win

[42] The bases for this are the 1972 Participation in Fisheries Act and the 1954 Trawler Act, and the 1984 Marine Fisheries Act, respectively.

[43] In the current regime, it is impossible to do this earlier, as the management advice from the ICES is not presented before early November.

[44] That is 5 from the Fishermen's' Association and 1 from the Seamen's' Association.

acceptance for its proposals for distribution of fish quotas[45]. In addition to the regular members of the Council, several observers are admitted, i.e. the Ship owners' Association and, since 1990, following considerable public canvassing, a consortium of environmental organizations.

The Regulatory Council was established in 1973 as a forum for administrators and fishermen to prepare for the negotiations in the international fisheries commissions[46]. Given the importance of international resources to Norwegian fisheries - then as now - it is evident that Norway's approach to these negotiations is crucial to the welfare of its coastal population. The task of working out the strategy for international negotiations was however shifted to a working group under the Sea Boundary Board when 200 mile zones were established. This working group has held a very low public profile, considering the importance of its role to coastal Norway[47]. The Regulatory Council in the late 1970's took on tasks corresponding to those formally vested with it in 1983, when its role was defined in the Marine Fisheries Act. According to this, the Council shall on the basis of the information given by the Marine Research Institute, "consider which regulations of the fishery which are required and how they may be appropriately implemented."[48] In practice, this involves discussions in Council on which seasonal, temporal and technical restrictions, which are to apply to the quotas set, as well as distribution of quotas on various user groups. In the case of national stocks, also the setting of quotas is discussed.

The Regulatory Council meets three or four times a year, their meetings being preceded by a bargaining process within and among the organizations. The major actor is the Norwegian Fishermen's' Association (NFA), which organizes both labour and capital in fisheries: Most fishermen in the coastal fleet and the ocean-going ground fish/shrimp fleet holds a rank-and-file membership through the regional (county) departments of the organization[49]. The regional departments in turn have numerous local divisions[50]. There also exist four independent organizations associated with the NFA, three of which

[45] The 1992 regulations are a case in point.

[46] Primarily the Northeast Atlantic Fisheries Commission (NEAFC).

[47] The Fisheries Ministry, its Directorate, the Ministry of Foreign Affairs, the Norwegian Fishermen's' Union, and the Norwegian Seamen's' Union are represented here.

[48] This mandate applies to the articles 4, 5 and 8 in the 1983 Marine Fisheries Act, which authorizes a variety of regulations.

[49] In addition some fishermen are organized in the Norwegian Seamen's' Association, and some in the Coastal Fishermen's Organization.

[50] In Troms County, for example, there are about 80 local departments.

organize ship owners. These may also hold membership through the regional departments, and thereby have several channels of influence with the NFA. Thus, the NFA combines geography and the labor-capital relationship as organizational principles, thereby incorporating conflicts between fishermen in various regions, between fishermen using different types of gear, and between the ocean going fleet and the coastal fleet[51]. This structure of course affects the way the NFA operates.

Fisheries regulations always have distributional implications, and very often these centers on the coastal -ocean, north-south and gear controversies. In the NFA the Directorate's regulatory proposal is subject to a thorough examination and debate on its board, yielding compromises which leaves the Associations' Council members with their hands tied to particular solutions as to how resources are to be managed and distributed[52]. The major lines of conflict in the Council correspond to those within the NFA. The coastal fishermen's' interests are represented by the NFA and the ocean-going fleet's interests are represented by the NFA and by the Seamen's' Association. Moreover, the latter interests are often allied with the producers, which prefer the ocean-going fleet due to the volume and regularity of its landings. It follows that power relationships within the NFA are crucial for its position on various issues as well as the outcome of the Council's deliberations (Hoel, Jentoft & Mikalsen 1991).

Distributional decisions in the Council are mostly made with reference to gear types, and the north-south and coastal-ocean dimensions are indirectly affected as various types of gears are not evenly distributed along the coast. As a result of these contradictions, the deliberations in the Council sometimes result in conflicts being solved by raising the quota for exclusive stocks, as has happened e.g. with saithe. The Council does not make such decisions for cod, however, as its TAC is decided in the proceeding negotiations with Russia. But as long as the Council recommended regulations which made it possible for the coastal fleet to over fish its quota, it indirectly solved distributional conflicts in this manner for cod too[53].

[51] Due to the remuneration system in Norwegian fishing, the labour - capital conflict manifests itself not so much between ship owners and crew as between coastal vessels with labour as its major economic input and ocean-going vessels having capital as its major input.

[52] The NFA members meeting in the Council reflects the membership profile: 2 coastal fishermen from the north, 1 representative from the trawling interests in the North, 1 representing the purse seine interests in western Norway, and 1 representative for the North Sea fishermen in Southwest Norway.

[53] This occurred mainly in the early 1980's, but happened to a certain extent also in 1990, due to the manner the fleet fishing with conventional gear was regulated.

The Council decides mainly by way of debate, while resorting to voting only when matters are very contentious. This is significant for the outcome of the deliberations, as the observers also are allowed to take part in the debate. Their views are also included when the Director of Fisheries sums up the debate and formulates his advice to the Fisheries Ministry. Thereby the ship owners may get still an extra vote, adding to the decision-making power their multiple channels of influence to the NFA give. On the other hand, fishermen's influence is more now than before balanced with environmental considerations, not only due to the membership of the Directorate for Natural Resource Management and the observer status of the environmental groups, but also because the fishermen themselves and the fisheries administration has become increasingly concerned with this aspect.

The advice provided by the Council is to a large extent adhered to by the fisheries authorities, especially when the Council is unanimous in its recommendations. The Ministry has, however, from time to time introduced additional measures, in particular with geographical redistribution in mind. The last few years a part of the total quota of cod has been reserved for Finnmark, the northernmost county[54].

This organization of the regime, with co-operative structures both in the preparations for and in the delegations to the international negotiations and in the Regulatory Council, leaves the NFA with a considerable influence over the Norwegian fisheries policy, and thereby also over coastal community development, in that it has a decisive say over the distribution of resources[55]. In return, Norwegian authorities benefit from qualified technical advice concerning the complex details of fishing. And many conflicts are resolved by the NFA, thereby relieving the authorities of the task of setting up compromises. In addition, when the fishermen are participating in the formulation of fisheries policy from the outset, policy holds greater legitimacy among the fishermen and its implementation may be more successful (Hoel, Jentoft & Mikalsen 1991, Jentoft 1991).

What emerges from the above, then, is a picture of a two-tiered decision-making system where the important decisions as regards management and distribution of the Barents Sea resources are taken at the international level, while the distribution of those resources among various groups in Norway is

[54] The 1983 Marine Fisheries Act did not previously allow for geographically defined allocations, and was changed to this end in 1988.

[55] This applies not only to resource management, but also to financial support: the system for providing public financial support to the fisheries sector is also governed by a corporate structure. This has compounded the distributional problems in that it has contributed to build up overcapacity in the fishing fleet (Jentoft & Mikalsen 1987, Holm 1991).

decided on by a corporate body, comprising regulators as well as those to be regulated.

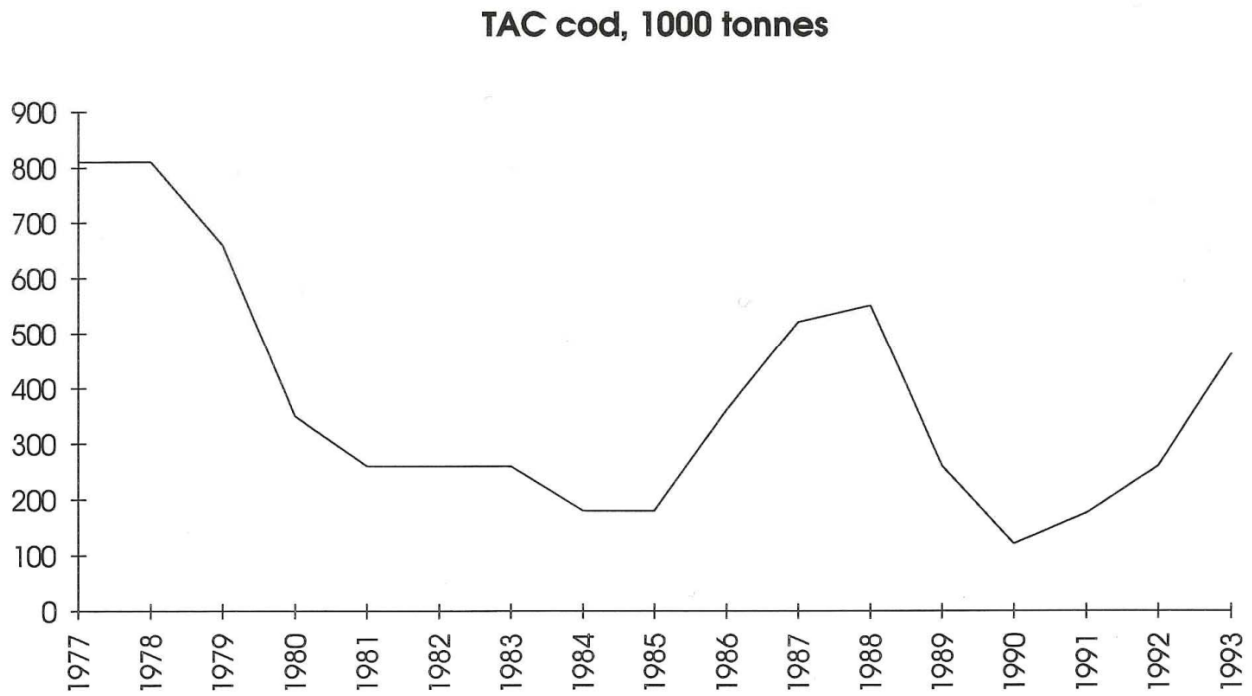
The next question, then, is how this organizational set-up has functioned, in terms of how well resources are managed and how they are distributed.

3. Fisheries policy: resource management and distribution

3.1 *International management and distribution*

Both groundfish and pelagic fish are important in the Barents Sea fisheries. As mentioned, cod is the economically most important species, and its management therefore also the more important: the total catches were mostly between some 500.000 and 1 million tonnes between 1960 and 1977, when extended coastal state jurisdiction was established. After that catches have been sharply reduced.

The sharp reductions in the catches of cod stem from the decline in the cod stock, and consequent quota regulations from 1977 onwards. In 1977 a TAC of 810.000 tonnes was set, while the 1990 TAC of 120.000 tonnes was an all-time low. This was somewhat alleviated however with the traditional 40.000 tonnes of coastal cod to Norway and 40.000 tonnes of Murmansk cod to Russia, which always come in addition to the cod TAC. By 1993 the total quota was however up to 460.000 tonne - almost a fourfold increase (fig. 1).



As for the pelagic species, during the highly intensive herring fisheries at the Norwegian coast in the 1960's herring was brought almost to extinction, and disappeared from the Barents Sea. During the 1970's the capelin fisheries expanded enormously, reaching its peak with almost 3 million tonnes taken in 1977, In 1985 it was discovered that the stock was about to collapse, and the fishery was halted early in 1986. In 1991 the fishery was restarted, with a TAC of 850.000 tonnes. This quota marked the real start of multispecies fisheries management in the Barents Sea, as the single-species recommendation from the ICES was at 1.0 million tonnes[56], 150.000 tonnes was thus set aside as food for other fish species.

Underlying the improvement in various fish stocks is a change in regulatory philosophy in the Joint Commission. Management are based on increasingly strict principles. Another important measure in rebuilding the fish stocks has been a system of regular surveillance of fishing ground and automatic closures of areas with a high percentage of immature fish in the catches. Threatening the successful management efforts are however the failure to control especially the operations of Russian fishing vessels. In the winter 1993 more than 100 Russian trawlers were fishing in the eastern Barents Sea, beyond the control of any responsible body and delivering their catches abroad in return for desperately needed hard currency.

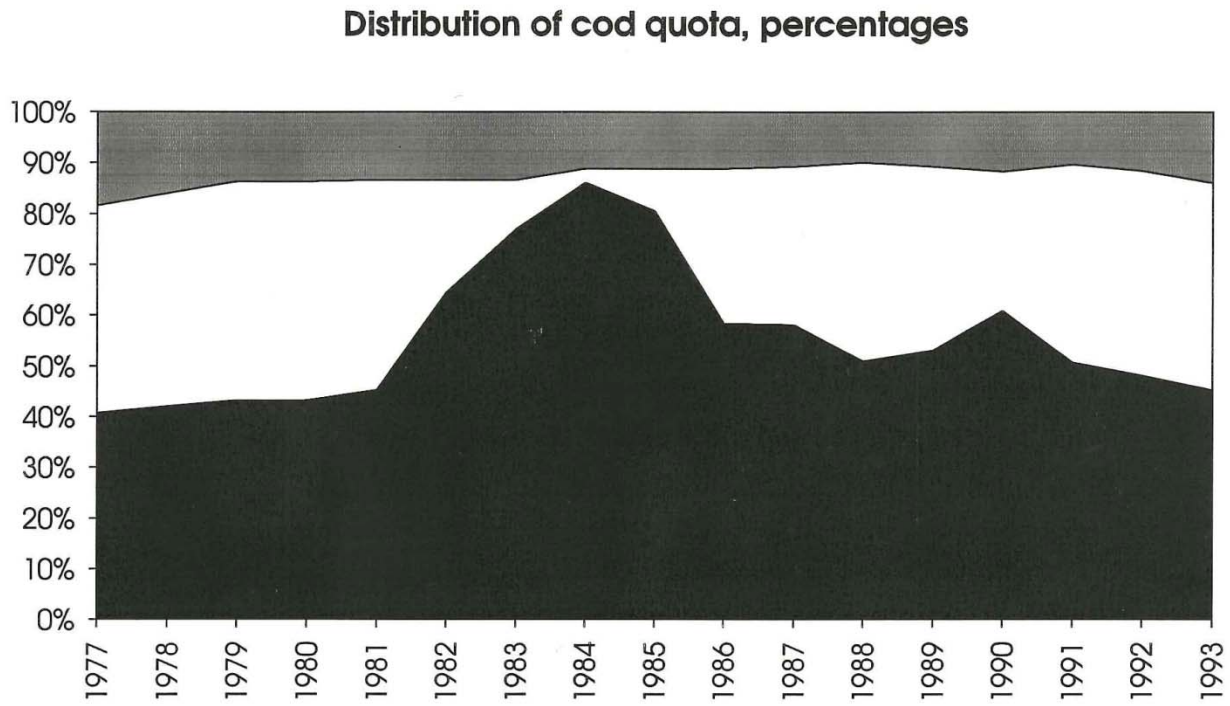
In addition to the fishery, there is also whaling and sealing industry, which have both been cut back, albeit for other reasons than those related to biology. The latter is now in the order of 40.000 animals, and is carried out both by Norwegian and Russian sealers[57]. Whaling is conducted by Norwegians only in this area, and has since W.W.II averaged about 1.800 animals per year. The commercial catch was, as mentioned, halted in 1988, removing an important fishery to some 50 vessels in North Norway. Only a few animals were taken for scientific purposes in 1988-90, while 95 was taken in 1992. In 1992, the Norwegian Government announced that the traditional coastal whaling would be resumed in 1993.

As to the distribution of catch between countries, there is a dividing line before and after 1977. Before 1977, these waters were international outside a 12 mile fishery zone. Most of the fishery resources were therefore subject to international management under the auspices of the Northeast Atlantic Fisheries Commission (NEAFC) and a more or less untamed international exploitation, as reflected in the share of the total catch by third countries

[56] For 1992 the capelin TAC is set at 834 tonnes.

[57] The seal stocks now appear to be in a rather bad shape, not least because of the massive "seal invasions" along the North Norwegian coast in the late 1980's.

(figure 2). After 1977, Norway and Russia have kept most of the resources to themselves. The third country quota of cod has been steadily reduced from 19 per cent in 1977 to 10-11 per cent since 1984[58]. By the late 1980's Norway and Russia had established as a firm principle that they retain about 90 per cent of the total quota of cod for their own fishermen. This appears to be changing somewhat now: Following the exchange of quotas, the Norwegian quota amounted to 73.000 tonnes (60.8 per cent of the TAC) in 1990 (the 40.000 tonnes of coastal cod come in addition). The corresponding figures for Russia and third countries are 33.000 tonnes (27.5 per cent of the TAC) and 14.000 tonnes (11.6 per cent of the TAC). For 1993 the Norwegian cod quota has increased to 208.000 tonnes (45.2 per cent of the TAC), Russia's quota is up to 188.000 (41 per cent of the TAC) tonnes while third countries received 64.000 tonnes (13.9 per cent). Compared to 1990, Norway's quota has increased with 185 per cent, Russia's with 470 per cent and third countries' with 357 per cent. Of an overall increase in the cod quota of 283 per cent Russia and third countries have therefore gained the bigger share (figure 2 - which shows percentages of total quotas, with third countries, Russia and Norway counted from above).



[58] Due to increased third nation fishing in the Spitzbergen area, a total quota for third country fishing in the Fishery Conservation Zone was established in 1986, set at 4 per cent of the total quota for cod. Most of this (3.46%) is given to the EC.

As to the bilateral results of these negotiations, Norwegian government officials claim the outcome of the negotiations are fairly balanced and that the negotiations with Russia have been far more business-like and practically oriented than the case is with the EC (Paulsen 1989). Some has however argued that the final distribution appears to be skewed in Norway's disfavor (Hoel 1989, Schram Stokke & Hoel 1991), at least when measured by conventional western price indices[59]. Moreover, Russia in addition to their 50 per cent share annually gets the aforementioned 40.000 tonnes of "Murmansk cod", which in reality is a part of the Northeast Arctic cod stock[60].

On the other hand, taking Norway's catch of marine mammals in Soviet waters and overfishing of the cod quotas in the early 1980's into account[61], as well as the fact that the quotas Russia receive from Norway to some extent is paper fish[62], the distribution appears somewhat more balanced. It should also be taken into account that Norway's major goal in these negotiations has always been to secure as large a transfer of cod as possible from its counterpart, in exchange for fish species of less interest to her. This strategy has definitely been in the interest of the coastal population in North Norway, and since substantial amounts of cod has been obtained this way the strategy may from that perspective be characterized as successful. The Norwegian share of the cod quota increased from 41 per cent in 1977 to 86 percent in 1984, then levelling off to between 50 and 60 per cent annually. On average in 1977-1991 period Norway has had 52 per cent of the quotas of cod. In addition come the quantities of fish purchased by Norwegian processing plants from other nations. In 1990 more than 40.000 tonnes extra of cod was landed in North Norway this way, most of it from Alaska, Canada and the USSR[63]. By 1992 this trade had virtually exploded, with Norwegian fishing plants importing

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[59] An analysis of the aggregation of Norwegian and Soviet preferences concerning the management of shared stock will suffer from a major deficiency: information on the Soviet preferences are scarce.

[60] This is also rooted in the 1973 Tripartite Agreement, where Norway was granted a quota of 40.000 tonnes of coastal cod, corresponding to the average catch of this stock which is distinct from the arctic cod stock. At the second meeting of the Joint Commission in 1976, when Norway and the Russia for the first time were to set quotas for the joint stocks, the Russia demanded a corresponding quota and the "Murmansk cod stock" was created to this end.

[61] In 1982, for example, the Norwegian quota was overfished with some 120.000 tonnes, the same quantity as the 1990 TAC.

[62] The blue whiting quota, which has been varying between 290.000 and 385.000 tonnes has never been taken in its entirety.

[63] Fiskeribladet, Januar 1991.

between 70.000 and 80.000 tonnes of cod from Russia. As a consequence of the increased supply, prices have dropped considerably, angering Norwegian fishermen who see their income falling as the fish quotas increase.

3.2 Internal distribution results in Norway

The total Norwegian catch of all fish species in northern waters has been reduced from 2.5 million tonnes in 1977 to 470.000 tonnes 1990, a reduction of 80% (Hersoug & Hoel 1991). Northern waters thereby became less important to Norwegian fisheries in general. With the resumption of the capelin fisheries in 1991 and the increase in cod quotas the importance of Northern waters has increased again. The reductions in available resources have of course led to considerable overcapacity in the fishing fleet, adding to the economic difficulties fishermen and their communities face. For cod alone, the mainstay of the North-Norwegian fishing industry, the Norwegian catches in 1990 (116.000 tonnes) are only a fourth of those in 1977 (429.000 tonnes). And the capelin fishery - the biggest Barents Sea fishery measured by weight, was reduced to naught in the latter half of the 1980's.

Scarcity has served to intensify the distributional conflicts between north and south and between various gear types. The actual distribution of catches of cod between conventional gears and trawlers appears however to be fairly constant, although there has been considerable deviations for certain years (Hersoug & Hoel 1991). The variations stems mainly from shifts in the migration pattern of cod, which is unavailable for coastal fishermen when it stays too far off the coast as happened in the years 1986-88[64]. The distributional decisions of the Regulatory Council are not of much help to the coastal fishermen when natural phenomena intervene in its distributional scheme. Over the last decade, the distribution of the most important species, cod, has been about 65-35 in favor of the coastal fleet. This distributive key has been a recurrent source of tension. In 1989 the NFA suggested a scheme for codifying the distribution of cod on gear types according to TAC size. This implies basically that when cod quotas are low, trawlers will have about 25 per cent of the total quota, and when quotas are high their share rise to 35 per cent[65]. By establishing such a fixed distributive scheme the annual conflicts may be softened, as the various groups' share not will be subject to bargaining each year.

The great redistribution in Norwegian fisheries appears to be that between north and south, as North Norwegian fishermen has lost considerable shares of

[64] Thus, in 1987, conventional gears' share of the Norwegian cod catch was down to about 40 per cent in 1987 (Hersoug & Hoel 1991).

[65] In 1990 conventional gears was up to about 75 per cent of the catch.

the total catches. While taking about a third of the total catch in 1977, they are now down to a fifth (Hersoug & Hoel 1991). In absolute terms, the North Norwegian catch has been reduced with about 1 million tonnes. Had North Norwegian fishermen maintained their share of the total Norwegian catch from 1977, the reduction would have been only half of that (Hersoug & Hoel 1991). The basic reasons for this development are scarcity of resources in the north, as reflected in the figures above, and, in the pelagic sector, a considerable transfer of fishing licenses from north to south[66].

Just as important are the impacts of these cutbacks for the fishing industry. While half of all Norwegian fish catches were landed in North Norway in 1977, only 20% of the catches were landed in the North in 1990. This decline stems to a large extent from the closure of the capelin fishery. As to cod, landings were in absolute terms in 1990 down to a third of the 1977 level (Hersoug and Hoel 1991). The supply to the North Norwegian fishing industry has thereby been dramatically reduced. In the groundfish sector this has to some extent been compensated for by the aforementioned deliveries from abroad. In the pelagic sector many fishmeal plants have been shut down, while some have been maintained by state aid to this end.

3.3 Explaining the crisis

The Barents Sea fisheries regime as described above is the institutionalization of an attempt to avert a "tragedy of the commons" in the area. The three joint stocks the regime is to manage have all been sharply reduced during the 1980's, as have several exclusive stocks. It is therefore no bold conclusion that the regime's success is at best qualified. It should be noted however, that it is open to discussion exactly how much of the development in the resource situation that may be attributed to the regime. Explanations can therefore be grouped into two categories: "natural" and "political":

As to explanations relating to natural phenomena and science, scientific advice have in some instances been inferior, as in the case of the collapse of the capelin stock (Tjelmeland 1989). Fishermen mis-reporting their catches have compounded these problems in that the data on which management is based is faulty. In addition comes that climatic variations may be an important explanatory factor here (Loeng 1986), which is not taken fully account of up to now. Thus not only inferior advice, but also neglect of factors which contribute to stock development is a feature here.

As for the political aspect of management, the more popular explanation is the

[66] Of about 100 licenses for purse seine fishing in 1990, 66 are held in two counties in western Norway.

corporativist hypothesis stating that fishermen's' greed in combination with fisheries authorities' lack of understanding is the cause of the crisis (Brox 1989, Nilsen 1991). However, the quotas have by a large been set in accordance with the scientific advice given (ICES 1989/91). Summing the total quotas for cod set during the 1980's yields a lower total than the sum of advised TAC's in the same period. This indicates that the vagaries of nature are important in explaining the failure of management - it is not faulty management alone which accounts for the crisis. A clear case of mismanagement is, however, the 1985 decision, against scientific advice, to allow for a capelin fishery in 1986 -this resulted in the spawning stock almost being fished out (Hamre 1991). In addition to such issue specific, fisheries related explanations, come those related to the complex legal basis for the regime and other policy concerns which has a direct bearing on the regulation of fishing in the Spitzbergen area, for example. The last years has however witnessed considerable improvement in the resource situation, both for pelagic species and for groundfish. As the decline in resources only to some extent can be explained with reference to political factors, so the improvement in stocks may stem from other factors as well.

The upshot of this is that, while the introduction of 200 mile economic zones which conferred resource rights to coastal states cannot be said to have yielded substantial results with regard to resource management, this aspect of ocean law has been very instrumental in the distribution of resources. The partial phasing-out policy as regards foreign fishing after the introduction of 200 mile zones[67] has left the two coastal states with about 90 per cent of the cod quotas. This pattern appears to be challenged now, as witnessed by the admission of new fishing nations into the area and the increase in the EC's share here. Thus, the turn-around trend witnessed in the development of resources is accompanied with a certain tendency towards international redistribution towards third countries. In this context it is the establishment of rights by formal agreements and the abjuration of well-established principles by coastal states that is important, not the actual quantities of fish involved.

As regards the distribution of quotas between the two coastal states in the area, overall power relationships appear to have little explanatory value (Schram

[67] A turn-around trend in this policy can now be observed: following the entry of Greenland trawlers in the international waters in the Barents Sea the summer 1991, Norway has, as mentioned, entered into an agreement with Greenland which gives it a quota in the Barents Sea. And in order to engineer a final solution to the negotiations for an European Economic Area in the autumn 1991, the EC was given an increased share of the total quotas for the cod fisheries in the Barents Sea, to be taken from the Norwegian share of the TAC.

Stokke & Hoel 1991) [68]. More issue specific explanations, as the parties' interests for different fish species, and bargaining dynamics - as the salience of focal points are more important explanatory factors. An example of the former is the Norwegian interest in highly valued species as opposed to the Soviet interest in quantity. Examples of focal points are the 50-50 divisions of resources and the stability of the annual transfer of blue whiting from Norway to its counterpart.

Turning to the national part of the regime, the mobilization of a broader public interest in fisheries management has undermined the legitimacy of both the corporativist regime and its policy, which is said to have engineered a grand-scale "tragedy the of the commons" in a North Norwegian context (Brox 1989, Nilsen 1991). As long as fisheries was a matter for the fisheries authorities and the fishermen's' organizations, the NFA was very useful to the authorities: first, in that it functions as an information central, providing the technical knowledge required in the international negotiations, and secondly, in its role as a clearing-house, in which the Directorate's proposal is melded into a politically feasible regulatory scheme. This is no longer true: the increasing scarcity of resources has intensified conflicts not only among fishermen, but also among regions as the economic repercussions of scarcity have been felt onshore too. There has been a growing concern of other groups in society, as politicians and environmentalists, of how fisheries are managed and distributed. The extent to which the distributional pattern can be explained by the corporate organization of the fisheries regime is difficult to assess however. In general, the management aspect is not that important in the decision-making process at national level, as the economically most significant stocks are stocks shared with other nations. The basic reason for resource shortage in North Norway is the decline of the fishery resources in the North, which, as we have seen, is due to a mix of factors where the more important probably are beyond the realm of national politics. Compounding the effects of scarcity are redistributed at national level, which has caused North Norway's share of the total Norwegian catch to drop from about one-third in 1977 to about one-fifth in 1990. As to cod, the change in distribution among various groups of vessels can primarily be attributed to natural variations and to changes in the regulatory scheme (Hersoug & Hoel 1991), in favor of coastal vessels. As to pelagic species, the regulatory system has allowed for a large-scale transfer of fishing rights from north to south.

[68] This seem to be the case also for other instances of international fisheries cooperation - cfr. Underdal 1980 for the case of NEAFC.

4. Prospects for the coastal populations

4.1 *Social disruption following the crisis*

The quota reductions for cod alone means that the inputs to the North Norwegian economy is reduced with figures in the order of NOK 3 billion, relative to early 1980's catch levels[69]. As the North Norwegian economy is to a large extent based on fish and the fishing industry one should expect that the economic upheavals resulting from catch reductions can be measured along traditional social indicators. It is however difficult to assess precisely how much of the scores on these indicators that can be attributed to the variations in the fisheries.

The decline in the population in most municipalities in Finnmark and the northern part of Troms (the two northernmost counties) in the latter half of the 1980's, as well as the generally stagnant population in most coastal communities, is basically a consequence of long-term changes in the age-structure of the population[70]. Also imbalance in sex composition in most communities is of relevance here (Jentoft 1991). The decline in in-migration (Eikeland 1991), which traditionally has contributed significantly to the population, may however to some extent be ascribed to the fisheries crisis.

The rise in unemployment to levels far above the national average, in 1990 at 13 per cent in Finnmark and at 17 per cent in northern Troms, was evidence of the decline in the fisheries sector and in dependent industries. The same applied to the soaring number of private and company bankruptcies. The biggest vessel owners in the north are now the banks, whose troubles in turn stems not least from the problems in the fisheries. Following the improvements in the resource base, unemployment levels have now dropped considerably, and are now generally low compared to other parts of Norway. In addition to such measurable social indicators, more intangible changes are also occurring: peoples' general outlook on the prospects of staying in their home district, and young peoples' attitude to the fisheries industry are being negatively affected[71]. Such attitudes do not co-vary with the fluctuations in fish stocks, and may take considerable time to change.

4.2 The general outlook

A basic feature of the public debate on the Norwegian fisheries policy is,

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69 A reduction in the cod catch of 100.000 tonnes corresponds in 1990 prices to roughly 1 billion NOK. The Norwegian cod quota, three-fourths of which are taken by North Norwegian fishermen, have been reduced with more than 300.000 tonnes since 1977.

70 Cfr. The report to Parliament No. 32, (1990-91), page 16.

71 This is by no means a feature of North Norway alone. On Canada's Atlantic coast the experiences are similar (Andersen 1989).

however, that it is almost devoid of reference to the international context fisheries management necessarily must be done in. This is reflected also in the debate on regime change. It follows from the above that the prospects for the North Norwegian population depends in large part upon the development of the resources in the Barents Sea - that is, on the performance of the bilateral fisheries regime. It is at the international level that significant advances can be made in management that renders the coastal population better off. It is obvious that considerable improvements in management are already made, as witnessed by the increase in the cod and capelin stocks, which to a large extent stems from the tight management. With a more directed effort at multispecies management, there is a great scope for deriving more benefits from the resources.

This raise two questions, first what are the obstacles, and second, who will benefit? As to the obstacles, international attitudes to harvesting of marine mammals is one problem, as the predators in the ecosystem need to be controlled if maximum production of commercially interesting species is to be achieved. The costs of freely growing marine mammal stocks are considerable to North Norway (Flaaten 1988, Heen 1989). Moreover, the fishing pattern has to be improved, which is difficult to achieve due to the complex legal situation in the area[72]. Related to this, in case of an Norwegian entry into the EC much is set to change, as the EC will take Norway's place as Russia's counterpart in the negotiations over the management of the Barents Sea's resources. This is by virtue of the EC's fisheries policy, which shifts the competence to manage fish resources from the member states to the Community. Thereby management strategies may change significantly. It is to be noted that the EC approach here amounts to a reversion of the process of transferring ownership and management rights to coastal states which resulted in the establishment of the 200 mile economic zone principle during the United Nations Law of the Sea negotiations in the 1970's.

This brings us to the second question - who will benefit from the results of increased stocks - those who have carried the costs by tight management or others? With the European Economic Area agreement negotiated in 1991, the EC is set to increase its share of the cod quotas in northern waters[73]. In

[72] Spanish fishing vessels, for example, in August 1991 landed catches consisting of fish averaging about 300 grams each, less than half the legal minimum size in Norway (700 grams/47 cm). Fiskeribladet 14.8.1991.

[73] There is two components in this: first an increase in the EC's general TAC share in cod in the Economic zone from 2.14 to 2.9 per cent, and secondly an additional amount (also in the Economic Zone) increasing from 7.000 tonnes in 1993 to 11.000 tonnes in 1997. Given a TAC of 700.000 tonnes in 1997, the EC quota in northern waters will therefore constitute 3.46% (Spitzbergen Zone) + 2.9% (Economic Zone) + 11.000 tonnes. This amounts to 55.500 tonnes, or 7.9 per cent of the TAC.

addition, also Greenland has obtained a share in Norwegian waters. In the fisheries negotiations with Russia in November 1991, the quotas set for third countries in 1992 did increase relatively much[74]. This trend was continued for the 1993 quotas. And Russia have since the mid-1980's gradually become less interested in transferring resources to Norway, and currently only a few thousand tonnes are granted to Norway this way.

As the ownership entitlement approach thus is being challenged at the international level, with other nations enjoying new privileges in coastal states' waters, an opposite tendency emerges in fisheries management at national level. A prominent solution suggested for improving management is to vest ownership rights with single actors, as companies or persons (Hannesson 1985, Strukturutvalget 1989). A consequence of this will be privatization of fisheries resources, leaving fishing rights in the hands of a privileged group of persons. Efforts to this end were however not successful, where the Government, following an extensive public debate, rejected the idea of individually transferable quotas. It is evident, however, that the coastal population in general as well as the fishermen more particularly more than before now has an uncertain legal foundation for claiming that the resources off their coasts belong to them, let alone protection from outside interests that wants to reap those resources.

[74] From 10.3 per cent (18.000 tonnes) of the cod TAC in 1991 to 11.5 per cent (30.000 tonnes) in 1992.

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TO SHARE OR NOT TO SHARE. THAT IS THE QUESTION OF THE COMMONS. Management under scarcity. The case of the Norwegian cod fisheries.

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Introduction

The introduction of the 200 nautical mile economic zone on January 1, 1977 gave promising prospects for resource maintenance and economic growth in the Norwegian fishing industry. Some few years later the scene was dominated by crisis in the arctic cod fisheries, an almost break-down of the stock and continuous quarrelling about the allocation of the diminishing quotas. The 1980s ended in the lowest quotas since regulations of the stock started some 15 years earlier.

This experience with management of a common property resource is hardly specifically Norwegian. It is shared by most communities and nations depending on common pool resources (CPRs). The reasons why such situations have developed seems not to be due to the lack of scholarly advice. The tragedy of the commons is thoroughly described and analyzed by numerous scholars in the field. Yet it seems hard to find a politically accepted recipe among the recommendations, ranging from market solutions, self-government to traditional top-down governmental administration. At least this could be said to be a prevalent problem in the Norwegian resource policy context.

Two main concerns have to be met in the policy applied.
Resource maintenance is the overall concern, not only because of internal economic considerations but also of our international judicial obligations. This is expressed by setting the MSY standard and the yearly TAC (total allowable catch) on the basis of scientific advice. And as Norwegian-arctic cod is a stock we are sharing with Russia, former the Soviet Union, close cooperation is needed to reach this goal.

The second concern is the one of *allocation* of the negotiated TAC. This implies negotiations both on the bilateral and on the national level. While an accepted allocative key is used for the allocation on the bilateral level, it has been far more difficult to agree upon the allocation on the national level.

Different sciences approach the above-mentioned problems in different ways.

But in the search for general bio-economic and management models it is easy to overlook the social-political and institutional context management is depending on. In other words, there are certain social-political limits for the application of approaches and models in a given society. A functional model of management is the one that stands the test of political scrutiny.

This study could be read as a warning against the search for general models in managing CPRs. If managerial models shall work, they have to be developed on the basis of the social-political realities they are meant to affect. We are not managing only economic actors, but also social, political actors. Our case study on the management of the Norwegian cod fisheries underlines this simple lesson, the necessity of having a profound understanding of the affected social-political setting in lining out workable managerial strategies.

The character of the problem is, of course, closely related to the actual status of the resource system and the amount of the national quotas. In situations with insufficient and shrinking quotas, the question of rights and favoritism enter the agenda. Negotiated obligations to let so-called third countries exploit the resources despite the hardships national fishing communities are facing make the allocative decisional process even more politically delicate.

We are here confronted with the problematic political balance between legitimacy, allocation and effective resource management. Legitimacy is a key word for understanding the relationship between government and the governed. As such, it is a fundamental concept in political analysis concerning characteristics and relations between input and output in any political system as the polity itself (Easton 1957, Beetham 1991). In a Weberian tradition, we may speak of different sources to authority. Although resource management is based on formal laws, other sources to legitimacy may turn out to be as important implementing managerial schemes. The affected actors own perception of what is legitimate in a certain context constitutes a political reality that often has to be dealt with. Legitimacy for social scientists is always legitimacy-in-context, rather than absolutely, ideally or abstractly (Beetham 1991). As an analytical concept it is rather vague and general and has to be specified contextually. We shall do so in later paragraphs.

The balance between legitimacy and political outcomes is essential for any government. So it is also in our case. What we shall focus on is the problem of shaping a national policy for sustainable resource development in this context. What are the options and the political limits? To what degree do the national allocative problems influence the political outcomes? The underlying problem we are facing is first and foremost the one of access to the resources and priorities under shifting resource situations. We are here dealing with a

fundamental problem in the literature about CPRs, the open access character of such resources and its implications for ecological and economic maintenance (Hardin 1968,Pearse 1981, Keen 1988).

Access and enclosure

The open access to the fish resources in the Norwegian waters have been considerably modified in the last 50 years. And even if we expand the span of time there has been different kinds of restrictions to take up fishery as a way of living, both formally and informally. Since the Rawfish Act was passed in 1938 the entrance to the raw fish market was more or less controlled by the organized fishermen. And to be registered as a fisherman in the public files to obtain professional rights and benefits, a minimum of documented fishing activity was needed. Only registered fishermen were allowed to have boats over 50 tons registered as fishing vessels, and this was a necessity if the boat was used for that purpose. By organizing and making use of the open political channels to the government in the 1930s, so-called outside, private capital and opportunistic speculations in the natural ups and downs of the fisheries was stopped by laws and organizations (Hallenstvedt 1981). This policy was even strengthened in the post-war period, although some exceptions had to be made to develop a limited fleet of trawlers and deep sea fishing vessels. The renewed trawler act of 1951 gave nevertheless protection for fishermen drifting with traditional, passive gear. Trawling continued to be licensed, limited in number with restrictions on fishing areas (Sagdahl 1982a).

Despite the substantial reduction of the number of fishermen during the 1950s and 1960s the pressure on the resources turned out to be too hard. The first fishery to experience the increasing scarcity was the rather industrialized herring fishery. The technological development had increased the efficiency far beyond the limit for a sustainable development of the Atlantic-Scandic stock of herring. The traditional open access to the fishery for those belonging to the enclosure of fishermen, and the lack of proper legal backing, made the introduction of licensing in this fishery belated and inadequate as a managing instrument to maintain the stock in time. The result was a total break-down with a following ban on industrialized exploitation of this resource. Some 15 years later the stock is still too small to be normally exploited, although there has been some recovery during the last years.

While the access structure to the herring fisheries could be formed by a national public policy, this was not the case with access to the cod fisheries in the north. The extension of the fishing border to 12 nautical miles in 1961, gave rather minor protection for the pressure on the resource from the growing fleet of foreign trawlers. With a transition period of fishing up to 6 nautical miles for a time period of 10 years for foreign trawlers, little seemed

to be gained by the extension of the border. The coastal fishermen who had pressed for an extension, were consequently dissatisfied with the solution and feared a coming break-down of the stock (Sagdahl 1982b). Besides, there was no limit for fishing cod in the nursery areas of the stock in the Barents Sea. Any restraints on Norwegian fishing on the stock would therefore just bring negative socio-economic impacts for the industry and the affected communities without any certain positive effect for the enhancement of the stock. Or if it did, it was a high price to be paid by the Norwegian fishing industry and almost impossible politically to bring about. The dilemma of this situation is a rather classic one in the study of collective action. Its logic leads to tragedy situations as the one described by Hardin. While a growing diminution of the cod stock was feared, the fishing effort of the international trawler fleet in the Barents Sea was just increasing.

But increased fishing effort and the lack of proper jurisdiction and managing tools to limit the effort was only one dimension of the problem. Norwegian purse seiners gradually increased their fishing on capelin in the Barents Sea after the break-down of Atlanto-Scandic herring. Later other nations followed. The food chain then became disrupted with severe consequences for cod, seals and other species belonging to the top of the chain. At least this could be maintained to be one of the reasons why severe imbalances in the ecological system became a fact at the turn of the 1970s. The growing exploitation of the shrimp stock had probably also some effect on the balance of the ecological system along with circumstances in nature itself beyond human control. The need for improved management of the ecosystem in the northern waters became evident. This implied restrictions also on the Norwegian fisheries in the north. A new fishing policy had to be formed and adopted and the question of formal, expanded limitations to the access structure in the cod fisheries became urgent in this respect. Allocative policy on the international and the national level could no longer be avoided.

Allocative policy.
Even before the economic zone was implemented, a policy of bilateral cooperation with the former Soviet Union to restrict fishing practice in the Northern waters was adopted. Since 1975 total quotas of cod and other species were yearly negotiated under the scientific advice from ICES. The maintenance of the cod stock nevertheless turned out to be unsuccessful. Despite growing restrictions on access to the resource, the improved management failed to give the necessary results. By the end of the 1980s the biological condition of the stock was worse than ever and in 1988 a situation of crisis was officially stated. Comprehensive restrictions both on inshore and offshore Norwegian fisheries in the Northern waters were introduced under a bitter political struggle. The old questions of whom was to blame for the

Tab. 1
Quotas and catches of Norwegian-Arctic cod 1977 - 91 (1000 ton)

	QUOTAS							CATCHES					
Year	TAC	Third count.	Soviet	Norway	T	Types of gear: Active	Types of gear: Passive	Total	Third count.	Soviet	Norway	Types of gear: Active	Types of gear: Passive
1977	890	150	370	370		180	190	945	146	370	429	161	268
1978	890	130	380	380		195	185	733	69	267	397	151	246
1979	740	90 (15)	325	325		135	190	485	40	119	326	132	194
1980	430	48 (8)	191	191		80	111	420	33	115	272	89	183
1981	340	35 (5)	147,5	157,5	5	60	97,5	448	38	83	327	76	251
1982	340	35 (5)	97,5	207,5	55	60	147,5	406	36	40	330	69	261
1983	340	35 (5)	65	240	87,5	60	180	328	33	23	272	68	204
1984	260	20 (4)	45	195	75	55	140	311	25	22	264	55	209
1985	260	20 (4)	55	185	65	55	130	336	34	63	239	63	176
1986	440	40 (15)	150	250	50	93	157	457	47	151	259	102	157
1987	600	56 (24)	202	342	70	177	165	553	51	204	298	174	124
1988	491	41 (18)	200	250	25	120	130	456	40	169	247	122	125
1989	340	28 (12)	134	178	22	62	116	353	39	134	180	65	116
1990	200	14 (6,4)	73	113	20	28,25	84,75	287	14	75	118	29	89
1991	255	18	108,5	128,5		29,12	97,87	251	19	79	153	32	121

The numbers in brackets denote quotas supposed to be caught in the protection zone at Spitzbergen.
T denotes quotas transfered from the Soviet Union to Norway.

situation aroused and who should pay the costs, dominated the public agenda as ever. Policies for the fisheries became a national matter, massive regional political mobilization with both organizational and political impacts occurred. This situation highlighted the political limits for solving CPR problems by public policy and the shortcomings of the policy in the past. Our intention is to sort out these limits, to reveal their consistence thereby shedding some light on some of the causes to resource management failure in the north. We will especially focus on the national allocative policy in this respect. Our thesis is that due to the national allocative problem, sustainable management of the stock became neglected. Why so?

Allocative political processes often take place in situations with formidable political pressure from affected interests and under considerable political noise. But whether such situations occur or not is above all dependent on the allocative object. If scarcity is the problem as often is the case in allocative public policy, there is a difficult process of legitimizing the allocative pattern.(Salisbury, Heinz 1970) Especially if the situation at hand has the character of a zero-sum or a minus-sum game. If so, some will become winners and some will become losers in the allocative processes. Not only is the character of the allocative object important in this respect. Groups dependent on the allocation will have different needs and claims addressing the allocating body. In the fisheries, we often find that local or regional dependence of the resources lead to a political pressure for unequal access. Equal treatment could be conceived as political-administrative favoritism if some of the affected interests maintain not to be blamed for the scarcity of the allocative object and that they are not willing to bear the burden of what other actors have caused. This implies that not only the character of the allocative object is important for the degree of political noise, but also the historical setting and the involved interest structure.

In the process of allocating the Norwegian quota of Norwegian-Arctic cod, the government is confronted with different demanding groups and socio-political considerations. First and foremost we have the coastal fishermen in the north and the belonging communities. The cod fishery is the backbone of the economy in the north and especially at the coast. Problems in the cod fishery will easily affect most of the economic structure of the dependent regions and above all the labor market. Both local and regional public authorities will therefore take a strong interest in fishing policy and how it is performed. Some communities are dependent on trawlers and freezing plants, but these are few in number compared to conventional processing. A split of interests between active and passive gear and the belonging industry can be noticed in this connection, but by and large the coastal fisheries constitute the main interest in the north with a rather great potential for rallying political

support. This implies regional departments of political parties, members to Parliament, organized interest groups as well as general public support.

Allocating cod quotas also affects the fishing industry at the west coast. This industry is generally more capitalized than in northern Norway both at sea and shore. With general decrease in availability of fish resources at the west and in the south, ground-fish fisheries performed by trawlers, factory trawlers and the unlicensed, growing fleet of auto-liners have become more and more dependent of the cod resource in the north. As the west coast has a more complex economic structure than northern Norway, the possibility of gathering a similar degree of political support is less. But the image of having a modern, competitive fishing fleet and its importance for coastal communities and the national level as well, have been turned into a political asset both within the fishing industry and on the national level.

Allocating scarce resources and securing a sustainable development by governmental policy and administration seem on this background to be a risky political project. Government is here confronted with considerable political tension. The tension between those fishing with active (trawl) and passive gear(nets, lines etc.), capital-intensive versus labor-intensive forms of fishing in a period with growing unemployment, especially in the coastal areas in the north, and a developing regional conflict imbedded in regional political networks with open channels to the national political level. Members of Parliament are above all regional representatives. Besides, one of the traditional political bases for the Labour Party in northern Norway is the coastal areas. And the party has as such had a rather close cooperation with the Fishermen's Union being parts of the same social-political movement in the north (Hallenstvedt 1982).

With the exception of a department within the Labour Union, offering membership to the crews of the industrialized fishing fleet, the rest of the Norwegian fishermen are more or less organized through the Fishermen's Union (Norges Fiskarlag). Whereas the union on the regional level channels the interests of the coastal fishermen of the north, it turns out to be a more complex organization on the national level. As an umbrella organization, it adjusted to the differentiated structure of the fishing fleet that developed and comprises today the above-mentioned tensions. The negotiated decisions that follow from such an organizational structure, may differ considerably from the more homogeneous interests advocated by its northern members. Organizational voice and dissatisfaction with its way of functioning has become a dominant trait of the organizational debate in the north. In 1988 it led to a split as a discontented group of coastal fishermen formed an alternative or rather supplementing organization, Coastal Fishermen's Union.

So far, it has not succeeded in getting a formal status within the Fishermen's Union. Nor has it been accepted by the government and the Ministry for the Fisheries as a functional actor in the governmental organizational network (Sagdahl 1992a).

To form and implement a resource policy and allocate scarce quotas in such a context, easily challenges the political authority of the responsible government minister and the legitimacy of the decisions. Fishing policy is besides formally linked with the general district policy with a responsibility for employment and the general economic well-being for communities and regions linked to the industry. These are officially stated political goals along with more narrow industrial goals as resource maintenance and economic industrial efficiency. The potential for goal conflicts are therefore manifold as the one or another is activated. The character of the blend decides the political reactions. But in situations where the allocative goods are scarce and diminishing, the allocative decisional process will easily be lifted out of the quiet scene of routine policy to a one afflicted with political noise and contending parties. And as the final outcome has severe consequences for economic maintenance and stock enhancement as in our case, the room for political action is limited. International and bilateral obligations complete the political scene in this respect.

Our question is how to legitimize allocative decisions on this background? Legislative backing is of course a prerequisite but not necessarily sufficient to give political room for decisions without severe political costs. Giving co-influence and co-responsibility to the affected parties by corporate political-administrative bodies is a well-known governmental technique in such situations.(Olsen 1983, Cawson 1985). An advisory body for resource regulations has been put up long ago, back in the early 1970s, but with decreasing quotas and growing concerns, its representativity has been questioned by the coastal fishermen in the north.

Attaining legitimacy to the decisions by sticking to scientific advice is another source, but the scientific validity of this advice has been challenged by the fishermen's own experiences and impressions of the present state of the resource. Later admittance of inaccurate prognoses has weakened the political functionality of this legitimacy source. Almost paradoxically, it has still become more political important both nationally and internationally as situations of resource crisis have come about. But it is also in such situations that the problem of legitimacy is stressed and challenged by the affected parties. Unacceptable political costs for the responsible government will therefore easily follow a situation any government seeks to avoid in a parliamentarian system like the Norwegian one.

The above-mentioned sources of legitimacy could be systematized as procedural legitimacy and scientific legitimacy. A third source should also be mentioned, what we here according to input\output analysis choose to label outcome legitimacy. If the affected actors are more or less content with the political- administrative outcomes, the two other sources will become less activated. But in allocative situations where discontent, protests and considerable political noise dominate the scene, all the sources of legitimacy will easily be challenged by the affected actors. A situation of reduced quotas of cod with no escape route for the affected actors (zero-sum, minus-sum game) illustrates such a scene. Allocative decisions in such situations will easily imply considerable political costs unless the character of the situation can be redefined in some way or another.

The allocative pattern

Regulatory policy in the cod fisheries seems on this background to be a political challenge where any government may easily become unpopular by those affected. The coastal fishermen in the north have not defied regulations as such, but maintained that those who had caused the situation should also pay the price of restrictions to the resource. Since the 1950s they have pressed for access limitation to the resource by extending the fishing border and thereby limiting national and foreign deep sea trawling. The extension of the Icelandic fishing border in 1972 reactivated their demand. They feared a break-down of the resource if the capital intensive fishing effort was not restricted and above all the consequences for themselves and their communities.

Up to 1980, the coastal fishermen avoided being a target group for the expanding regulations of the fishing effort on Norwegian-Arctic cod. To solve the national allocative problem, thus preventing political noise and a possible compliance problem, Norway had in the newly established bilateral commission with the former Soviet Union negotiated an exclusive right for those fishing with passive gears. Those could go on fishing although the national quota was reached. The result was a massive overfishing of the total quota of cod for most of the regulative period up to 1988. And when the resource situation made more comprehensive regulations necessary from 1980 on, included restrictions on the coastal fisheries, the government got its first lesson on what was to come. Believing not to have caused the depletion of the resources, the coastal fishermen in the north regarded it illegitimate to have to bear the burden of a time limited fishing ban that was suggested. Considerably voice was uttered and even threats of civil disobedience (Sagdahl 1989).

What the coastal fishermen consider to be fair management and acceptable

distributional solutions in times of scarcity, seems to be closely linked to their perceptions about causal explanations to depleted resources. Deep sea trawling has since it started in the 30ies been considered to be a threat to resource maintenance. And not only because of its efficiency and the amount of total catches, but also because of the gear's unselective character when used in typical nursery areas. Saxi argues that the resentments against deep-sea trawlers have become a part of the cultural pattern of the coastal fisheries, especially in the county of Finnmark, the county with the longest and strongest experiences of national and foreign trawling (Saxi 1988). It should also be added that the Norwegian trawlers were initiated and owned more or less by the fish producers, and that most of them still are closely integrated with the fish processing industry. Besides, they have over time been considered to constitute a supplementary fishery to the coastal fleet. That was the very rational behind the trawler act of 1951, that regulated the development of Norwegian deep-sea trawlers (Sagdahl 1982 a). The coastal fleet's major position has later been stated in several policy documents. So, when distributional questions of scarce resources came to the fore in the 80ies, the coastal fishermen's perceptions of what was fair management and allocation of quotas were nourished by a traditional cleavage at the coast and backed by a causal model of thinking about the occurrence of the break-down of the resource system. And the resource crisis itself was the final evidence to the validity of their explanatory model of thinking.

To form and implement a policy that favors sustainability of the resource system will easily be outweighed by the distributional problems in such a situation. Our table reflects some of the regulatory political problems government has been facing. The discrepancy between TAC and the total catches, quotas given to third countries in a situation with national scarcity, the overfishing for years of the Norwegian quota, convey a message of an underlying political landscape not easy to handle for any government. But in 1988 there was a change in the problem structure, when almost a state of emergency was declared due to the reported status of the cod stock. Improved models and new data made the former optimistic message from the marine biologists into the one of crisis. Drastic reductions of the quotas were needed and a sudden stop in the overfishing possibility for the Norwegian coastal fishermen. While the 1980s had given hopes for resource conservation through extended regulations with prospects for enhancement for the last part of the decade, a contrary situation had arisen where all groups of fishermen had to share the extended burdens of regulations. The political costs of enforcing detailed regulations upon the coastal fisheries could no longer be avoided. Up to 1988 we find that the regulating authorities had met the compliance problem of the coastal fishermen by following at least four supplementary strategies.

First, the size of the total quota was increased somewhat over the biologically recommended one, or the maximum quota was chosen in situations where options were recommended. By doing so, the formally zero-game situation gave better opportunities to avoid national allocation conflicts.

Second, the negotiated right to have the opportunity of exceeding the quota by fishing with passive gear turned the zero-game allocation situation into a plus-sum situation for the most numerous group of fishermen. In reality no fixed quota existed for this group until 1989, where the stated resource situation made this negotiated right impossible to go on with.

Third, the Soviet Union was willing to transfer a considerable share of its cod quota in exchange for Norwegian quotas of other species. Thereby the allocation situation became improved and conflicts could more easily be avoided.

Fourth, the negotiated quotas for third countries were considerably reduced, although not to the size demanded by the coastal fishermen in the north. Giving away shares of the quota was regarded unacceptable when Norwegian fishermen had to bear the burden of reduced fishing.

This strategy was regarded politically functional up to 1988. Except for two periods with bans on fishing - lasting some few weeks - there had been no set quotas for the coastal fishermen in the north. This does not imply there was a general agreement on the policy. The fishery closure during the seasonal fishery of spawning cod at Eastern had been heavily criticized since it was introduced in 1980, being very economically important for those fishing with passive gears. Also the extended week-end restrictions on fishing that were introduced in the midst of the 1980s were fought. One important underlying reason was the general decline in the availability of cod at the coast. The important seasonal fisheries at the Lofoten Islands and at the coast of the northernmost county (Finnmark) some months later had shown a decline since 1984. Spawning cod were reported to be meager, the growth of the immature part of the stock was slowed down, seals invaded the coastal waters in the north with severe consequences for the availability of any species of fish in affected areas and hence the economic sustenance of the fishermen involved. The ecological system in the Barents Sea seemed to be out of order, the coastal fishermen feared for their future and pressed unsuccessfully for a sudden reduction of the deep-sea trawling on immature cod. The backing from marine biologists was lacking in this respect. Their prognoses reported stock improvement and "better times" at the turn of the 1980s (Sagdahl 1992a). In the spring of 1988 these experts had on the contrary found the situation to be

alarming. Severe administrative measures had to be taken to avoid a complete break-down of Norwegian-Arctic cod. The most important one in this respect was the suggestion of the use of boat quotas for almost all kinds of vessels. All groups of fishermen had to be affected. The reactions followed immediately.

Regional political mobilization

The new recognition of the state of the cod stock led to a renegotiated reduction of the quotas for 1988 and a major reduction for the following years. Besides, the coastal fisheries became an important target group for extended regulations from now on. Their right to overfish the national quota of cod was dropped. Access to their main resource was utterly reduced by administrative measures. The introduction of individual boat quotas for all parts of the fishing fleet was heavily disputed. Some former participants were even closed off as the quotas of cod were allotted on the basis of average catches over the last three years. Economic sustenance became difficult and led to a reduction of crew and even to bankruptcy and selling off their boats for some. The economic and social fabric of many coastal communities became endangered and led to a comprehensive social and political mobilization.

While the resistance against restrictions on coastal fishing on cod had been previously made up mainly by coastal fishermen and their local and regional organizations in the north, heavier political actors entered the political scene. Local politicians and mayors of coastal municipalities with national and regional political networks came into the foreground. Wide support was rallied among different groups and professions. Formal movements were established and environmental interest groups got unexpected allies demanding a new policy for resource maintenance and the fisheries in the north. Mass meetings of fishermen and other coastal citizens demanded that the responsible minister leave his post. The conflict was covered by the national media and coastal problems in the north were highlighted.

The regional mobilization that was triggered off in the wake of the resource crisis led also to a political focusing on the regional allocation of fish resources in general and how the capital-intensive fishing fleet from the west coast had increased their share of the available resources during the 1980s. The northernmost regions dependence upon the resources in the Barents Sea and the northern waters became a hot topic. A policy of regionalization of access to the resources was advocated by influential actors, leading county politicians and the public county assemblies in the north. Preparatory steps were taken to form an alternative fishing policy based on a regionalization of fishing rights by regional quotas and a licensing system. This represented a severe challenge and a political attack on the present fishing policy and caused political mobilization also in the western part of the country.

Another momentum should also be noted in this respect. Coastal fishermen in the north had for a rather long time been dissatisfied with their national interest organization, the Fishermen's Union, and its way of functioning. One argued that its heterogeneous character had prevented it from being an efficient advocate for the coastal fisheries in the north. This judgement became utterly nourished by the disputes over regulations and the pattern of quota distribution. A new organization was formed, challenging the established interest structure of the industry and its political-administrative network.

Forming and implementing a policy to meet the reported resource crisis strained the traditional base of legitimacy under the conditions mentioned above. As the Ministry of Fisheries was forced to abandon the former strategy due to the biological status of the cod stock and Norway's international responsibility as a co-manager of the stock, the policy was from now on strictly derived from the advice from ICES. The zero-sum situation that rapidly developed into a minus-sum situation at the turn of the 1980s made the national allocation an extremely difficult administrative task. The regional challenge from the north would easily lead to comprehensive political costs for the governing political party and especially for the responsible minister. The Labour party which recently had taken over the governmental responsibility was in particular politically vulnerable for political pressure from the north. Besides, the new minister for fisheries was an elected parliament member from the Finnmark, the northernmost county.

Formally, the allocative decision was an administrative and not a political matter. The political implications were nevertheless unquestionable. A negotiated order was needed. The advisory body, the Council for Resource Regulations, formally had a mandate to suggest a solution, but without the consent of the Fishermen's Union it would not work politically. The organization possessed the key to the problem of allocation. What we here find is a typical corporate solution to a political problem (Lembruch, Schmitter 1979, Cawson 1985). Framing the factual policy was left to a private organization outside government, thereby obtaining a sufficient legitimacy base to solve the allocative question. The top executives of the organization had their meeting close by giving advice to the council. The press from the local organizational level in the north and the organizational split gave a recommendation that favored the coastal fisheries in the present situation. No other option seemed politically possible. The coastal fisheries came out with 75% of the quota, but this relative share was to be reduced if the Norwegian quota became increased in the following years. If so, the trawlers share of the quota was to be increased.

Although this could be regarded a temporary victory under the present situation, the scientific justification for the extremely low quota was besides questioned by the affected fishermen. They experienced at this time a growing availability of cod despite the scientifically stated status of the stock. The fish seemed also to be in a good condition. The food base had been improved. Both the herring and the capelin stocks were in a state of recovery. The marine biologists and ICES had earlier proved to be mistaken in their calculations. The skepticism towards their science and advice was higher than ever. Consequently, there was a demand for an immediate increase of the quota of cod.

While the 1980s started with access limitation to the resource by regulatory measures and prospects for a gradual deregulation when the stock had recovered, the decade ended in a situation of crisis, biologically, economically and politically. The policy that up to then was formed to meet the situation as it developed had the character of being ad-hoc. It was meant to be temporary. But the need for a more long-range policy to avoid the experienced resource fluctuations and the political costs of administration became apparent as time went on. However, to form a functional policy under the present circumstances was more than a challenge. What could be regarded functional for sustainable management of the resources could easily turn out to be politically non-functional.

Functional policy solutions

The introduction of the economic zone in 1977 gave an impetus for long-range planning and development of the fishing industry. The policy document that passed Parliament in 1978, forwarded by a social democratic government, regarded further access limitations to the groundfish fisheries in the north as necessary. Deep sea trawling was to be reduced and the coastal fleet to be favored. The rapid and rather unexpected decline of the resources, especially the cod stock, made the policy document obsolete even before its implementation. The revised plan that passed Parliament in 1983 under a non-socialist government differed to the previous one by favoring market solutions to hierarchical management. This new policy direction was later followed up when the Ministry of the Fisheries in 1989 presented a preliminary working document where the access problem and the classic tragedy of the commons was to be solved by the introduction of privatization of fishing rights and individual transferable quotas(ITQ).

The influence from fishery economists and other coastal states as New Zealand and above all Iceland was noticeable. But the political setting was different. To launch a policy based on privatization of the fishing rights would represent a

fundamental shift favoring those with access to financial backing. The capitalized part of the fleet regardless of regional affiliation would profit from such a policy. If such a policy was carried through without any modification, the coastal fleet would in the long run be the looser and hence the marginal districts in the north. The regional conflict as well as the other conflict dimensions in the industry became activated. Hence, the political institutions in the north took an interest in the shaping of a new policy, a policy that should favor the region.

The regional conflict dimension in Norwegian politics is the oldest and probably the most fundamental one of the ones structuring Norwegian politics. This dimension does not follow the lines of the political parties, but exists within the parties (Rokkan 1987). The crisis in the cod fisheries had activated this latent conflict dimension. The reorganization of the county administration in the 70ies and the following development of both the political and administrative level throughout the 80ies, had besides led to new political arenas eager to be activated as regional political instruments, constituting a meeting-place for problems, participants and solutions. And the regional consequences of the resource crisis were a perfect case in this respect. The parallel development of Landsdelsutvalget, an advisory regional body for Northern Norway, used its budget and organizational network to supply the documentation needed. Natural resources that belonged to the region should benefit actors and communities in the north and not the distant fishing fleet belonging to other regions or even foreign countries. There was broad political support for these positions across the lines of the political parties.

The highly disputed Norwegian relation to The European Community (EC) did also contribute to the activation of the regional conflict dimension. Besides, the EC question activated all the conflict dimensions in Norwegian political life. Although shaping a new fishery policy and the governments aspirations for a future membership in the EC were different political processes and with different backgrounds, they coincided in time and were regarded by influential groups in the coastal areas to be closely linked. Political resistance could easily be rallied on this background, especially in the north. The fear for increased market solutions and growing pressure on the resources of the north, are widely shared among the inhabitants, especially at the coast. The general political frame for launching a shift in the fishery policy to management by market mechanisms was in fact the worst thinkable. Public opinion polls gave discouraging results for The Labour Party government, especially in its northern stronghold. The public hearing of the preliminary policy document returned the message of more losses of voters in the north if this policy was carried through. Both local and regional departments of the Labour Party in northern Norway rejected the proposition. That ended

politically the ITQ suggestion. Another policy had to be outlined.

The rewritten policy document turned back to the principles laid down by the Labour Party government at the turn of the 1970s. The coastal fleet was the one to be favored due to its positive impacts for economic maintenance of the coastal districts in the north. The overcapacity of the fishing fleet, it was argued, was found in the bigger, deep-sea fishing vessels and expanded licensing was recommended for this part of the fleet.

The former discussion of the access problem and the use of market mechanisms was not in the fore any longer, obviously for political reasons. The political problems of legitimizing such a policy under the prevailing circumstances had been too great a challenge. This could be read out of the policy document itself. There was, however, a considerable discrepancy between the general analysis and its policy recommendations. The urgency of the matter gave no time for a complete rewriting of the document. Besides, the analytical model of thinking could also probably be said to mirror the prevailing analytical approach found in the ministry. Although the ITQ question was left in the dark, some of the propositions could be linked to the market model of thinking found in the ministry. The introduction of a resource fee could be said to fall within the established analytical frame. Whether this remedy will have any effect for entry limitation or not is dependent on the size of the fee. What is more important as a political signal is the involved principle as to the open access structure of fish as a common property resource. The proposed fee reflects a new way of thinking in this respect.

The proposition of making a new public record for registration of fishing rights should also be noted. Formal qualifications, not only experience of fishing, should be demanded as entrance tickets. Both these propositions may have impacts for the coastal fleet for access to fishing rights. Over time the enclosure of the commons will probably be narrowing if these policy recommendations become implemented. None of these proposals were justified by referring to any access structure as a problem for biological and economic maintenance. They were more or less presented as practical propositions to reduce management costs and to improve unreliable public data on registered fishermen.

Making a split between the coastal and deep-sea fishing fleet by direct limitations to fishing rights is above all justified by its political functionality. The experiences from the 1980s show that limiting resource access by a detailed regulatory system for the coastal fleet will be perceived illegitimate (Sagdahl 1992a). The new policy document underlines the importance of

perceived legitimacy of the political-administrative measures for its efficiency. An important political lesson seems apparently to have been learned. The document also stressed the importance of control and the improvement of this variable for successful resource management. Here we are facing another limitation to sustainable resource management by policy solutions on the national level.

Legitimacy and control

While the legitimacy of restrictions on fishing rights are questioned by those believing themselves not to be blamed for the situation that has arisen, the gravity of the situation may demand comprehensive action to be taken. Not only the allocation of benefits is important in this respect, but also the allocative pattern of burdens is important for perceived legitimacy and compliance to the administrative measures taken. This is not only important within industry at the national level, but also on the international level in the case of the resources in the Barents Sea. The motivation for subjection to national or group limitations is closely linked to the perceived compliance by other nations. The coastal fishermen in the north have consistently been complaining of suspected illegal fishing by vessels from the EC and especially from Russia, formerly the Soviet Union. These suspicions are rather widespread in the north although insufficiently documented. Several reported cases of illegal fishing indicate that the problem of overfishing seem to have far greater proportions than earlier expected.

But it is the belief whatever justified or not, which constitutes the political reality. Reports of uncontrolled fishing by EC vessels outside the economic zones in the Barents Sea, a situation similar to one of the east-coast of Canada (Sullivan 1989), have also nourished the criticism of the insufficiency of the control regime. Former irregularities of fishing and shortcomings of the surveillance system in the fishing protection zone around the isles of Spitzbergen have also constituted a management problem. These events and the shortcomings of policing the implementation of rules laid down in the resource policy and negotiated treaties have undoubtedly influenced the compliance problem in the Norwegian fisheries in the north. What is more, the uncertainty of impacts for a sustainable resource management is even a bigger problem. Both stock estimates and predicted impacts by the set quotas will be affected by unreported catches. An improvement of management control is therefore decisive for improved legitimacy and the efficiency of the regulatory measures.

The motivation for abiding regulatory statutes and to stick to low quotas in the domestic fisheries will naturally be influenced by the above mentioned momentums. Especially for those believing to be unfairly treated and that the

TAC has been set too low. The road to overfishing and the use of black markets for selling the illegal catches is not long under such circumstances. Individual benefits to solidary misery could easily be preferred in such situations. We are here confronted with the well-known problem of free-riding where organizational bounds turn out to be insufficient to control and discipline self-interested actors (Olson 1971). Solidary behavior will in this case just favor those who break away, who goes on fishing regardless of given quotas and regulatory prescriptions. The fact that part of the cod stock and the vessels operate in international waters, makes solidary behavior even more difficult to come by. The need for improved management and especially of monitoring and control seems today to represent a major challenge to the sustainability of the resource system in the area.

The transition to multi-stock management models as signaled by the government could also be said to necessitate a better policing system. Such a management scheme implies easily disputed decisions in a fishing industry made up by specialized and differentiated fisheries and its supporting economic activities ashore. Industrialized capelin and herring fishing has to be balanced against the bio-economic considerations of the cod fisheries and whaling. Which interests to be favored are not merely just economic and biological questions in the light of professional models, but also a question of political networks and political realities. The political pressure from economic actors in the industry is diverted from their own investments and economic needs, not the well-being of the industry and the resource system as a whole. While the trawler interests were pressing for increased quotas of pollock in the fall of 1992, the coastal fishermen were protesting referring to the observed depletion of the stock. Multi-stock management may therefor when implemented turn out to be otherwise than intended. And if carried through by stressing political and administrative authority under heavy protest from discontented fishermen, the probability for illegal fishing and monitoring efforts will increase. This dilemma can hardly be avoided if multi-stock management ever shall be designed and implemented.

Towards a new management regime?

An improvement of just the Norwegian control system would not suffice to solve the problems of legitimacy and compliance. The resources in the Barents Sea are bilateral resources with Russia, and to improve the efficiency of the control system, Russia has to be included. Besides, there are special problems of control in the protection zone at Spitzbergen and the jurisdictional problem of fishing activities outside the economic zones. These are special challenges that need special solutions on the international level.

The big question is how to organize an efficient surveillance and controlling

system? The prevalent model of thinking is diverted from the national judiciary system. Besides, the character of the former regime that Russia was a part of, supported this way of thinking and did not invite to cooperative solutions on the bilateral level. The political presuppositions for closer cooperation in policing the northern waters were lacking.

To solve the compliance problems by public deregulations and self-governing systems of the affected parties or by the formalization of local informal systems of cooperation have been advocated by a number of scholars (McCay and Acheson 1987, Jentoft 1989, Pinkerton 1989, Ostrom 1990). But the Norwegian fishing industry consists of contending actors not easy to reconcile. And there is a long political tradition of regarding the public authorities as the natural problem solver. Environmental pressure groups have also taken an interest in the management of the resources. Besides, we have the bilateral and the international aspects. On this background top down management seem to to be the most plausible organizational approach (Sagdahl 1992b). Especially when dealing with matters concerning legal authority and bilateral questions no other approach seems legitimate or functional. Still it is a question how to organize to improve the compliance problem.

To regard the ecological system of the Barents Sea as an undivided unity regardless of national economic zones could be said to be a legitimate starting point. The present administrative institutions involved in administration of this ecological system are divided both on the international and on the national level. They are parts of different political-administrative networks partly stemming from their functional differentiation and historical background. Both conflict and cooperation is found within and between these networks. Their functional potential for securing a sustainable development of the ecosystem is limited as to the complexity of the problems they are facing. Their ability to handle policing functions have been questioned for a number of years and the need for improved efficiency has in the Norwegian context become a politically recognized fact.

If the ecosystem of the Barents Sea was the only consideration to be taken regardless of national economic zones and borders for forming functional institutions for sustainable resource management, then bilateral co-administration by one organization located in the area could be said to be preferable. Such an institutional framework for the policing functions will undoubtedly give improved possibilities .The political reality of such a solution can of course be questioned. Not at least will the mere existence of established institutions form a bar for such a development. The imbedded interests of their present localization and networks will easily make any transformation unrealistic. Institutional transformations and relocations are heavy political processes not easy to carry through.

The political orientation towards an eventual membership of the Common Market could also be said to constitute an obstacle in this respect. Some of the EC countries have a strong interest of getting extended access to the fish resources in the north. Any institutional change has to include the EC fishing interests in the institutional framework if membership becomes a reality.

The present improvement of the resource situation in the Barents Sea could also be said to be working for institutional conservation instead of institutional development in a regional and ecological context. But increased resources have also led to increased catch efforts in the area, also in the international loophole beyond the control of the nation state. Both international law and the present organization of management and control seem therefor to be out of correspondence with the problem structure as it has developed. And the long-range effects for the ecosystem become consequently harder to foresee. That is why the importance of solving the problems of control will probably become the greatest challenge in the years to come, if a sustainable development of the ecosystem of the northern waters ever shall be reached.

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RECENT ATTEMPTS AT REGULATING THE HARVESTING OF THE NORWEGIAN ARCTIC COD

by

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Introduction

Solving the problem of the commons in arbitrarily assumed environments is easy. All you need is a model of the fish resource, a Schaefer curve and some assumptions about fishermen's behavior. Finding practically operative and politically legitimate solutions to the complex of problems involved in actual traditional fisheries is a very different task. Usually "the twain never meet". One sort of people do one thing and a different sort of people do the other. Or worse, because it is so difficult to solve the second task, energy is spent on solving the first one *instead,* which may involve *making* empirical conditions conform to the arbitrarily chosen assumptions of the model. Anita Maurstad (1992) has even demonstrated that Norwegian attempts at regulating the North Norwegian smallboat fishing have tended to *create* the assumptions of common property theories: Unlimited acquisitiveness, disregard of the aggregate effects of individual choices, elimination of *informal* limits to harvesting efforts, and, as a consequence: Overfishing.

In seminars such as this, I have met people who feel that they need no empirical knowledge of the region, people or culture in question, as they possess analytical tools which work under all conditions, and which make regional variation appear as background noise. They tend to deliver identical solutions when asked to give advice to governments responsible for very different regions, resources, peoples and cultures.

I hope that I have been knocking down open doors now, but one can never be sure. So I find it necessary to start out by giving you a short sketch of the realities of North Norwegian fishing, stressing features that may be little known to people from afar.

Salient features of north Norwegian fishing

1. First of all, one has to keep constantly in mind the immense richness of the fish populations feeding on the phytoplankton-based food system of the Barents Sea. Mere numbers are of course meaningless to most of us, unless put in relation to something graspable: In the 1970-ties, the migratory capelin every winter transferred a biomass of 2 million tons from the Arctic to the

Finnmark Coast. If we divide this enormous crop by the population of this province, i.e. 70.000, we end up with 30 tons per capita, i.e. 150 tons to a family with 3 children. That equals the milk production of 50 cows.

I have given these numbers just to stress the abundance of North Norwegian resources in relation to the regional population, ignoring the problems posed by the interest of "outsiders", i.e. the global fishing fleet, in the Norwegian-Arctic cod and the other rich resources of the area. There are resources enough in the Norwegian waters to secure the actual population of North Norway a level of welfare that compares well with the rest of Europe.

2. This should indicate that fishing is no marginal occupation in the region, a primitive activity that people have to fall back upon if they have no other ways of making a living. A very simple calculus can show the potential of fishing to "squeeze out" other activities, to the extent that the abundance of natural resources may be blamed for the late, slow, erratic, and mainly failed attempts at "industrializing the region":

A reasonably good daily catch:	500 kg à NOK 8,-	=	4.000 kr,
minus 8 hours of ordinary labour à NOK 50,-		=	400 kr,
minus other variable costs: approximately		=	100 kr,
gives the following incentive to fish		=	3.500 kr.

My simple point is that fishermen's earnings on good days easily comes to several times the current wages. A calculus made up for the 1950-ies would look alike, only that fish prices as well as wages would be appr. 1/10 of the present rates. Before the Raw Fish Act of 1938, however, fish prices would reflect the shadow price of the fishermen's labour, and sometimes come very close to zero. But since the fishermen's organizations got control of the landing price, we may safely say that the Northern coastal population has been living - not from the labour of their hands, nor from the interest of their invested capital, but from the resource rent provided by the abundant Nature.

3. It is also very important to keep the political context of North Norwegian fishing in mind. Up to the last years, the small boat fishermen have been able to block any reforms visibly threatening their livelihood. Outside capital has been effectively kept out of primary fishing even through a long time into the postwar period. When ship-owners tried to close off whole fjords with big nets in 1890, they were chased away by thousands of angry men waving fishhooks. These tools were soon after replaced by the parliamentary vote, which were used to legislate against non-fisherman capital, keeping outside forces away until many years after the war, when trawlers were given to certain fish plants. The differentiation tendencies within the egalitarian fishing

communities were curbed during the first postwar period by many propertyless fishermen being made able to buy their own small boat. But at the present time, the "haves" seem to cooperate to remove the right of the "have-nots" to fish in the commons. But the main point is that fishermen could never be ignored in the national political processes. Even today, the Norwegian Prime Minister has stated that Norway cannot join the EEC without the consent of the fishermen.

This indicates that there are very narrow limits to what solutions to the problem of the commons can be proposed in Norway. Outright marketable quotas have been tried out in discussions, but withdrawn because of opposition from the coastal fishermen.

4. Given the richness of marine resources in Norwegian waters, and the political influence of the fishermen, one might wonder why "the tragedy of the commons" has not occurred long ago, as it should according to the model. People kept fishing from the Stone Age to the 1970-ties without any indication of depleting the stocks, except locally and temporarily.

I have tried to explain this elsewhere (Brox 1990), with reference to the migratory nature of most fish stocks, and notably cod, considering the limited mobility of the fleet. But the limited "appetite" of peasant households as economic decision makers must also be taken into consideration, as well as the limits to marketing in this remote area. Whatever growth occurs in the fishing effort would basically be due to population growth, and as long as the expansion in fishing was "horizontal" in this sense, the carrying capacity was not exceeded. This did not happen before the fish could be pursued everywhere the year round, and marketed at any time, small fish as well as mature ones. Overfishing was not a consequence of population growth. - As we shall see, some practical conclusions may be drawn from that.

5. Twenty years ago, one could have constructed institutional solutions to the problem of the commons without paying any heed to the employment implications. At that time, the mobilization of labour was considered to be the bottleneck in Norway’s growth process, and anything that could "release" labour from the primary industries would be welcomed by national planning authorities, if not by local communities. There was a marked shortage of labour in all centers, in the provinces as well as in Oslo. This has completely changed by now. There is no need nowhere for redundant fishermen, and each of them by necessity would increase the number of families on welfare or unemployment insurance by one. Thus, there is no need for solutions that presuppose a reduction of fishery employment. Otherwise, it would be a case of making the fisheries more "profitable" through measures that made the

whole economy less profitable. A regulating system that tended to reach equilibrium by shedding manpower may serve certain fishing interests, but increase the problems of the nation at large. Any krone earned in the fisheries by reorganization would then have to be paid through the national systems responsible for individual welfare.

What should a regulating system do?

Most institution builders in this field are usually content to demand that a regulating system 1) keeps the actual harvest within sustainable limits (TAC) and 2) keeps the effort down to what is necessary to harvest the TAC, i.e. avoid too much zero-sum competition among the harvesters. With reference to my sketch of the historical development of North Norwegian fishing, and the actual situation of the coastal population and the economy of the nation, I find it right also to demand that 3) the right to fish should be kept open to the whole coastal population - within limits set by the two first conditions.

The reason why the common fishing grounds must be kept open, should be obvious: If and when the fish resources can be restored, the attraction of fishing, as compared with any other way of making a living, by the lesser educated in the fishing villages, will make it impossible to keep the right to fish "closed off" to the benefit of an arbitrarily selected few. The legitimacy of the regulating system and the authorities generally, will not survive a situation where Tom will have to accept unemployment insurance, or very low paid work ashore, whereas his brother Harry is allowed to make 5000 kroner a day through an activity highly valued by both. This is a problem that cannot be solved by means of police, fines and prisons. The political repercussions, and the possibilities to institutionalize a regulating system, should be obvious. - Thus, keeping the common open is not only a question of social justice, but also a question of legitimacy and of economizing with the resources of the nation.

The performance and potential of alternative systems

I will now compare the institutional arrangements actually tried out or proposed in Norway, especially with regard to whether they promise to fulfill the 3 demands specified above.

Briefly, the alternatives may be described in these terms:

1. ***Dualism*** is based upon the traditional difference between off-shore trawling and coastal fishing with passive gear like gill nets, longlines, and handlines. Basically, the trawlers are given a certain share of the total allowable catch, e.g. 35%, from which each is allotted a certain number of tons. The inshore fleet can freely compete for the remaining 65%. Even if certain attempts are made to keep down the number of inshore fishermen,

there is in effect no way in which fishing *effort* can be controlled in the inshore or coastal side of the divide, whereas the number and size of trawlers are effectively controlled by central authorities.

With certain modifications, one may say that "dualism" has been in operation in Norway for at least 20 years. We will return to its performance below, after having described the different modifications that has been tried out or proposed.

2. ***Boat quotas***. Keeping the aggregate catch of the coastal fleet within its share of the TAC has always been a practical problem. When the TAC had to be reduced drastically at the end of the eighties, the Department of Fisheries took advantage of the opportunity to introduce "boat quotas", which means that the allowed number of tons are divided between a limited number of boats according to size, cost or number of crewmen. Those who had not been harvesting cod during the last previous years were usually denied participation. When criticized for this, the Minister declared that "thousands of fishermen" would have to leave the industry in order to make it profitable.

Basically, "boat quotas" is an attempt to eliminate "dualism" through introducing the principles practiced in the trawler fleet to the part of the inshore fleet that is considered "viable" by the fisheries establishment.

3. ***Group quotas.*** imply that a defined category of participants compete freely for a certain part of the TAC. In principle, that was the situation in the coastal fleet before the introduction of "boat quotas". Now it is being practiced for the many coastal fishermen who has not obtained any boat quota. The Department of Fisheries has proposed to make "group quotas" into a more important element of the regulating system, removing "boat quotas", but the proposals have been rejected by the fishermen's organizations as well as by the Parliament majority.

4. ***Company quotas***. Up till now, a fishing company owning 3 trawlers, each of them being allowed to fish x tons, has actually had to operate all 3 vessels. Now the company will be allowed to fish 3 x tons by means of the equipment that the management finds most suitable and economical, which means that the company now longer will have to legitimize its right to a certain amount of the resource by its activity or the size of its capital investment or technical equipment. No such ideas have been circulated as far as the coastal fleet is concerned. If we consider the scale of operations, however, boat quotas imply the same principle: The skipper-owner can fire say, one of his three crewmen, and still retain the same quota. In both cases, the company acquires property-like rights to the fish stocks.

5. ***Individual quotas.*** The TAC is simply divided by the number of registered fishermen. If the landing value of next year's total allowable catch is calculated to 7,5 billion (millard) kroner, and there are 25.000 fishermen, each of them will be allowed to land fish worth 300.000 kr. It is up to them if they will use small or large boats, handlines or seines, or if they will go for large quantities of (cheap) coalfish or smaller quantities of (expensive) ripe cod.

This system has been proposed by me (1989), based on ideas from northern small boat fishermen. It has been rejected by the Department of Fisheries, but a modification of it has been proposed by some fishermen's unions on the west coast. It has also been included in the party programme of the Socialist Left.

6. ***Tradable quotas.*** The principle is well known from economic literature. It has been proposed introduced in Norway through the government giving, for free, almost any participant a certain quota, which is property in the sense that it is protected by state power and freely marketable. Regardless of whether quotas initially were given to individual fishermen, boats or companies, they would inevitably end up with the most "efficient" units, i.e. the participants willing to pay most for them. Tradable quotas have been proposed by the federation of offshore fishing companies and the political parties of the right, but have been rejected by the coastal fishermen and the left-and-center parliamentary majority.

7. ***Area regulations.*** This is a undeveloped concept, little discussed outside of smaller professional groups. Marine biologists of the University of Tromsø have established the existence of large, stationary and probably regionally endogenous coastal fish populations, especially of cod. The limited range of these populations indicates that they cannot be properly protected and exploited through *national* regulatory systems. This means that fishermen's organizations, municipalities and regional scientific bodies may be given shared responsibility (co-management), which is more difficult when we are dealing with populations migrating between different provinces and even nations.

At the same time, the "area regulation" concept may be applied to migratory stocks as well. The Arctic Cod feeds and ripens into reproductory age in the Barents Sea, and pass along the coast of the provinces Finnmark and Troms *en route* to the Lofoten spawning grounds. If protected in the Barents Sea, and allowed to feed on sufficient capelin and small herring, the spawning population may not need very much protection except against certain types of gear to produce enough eggs and sperm to secure reproduction.

There may, in other words, be alternatives to nationwide quota systems, alternative ways of protecting the cod populations against overexploitation, combining co-management of local populations with protection of migratory varieties in the unripe stages, against overfishing as well as against depletion of plankton eaters. It goes without saying that "area regulation" presupposes better scientific understanding of the multispecies systems than we possess at present, as well as a good working relationship to other nations with rights in the same resources.

Comparison of systems

I will now briefly discuss and compare the merits and shortcomings of the institutional arrangements briefly described above, according to the 3 demands stated on p. 5. In addition, I shall discuss the problem of legitimacy, i.e. the costs of control and policing, of fishing.

1. ***Maintenance of fish stocks***

Excepting "area regulation", all systems are based upon an estimate of TAC. Granted that this estimate is not far off mark, aggregate catcher should be kept safely within MSY, and there will be no overfishing.

"Area regulation" is based upon better knowledge of local fish populations than we at present possess. It is supposed that local bodies (fishermen's unions, municipalities) can decide upon gear restrictions, closing off areas and seasons etc., generally avoiding quantity restrictions, and counting upon informal mutual controls and sanctions.

"Area regulation" of migratory cod and other migratory species is based upon improved knowledge of population dynamics. But we can safely say that all systems based upon TAC estimates presuppose such knowledge as well. It is also a strong argument that the Arctic cod population was maintained at a very high level as long as there was no harvesting of unripe cod off shore and no exploitation of small herring and capelin in the Barents Sea.

There is a certain risk that a system based upon protecting the young cod and unlimited harvesting of the spawning age groups may imply under-exploitation: If the availability of cod feed is the bottleneck factor, a certain quantity of the growing cohorts can be harvested without diminishing the aggregate growth of each cohort. But with abundance of plankton eaters in the Barents Sea, each 1 kg cod caught in the feeding grounds easily means a 4-7 kg valuable ripe cod less to the coastal fishermen.

2. ***Avoiding excess of efforts***

The system, which I have called "dualism", developed in Norway during the last

twenty years, clearly shows the importance of this point. The offshore fleet has generally been very profitable to the owners and crew, whereas there has been a lot of bankruptcies and other economic problems in the inshore, coastal fleet of smaller vessels. Popular opinion, stimulated through the activity of PR officers of the fishing companies, and in line with current opinion trends, usually perceives the difference between "old fashioned" coastal fishing and "modern" trawler fishing as something like the difference between spinning wheels and textile factories.

As I have demonstrated elsewhere (1991), the economic performance of the two fleets is easily explicable by means of the elementary concepts of fishery economics: Given that both fleets have to stay within a certain share of the TAC, the "profit" (or rather profit + resource rent) will depend upon whether the aggregate fishing effort can be adapted, minimized or kept down. This is possible in the trawler fleet, as the number of licenses is limited, and each vessel has been granted a certain quota. Fishing effort can be limited to what is technically necessary to land the allotted quantity. In the inshore fleet, however, the "tragedy of the commons" is maintained: The fishing effort cannot be kept down, as all units have to compete to get a share in the TAC, and since all units somehow is technically able to increase efforts. There will not be any overfishing, as long as the fleet is sent ashore as soon as the TAC has been landed, but the aggregate effort will then - in principle - be equal to the revenue. There will be no profits, and no resource rent from one of the richest fisheries in the whole world.

"Boat quotas" in the coastal fleet may be considered an attempt to apply the principles from the offshore fleet inshore. It will work as far as the economy of the skipper-owner is concerned, as he can reduce his crew to adapt the fishing effort to his allotted catch.

The combination of "company quotas" and "group quotas" preferred by the present Minister of Fisheries would maintain and strengthen the problematic dualism in Norwegian fisheries, i.e. increase the freedom of trawling companies to adapt the effort to a given quota, and institutionalize the marginality of the coastal fleet.

"Company quotas" cuts the tie between investment and rights in the offshore fleet. The company can reduce its investment, but keep its share of the fish property. Even if "boat quotas" in the inshore fleet is an approximation of the same principle, there is an important difference: The right to fish is formally tied to the physical boat. A small boat may get 8 tons of cod, and a bigger one 50 tons. The skipper may fire fishermen to improve the economy of his operation. But if there are no more men to fire, he can only adapt his fishing

effort to the revenue by acquiring a larger quota. Because quotas are a function of boat size or cost, he will have to buy a bigger boat to improve his economy. This means that a very important aspect of "the tragedy of the commons" is maintained: The participants will have a constant motive to increase their effort to enhance their shares of the limited resource. The only way to avoid this is to introduce - and maintain - a rule to the effect that people are bound to stay in the boat size category in which they happened to be when the system was introduced. Many people would say that this kind of institution equals going back to feudal ages: If two neighbours happened to possess boats of different sizes in 1990, their families' shares of the resource will be correspondingly different for all time to come.

"Boat quotas" may work in the short run, as established fishermen and their unions consider themselves as reasonably well served by the system. But it is untenable in the long run, as it is bound to be either too dynamic (giving every participant strong motives to acquire larger vessels) or too static (freezing property relations in the industry).

The fishermen's union, representing all established interests in primary fishing, is strongly against "tradable quotas" (even if the deep sea sub-union is in favor). But it is obvious that "boat quotas" inevitably will lead to "tradable quotas" as the market seems to be the only solution to the problems generated by the dynamic of a boat quota system. "Boat quotas" will be a machine continually producing arguments for tradability. At this point, it will suffice to point to the obvious advantage of tradable quotas over boat quotas: Also in the long run, the fishing effort will be adapted to the expected catch, as participants will have no motive to increase the effort unless they have purchased the resource property from someone else, who will stop or reduce fishing.

Anomalies produced by "boat quotas" will continue to turn up in the media and recruit new members to the tradability creed: Fishermen from the south coast of Norway have transported their boat on the railway to the north - thousands of kilometers away - to fish their cod quota on the Lofoten spawning grounds. The material object - the boat - can in this case be considered a deed to a piece of property, that the three men had to carry along - in addition to their persons - to cash in a rent given to them by the Government. A child could see the economic advantages that could be achieved for the nation if the three fishermen instead could have sold their quota to a northern fisherman with unutilized capacity.

As far as "individual quotas" are concerned, they share the advantages of other unit quotas (boat and company quotas) in that the zero sum competition of free

fishing and "group quotas" is avoided. The individual fishermen will, to increase his net income, only acquire enough capital equipment to land his allotted quota. Excess of effort does not increase his economy, only increase his costs and reduce his net income. If he has no alternative use for his own labour, he will be inclined to economize with labour-saving equipment, which implies, in the aggregate, that a maximum share of the fishing revenue will go to remunerate labour for which there is no alternative use. If there is excess vessel capacity in an outport or in a district, many fishermen will find that purchasing their own boat will be less profitable than negotiating about a berth with boat-owning neighbours. In some localities, fishermen will tend to fish individually, in others, even 2 or 3 crews might share a medium sized boat, operating in shifts during good seasons.

"Area regulation" is a relatively new concept, and practical solutions of this category have scarcely been explored for their merits and shortcomings. The strong points of this system lie elsewhere (regional distribution, equity, social justice, diversity, legitimacy, flexibility, maintenance of local cultures). Ability to avoid zero-sum competition and generate economizing with production factors is not built into the system, like it is in the "unit quota" arrangements. If it is ever introduced, it must be because we believe that people in common have a capacity to develop institutional arrangements that solve their common problems - provided that this can be done on a scale that makes shared information and harmonization of interests possible. Local negotiations may of course generate local solutions that make use of elements of some of the other systems involved, like individual, boat or internally tradable quotas, and in that case, the adaption of efforts to catches may be as good under "area regulation" systems as it is under the other arrangements discussed.

3. ***Keeping the commons open***

Keeping in mind that certain institutional arrangements have been introduced with the intention to get "thousands of people out of the fishing industry", we should not be surprised that some regulatory systems fail on this point, if they are implemented strictly according to the book. Company, boat- and tradable quotas imply that the commons are "enclosed", shared between a limited number of beneficiaries, who may, helped by state power, keep out everybody else. Outsiders may of course buy a share of the enclosed property, but in principle, the resource rent will be retained by the original beneficiaries.

Attempts have been made to secure that tradable quota - or boats that have been allotted a quota, which amounts to the same - are not sold out of the municipality, province or region. In this way, it is supposed that the economic fundament of local communities or coastal districts can be maintained.

Experience shows, however, that this is an illusion: Privatization implies a dynamic that inevitably eliminates all obstacles to freedom in the market. A fisherman borrows money and buys a boat (with a cod quota) one year, falls ill next year and has to sell his boat. But he cannot find a buyer in his own district https://asbank.nothat is willing to pay enough, and the poor man face bankruptcy, losing his house etc. In other districts, however, there may be buyers. The fishermen's unions, the banks, newspapers, political parties and almost everybody else will side with the sick man against "bureaucracy", and the rules limiting marketability have no chance to survive. Thus, traditional, egalitarian fishing communities are very likely to gradually be closed out of the commons, and the right to the regional resources concentrated elsewhere, and probably, in a few years, traded on the stock exchanges of the world metropoles.

"Group quotas" keep the commons open, as any registered fisherman may participate in harvesting. But the system implies institutionalization of marginality, as it allows for the aggregate revenue to be "eaten up" by the aggregate effort of labour and capital. The coastal population will maintain its access to the commons but under conditions, which secure that there will be no resource rent for them to harvest. Significantly, there has been increased pressure on the "group quotas" through new participants who actually have been fired from units allowed to decrease their efforts and still maintain their shares in the fish property.

"Individual quotas" imply that the resource rent from the fish property is shared between all registered fishermen. The commons is kept open, at the same time as the aggregate catch does not transcend the maximum sustainable yield. The system does not preclude certain "thresholds" slowing the process of being registered, like a small registration fee, a certain level of documented experience in fishing, and even residence in certain districts. It is very important to give young people in fishing villages open access to the industry, but it can be argued that status as a fisherman, which implies right to a share of the nation's common property, could be granted on the condition that one renounced upon other rights, like for example unemployment benefits. A rule to that effect would also represent a certain "threshold" slowing the access to the industry.

"Area regulation" presuppose local control and institutional development. It is of course possible to imagine local established interests taking control and closing the commons to the local "have-nots". If that is a real risk, it means that local political bodies must be granted a share in the control, along with fishermen's unions or coops. I think, however, that exclusion of large categories of coastal people is more likely under nationally established and upheld rules, than under local control, more based on shared and many-sided information and legitimation processes.

The problem of legitimacy

Any standard textbook of fishery economics, usually advocating marketable quotas, i.e. privatization of the commons, tends to stress the necessity of securing the permanence of the system. Privatization will not work if investors risk eroding of the system, by for example allowing in "new" (e.q. traditional, local) participants "for political reasons". It is obvious that if most of the population of a regime finds a regulatory system unjust, irrational or a robbery of rights that people have had for centuries, it must be difficult to guarantee the investments of fishing companies in shares of the formerly common property.

Working through their unions and political parties, the coastal fishing populations have managed to reject tradable quotas, advocated by economic expertise, the political right, parts of central bureaucracy and the owners of deep-sea vessels. The unions have also rejected "group quotas" generally, to avoid zero-sum competition. But seem to accept, without enthusiasm, the combination of "boat quotas" for the most established fishermen and a "group quota" for the rest: i.e. old fishermen, young people who cannot find a berth with a skipper, part time fishermen (who used to be the great majority of participants!), and, of course, those who are fired by skippers and fishing companies wanting to reduce their costs.

Coastal fishermen seems to find it right and just that skippers with an expensive boat get a higher quota than someone who do not have any substantial investment in the industry. Strong language is sometime heard about "unserious" fishermen, i.e. people who only fish under especially favorable conditions, even if they tend to help adapt the aggregate fishing effort to catching chances. People "who are not fishermen", i.e. who have other jobs or trades ashore, are especially harshly condemned, if they try to supplement their income through part time fishing.

"Boat quotas" have made it possible for authorities who want some sort of private property in fish stocks introduced, to get elements of privatization accepted by the unions and parts of the political specter. Those with less substantial investments in the industry have been attempted pacified through the "group quota" system. But the present combination is a vulnerable one, as far as popular consensus and legitimacy is concerned:

Imagine the situation in a Finnmark outport, where 30 fishermen are allowed to take advantage of rich stocks of migratory cod and haddock making may be 5000 kr a day. They may have 20 brothers and neighbours with no rights to fish, and who have to make do with unemployment insurance or fish plant,

temporary labour at 500 kr a day. - As long as rules of the game are settled by Norwegian political bodies, it is rather unlikely that a system colliding so frontally with local ideas of justice and equity, can survive.

If the national labour market had been like it was up to the 1980-es, coastal people deprived of their rights would probably have sought employment in national or regional centers, and disappeared from contact with their privileged neighbours. But today they have nowhere to go, and their presence in the fishing villages makes it very likely that the expected growth in the fish stocks also will mean more participants in the fishery.

It is important to keep in mind that we are now referring to an activity to which there is "easy access", in the sense that there are few natural or technical "barriers" to participation. The grounds may be within sight, and the fish can be caught with cheap gear by people of ordinary coastal skills in small boats, at any rate in the best seasons. People can *only* be kept out of participation by means of certificates, licenses, fines and police.

From this point of view, we understand that there are important non-technical advantages attached to the forms of fishing that takes place offshore and with larger vessels. A "latent function" of deep-sea trawlers and larger purse seiners is that participation is easier to control. To increase offshore fishing effort by one unit, you may need NKR 100 million, a political decision, venture capital and bank credits. In contrast, tens of thousands of individual actors can increase the fishing effort in inshore fishing by very small investments, even if the number of licensed boats are attempted kept down. Big boat fishing is controllable, small boat fishing is not. When it is taken for granted that central control of fishing effort is the key to profitable fisheries, the preference of authorities for large units is understandable, even if they may be technically superfluous.

The escalated attempts of the last years to get "thousands of people out of the fishing industry", to borrow the words of one of the latest ministers, may have created the illusion that coastal people now, after one hundred years of struggle, at last have resigned and accepted the expropriation of their heritage. But one has to keep in mind that it is easier to keep satisfied grazing animals out of a infertile field than it is to keep hungry animals out of green and tempting meadows. At the same time as the available population of cod will be six times larger in 1994 than it was in 1989, the country as a whole will go from negligible unemployment to 10%, and may be more in the north.

Considerations of sustainable legitimacy, as well as the national labour market situation, will have to play a more important part in academic contributions to

problem solving in the fisheries. Solutions that are perceived by the coastal population as unjust are impracticable, and solutions that increase national unemployment are too expensive.

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SECTION 3
SAAMI REINDEER HERDING IN NORTHERN NORWAY, SWEDEN, AND FINLAND

Introduction

"Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long desired goal of social stability becomes a reality. At that point, the inherent logic of the commons remorselessly generates a tragedy.", wrote Garret Hardin (1968) and started a generation long controversy about the nature of utilization of a pasture open to all. The argument shall not here be thrashed out again. The gist of the debate was that the empirical relevance of the powerful model was rather small. All the interesting cases lay somewhere between the open access producing the tragedy of Hardin´s model and the complete control of access needed by the single omniscient and omnipotent decision maker to avoid the tragedy. And the rather mundane discovery is that we know all too little of the variety of pastoral praxis; of how and to whom pastoral resources are allocated in the different parts of the world. To increase our knowledge, we here turn to the rights and duties involved in the pastoral praxis of the Saami on the plains of northern Fenno-Scandia.

In the first article, "Kautokeino `1960`: Pastoral Praxis", Robert Paine presents an account of Saami reindeer praxis. He opens with a brief overview of its social organization and its inherent constraints. The condition of the herds at each season and the differences in ecological conditions among the Kautokeino pastoral groups are described. Paine then turns his attention to the significance of these differences for pastoral knowledge and their implications for the adoption of separate production strategies. In view of this, he is critical to the simplistic use of concepts like "carrying capacity" and "sustainability".

Ivar Bjørklund continues the story of the Norwegian Saami in his observations on "Saami pastoral society 1990: The national integration of an indigenous management system". The introduction of the modern welfare state and the efforts of the government to transform the reindeer herders into a national industry of meet-producing capitalists rather than a pastoral way of life adapted to a particular ecology, set in motion processes which many now regard as destructive both for the ecology and the Saami culture. The introduction of new technology and the cash incomes supplied through the welfare state has combined to increase the number of animals - and hence - the number of herds - with concomitant increases in the number of conflicts. To manage the conflicts fences have been put up. These have caused a loss of flexibility in relation to shifting ecological conditions. The structure of subsidies to the industry has caused a loss of variety in categories of animals and hence a loss of knowledge of animals and their adaptations to various environments. The introduction of government permits to be recognized as a lawful reindeer herder has caused shifts in the social relations among the people interested in reindeer herding. The recruitment is no longer based on interest and knowledge about reindeer herding, but on Norwegian inheritance rules and knowledge of bureaucratic procedures. In his conclusion Bjørklund supports the report to the Norwegian Parliament stating that "... the law (regarding reindeer husbandry) has not worked according to its intentions. (It) has not been able to secure a balanced resource management and a viable adaption".

The situation of the reindeer herding Saami as reported by Paine and Bjørklund must be kept in mind when turning to the more long term issues of the rights to the resources of the plains in northern Fenno-Scandia. The situation for the Saami of Sweden and Finland is not quite comparable to the Norwegian, but they all in one way or another claim property rights to the resources their culture and livelihood has been tied to. In this claim they have the support of some developments in international law (e.g. the ILO convention no. 169 on indigenous and tribal peoples) , but perhaps more interesting and useful to their cause may be new investigation of the history of resource control and a new understanding of property rights.

Four papers cover the history and current status of property rights to the resources in northern Fenno-Scandia.

The first one by Kaisa Korpijaakko-Labba traces "The history of rights to the resources in Swedish and Finnish Lapland".

"The Legal Status of Rights to the Resources of Finnmark with Reference to Previous Regulations of the Use of Non-Private Resources", Torgeir Austenå, and Gudmund Sandvik

"The legal status of rights to resources in Swedish Lapland", Bertil Bengtsson

The last article, "The legal status of rights to resources in Finnish Lapland", by Heikki Hyvärinen explores the status of the Saami in contemporary Finland. They are an ethnic and linguistic minority as well as an indigenous people. They live in northernmost Lapland, where they engage in the traditional livelihoods of reindeer herding, fishing and hunting. The state of Finland considers itself the owner of over 90% of the land used by the Saami on the premise that the land has never been owned by anyone (terra nullius) and should therefore revert to state ownership. Recent research findings show that state officials treated the Saami at one time as owners of what is now considered state land. This right of the Saami has never lapsed legally to anyone's knowledge. In 1990 a bill was drafted proposing the return of state lands to Saami ownership. The same legislation would also safeguard the traditional Saami livelihoods. The bill has not progressed to Parliament for a decision. The Government has been delaying the matter. The difficulty of making such a decision stems from Finnish interests in the Saami area as well as the status of the Saami in the Finnish sense of justice and in the Finnish system of values.

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KAUTOKEINO '1960': PASTORAL PRAXIS

by

Robert Paine,
Memorial University, St.Johns

In 1961-62, field research among Saami reindeer pastoralists of Kautokeino afforded some understanding of the principles of Saami pastoral praxis -- practitioner praxis, that is -- in action. At the present time, when government-regulated pastoralism and pastoral problems appear to run together, there may be things worth learning -- or re-learning -- from the 1960 picture. It is with this in mind that I attempt, in this short essay,[1] a description of the pastoral year, from that time, of one Kautokeino group. Before venturing into the description, the ecologic and social constraints under which the pastoralists operate are delineated; and on completion of the description, some conclusions are drawn.

CONSTRAINTS

Crucial to reindeer pastoralism as a practical enterprise is practitioner knowledge --of animals, terrains, and fellow pastoralists. Much is dependent, then, on the individual and the group working within a feasible ecologic and social scale. For example, the thousands of square kilometers over which Kautokeino pastoralists work is far too large (and variegated) for any one herding group to master, it has to be 'scaled down' or divided up into pastoral ranges over which each group possesses the requisite level of knowledge. This also becomes an arrangement of social knowledge between herders for reindeer pastoralism throws herders into working partnerships -- often in contingent fashion, that is, as the needs of the situation dictate; and within each of the pastoral ranges it should be feasible for a family, even an individual, to possess a practical social lexicon concerning his/her fellows. Such is simply not possible across the total Kautokeino pastoral population of some 800 persons and 170 households (1958 figures).

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1 For a full account see my *Herds of the Tundra* (Smithsonian Institute, 1993).

FIGURE 1 THE SCALE OF REINDEER PASTORALISM IN FINNMARK, 1961-1962
(adapted from O. Vorren, 1962)

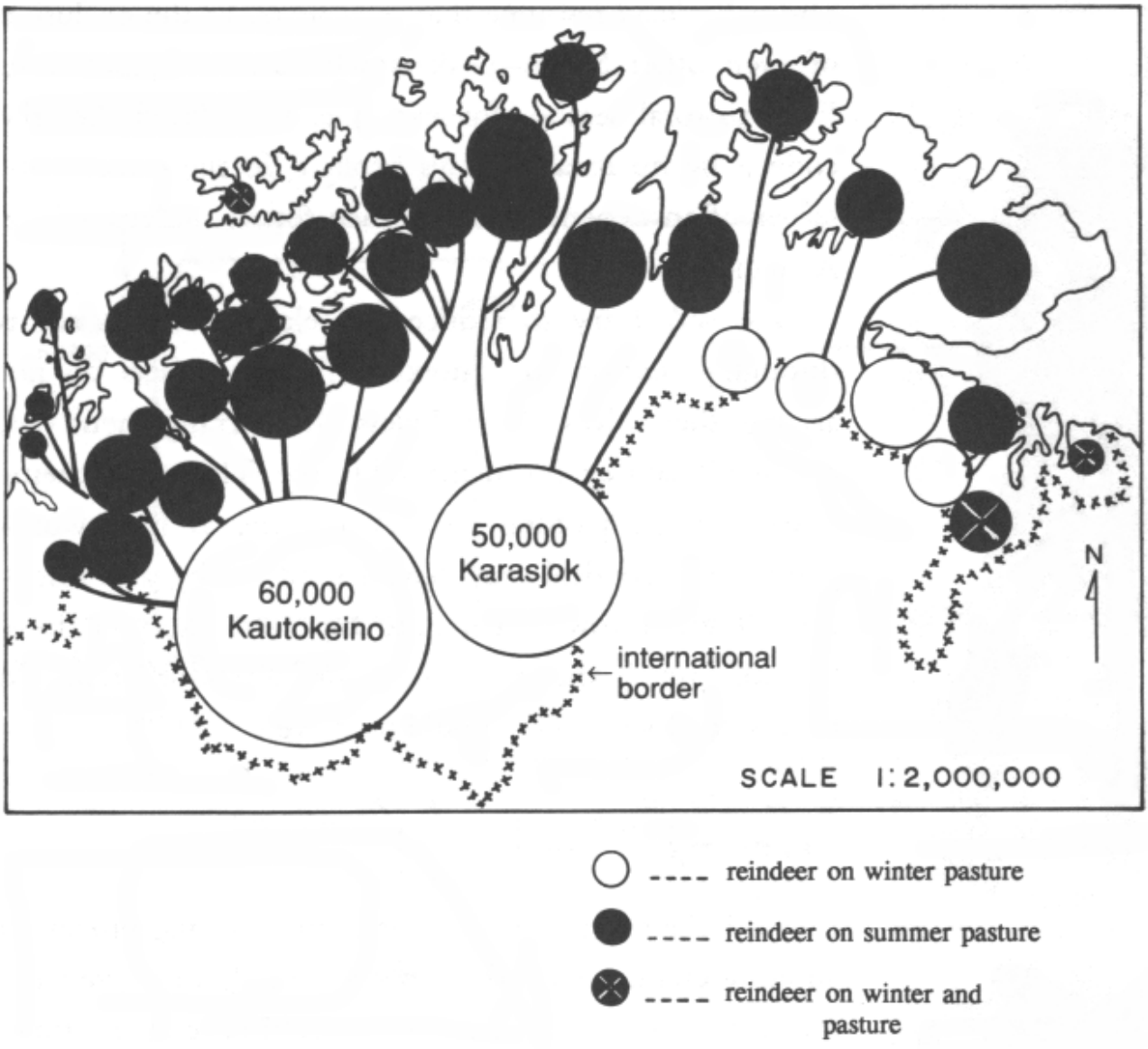


FIGURE 2 KAUTOKEINO REINDEER RANGES

There are three such pastoral ranges -- West (Oar'jebelli), Middle (Gow'dojottelit) and East (Nuor'tabelli). Most pastoral work is done within a range: thus the scale of things is reduced by (let us say for sake of argument) one-third and pastoral work is embedded in a social network and the ever-present uncertainty of this work is made manageable. The emergent point, then, is the social density of pastoral relations within a pastoral work area --the range. Consider these figures: 84% of married men and 65% of married women remain on their natal range; in 59% of marriages both spouses remain on their natal range; close to 10% of the marriages are between first cousins; as well, there is a notable occurrence of separate groups of siblings marrying each other.[2]

The basic unit inside the range is the sii'da composed of both people and animals, and exercising usufruct over different areas of pasture at different seasons of the year (see figure 4). Thus a sii'da has ecologic and economic connotations, and as a work (and hence social) unit its precise composition changes from time to time. There are two analytic points of primacy here.

The first is that the three factors of production --herd, pasture, and partners--are brought together in a sii'da. Ideally, these should be present in commensurate proportions and the commensurability retained even as the size of a sii'da changes.

And second, work relations within a sii'da fall into two separate domains: herding which is a collective or joint responsibility and husbandry which -- pertaining to the individual ownership of animals-- is not. Herding is the day-to-day work with a herd; it concerns the herd/pasture relationship as directed to the welfare of the animals and, if necessary, to the exclusion of the comfort of the herders themselves. Husbandry, on the other hand, has to do with the herd as the harvestable resource of its owners. While the tasks of herding, then, are those of the control and nurture of animals in the terrain, husbandry is the efforts of the owners in connection with the growth of capital and the formation of profit. The problems of herding are those of economy of labour and they may usually be solved by owners in conjunction with each other; those of husbandry concern the allocation of capital and here each family is wholly responsible unto itself.

2 From a sample --gathered in the field-- of 170 marriages for the 30-year period 1924-1953.

Figure 3 The Si'ida and Herd Management of Commensurate Proportions

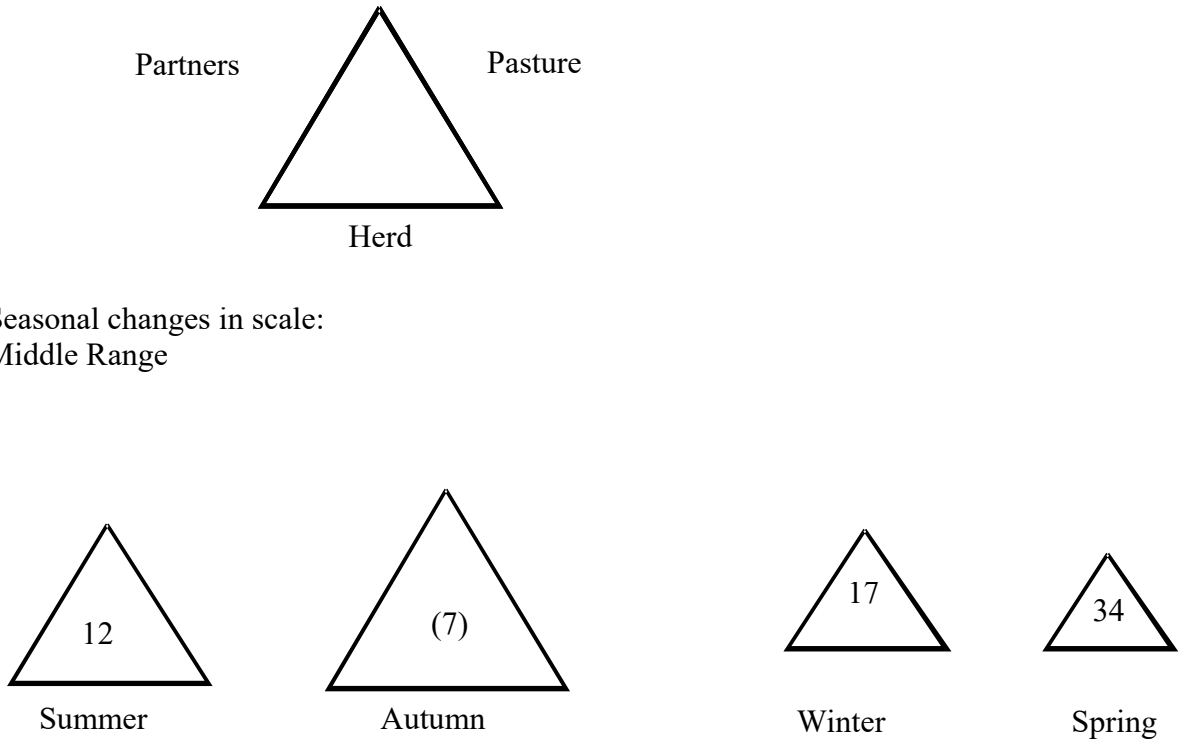
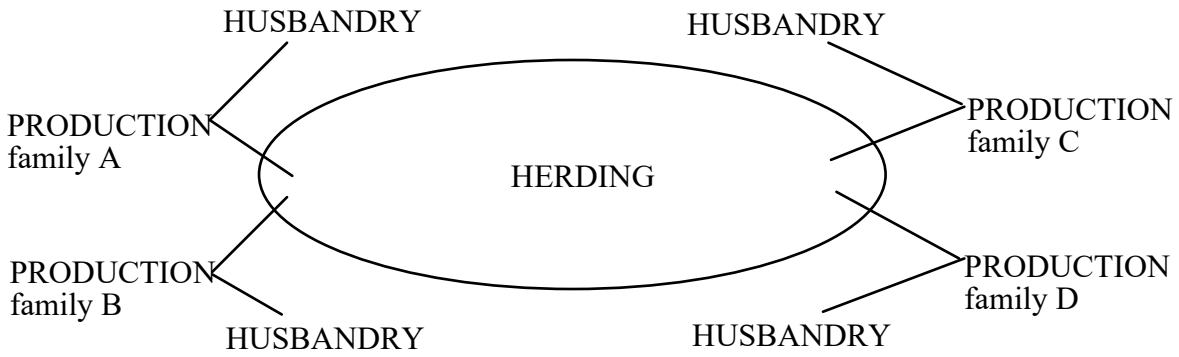


Figure 4 Sii´da as reindeer management unit
(with four family herds)



In concluding this briefest of accounts, notice must be taken of the means by which pastoral knowledge of both the herd and individual animals is generated and maintained. As seen with a husbander's eye, there are six basic components to a herd: the calves and yearlings (2 designations); junior and senior cows (3 designations); junior and senior bulls (6 designations), and castrates (2 designations). Important for the identification of individual animals (within the same age and sex class, for instance) on which good husbandry depends, are antler structure, body colour, and the earmarks of ownership. Behavioural clues, of course, are noted as are social groupings of animals within the herd: thus bells (hung around the neck) placed on selected animals impart -- at night as well as by day -- much information.

The description that now follows draws on my field trips with a Middle Range sii'da.

DESCRIPTION

Summer

Most summer pastures of the Kautokeino herds are out on peninsulas -- the njar'ga herds. A few are on off-shore islands to which the animals swim--the suolo herds; some others are inland, out of sight of the coast -- the nanne herds, and some of these are on the high terrain around the tree-line -- the or'da herds (Fig. 5). I describe the njar'ga type of herd management I knew from Middle Range where the herds reach the summer pastures in June, after calving, and already by the beginning of September the pastoral summer has passed by and herders are preparing to move or are already on the move to autumn pastures.

Yet it is the brief northern summer of constant daylight that is the important season of growth and body-building for the animals. The protein-rich diet of grasses and fibreless foliage is easily digestible and its mineral content gives quick nutrition. The summers are particularly crucial for the calves and yearlings. The most rapid growth in the life of a reindeer takes place in the first 16 months of its life -- and that growth is almost wholly confined to the two summers within this period; in the intervening winter the young animal often has a hard time maintaining its own body weight. For the sexually mature animals, the nutritional value of summer pastures is a determinant of their virility or fecundity, at the rut in October. The pastoralists are acutely aware of these pre-determining consequences of the summer season. A poor winter, I was taught, can be quickly compensated by a good summer but, animals may well have trouble surviving through the winter if the summer pastures have not been optimal.

For all that, the summer is a slack season for the njar'ga pastoralist. Until

Figure 5 Summer herds: NJAR´GA, SUOLO AND NANNE

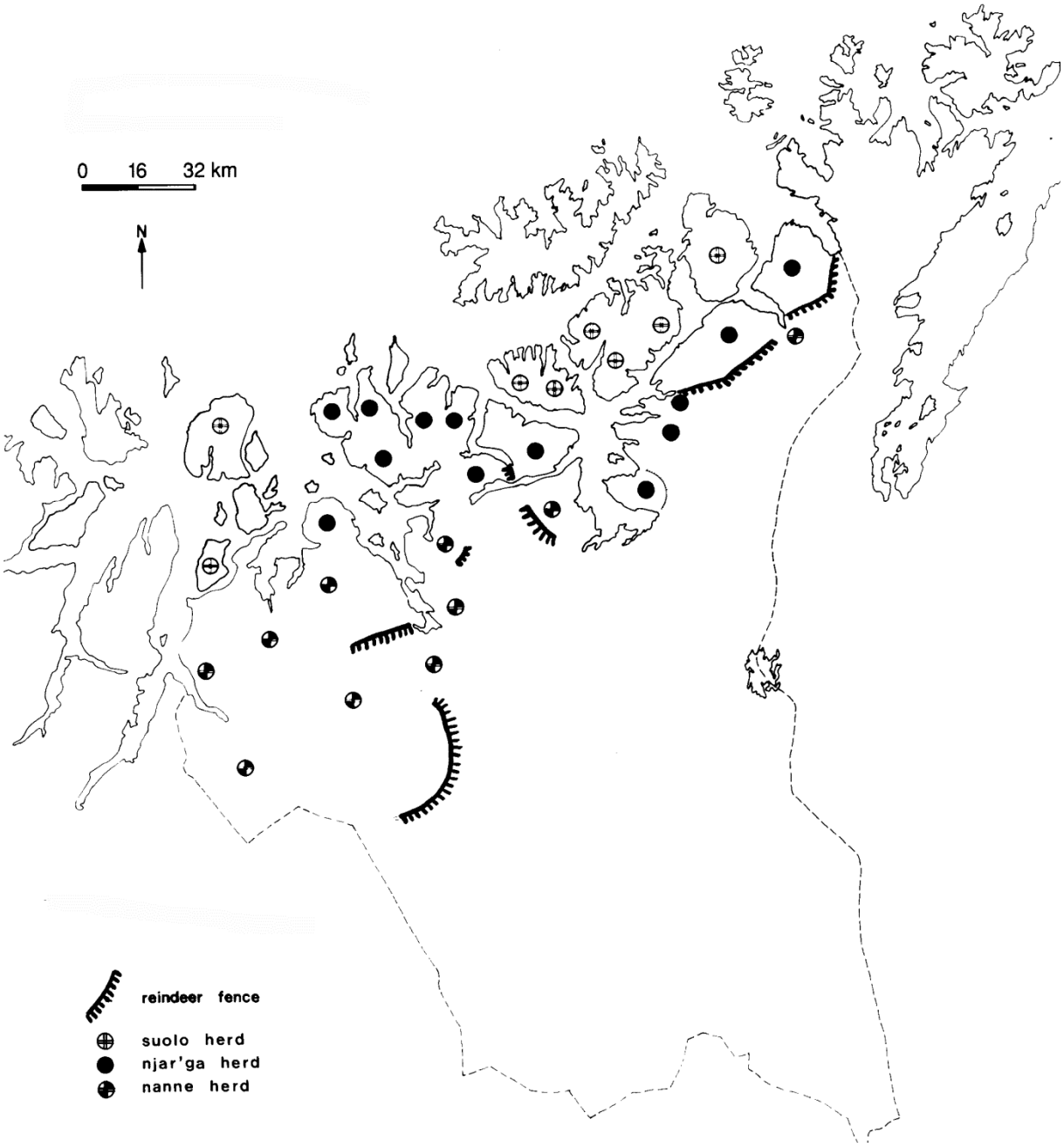


Figure 6 NJAR´GA pastures of GOW´DOJOTTELIT

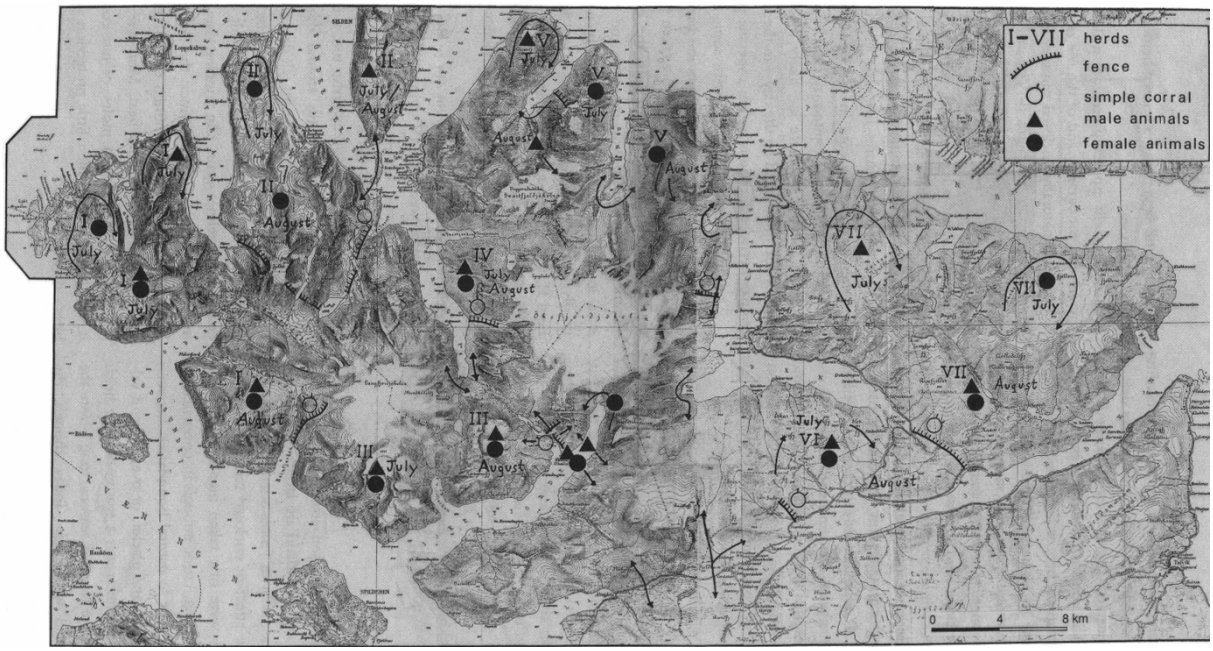
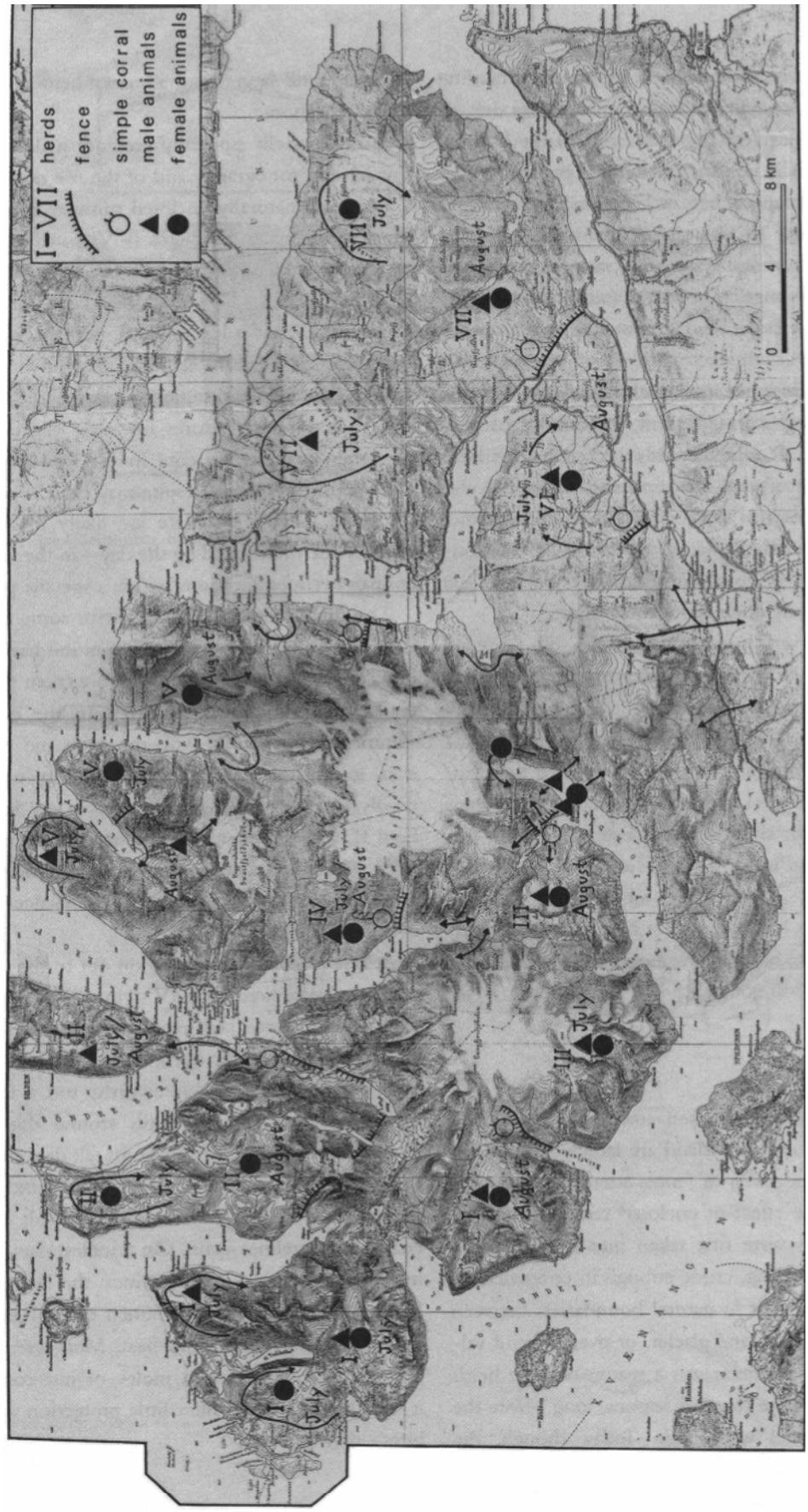


Figure 6 NJAR´GA pastures of GOW´DOJOTTELIT



towards the close of the summer, herding is minimal or absent. (Quite other conditions obtain for the nanne pastoralist.) Instead, the animals are left to themselves to best explore the varied diet of the summer ranges. The pastoralist reasons that beyond bringing his animals to a 'good' grazing range, there is little that he can do to forward the nurturance of his animals at this time of year. Indeed, optimal nurturance in the summer correlates closely with free-range movement, and -- in contrast to what is the case at other times of the year -- the pastoralist does not lose much knowledge of value about his herd by this arrangement.

Let us now consider the herds and pastures of the seven sii'da (numbers I through to VII) on Fig. 6. The male herds arrive some weeks before the cows and their calves, the separation having been undertaken before calving, and they are taken to the farthest reaches of the summer pastures; in the course of the summer they will (in most cases) mix with the cows and calves. Each of these pastures contains ecologic alternatives necessary for a herd during the summer: access to the shoreline for salt, to low-lying pastures for early vegetation, and to mountain pastures for cool in the heat of the summer and relief from insects (respite may even be sought on the glaciers). This means there are likely to be patterns--both by the month and by the day -- in the wanderings of animals between locations within a specific pasture.

Clearly, movement onto the peninsulas in July and off them in September has to be synchronized, although it is done informally. As shown on Fig. 6, there are strategically-placed short stretches of fences that help control the movement of animals in the late summer; and in the vicinity of each fence is a small corral used for husbandry tasks (earmarking, castrating, slaughtering).

Autumn

As summer closes, the days become shorter, the weather harsh; animals move up an age-class (except calves); the rut approaches; and movement of all herds and camps is in over the tundra. Not for nothing is this season also known as hil'bad ai'ge --the time when animals are least tame. The bases of grasses and sedge plants that remain green longest, and fungi -- especially mushrooms -- are searched out as the herds move across the autumnal landscape. If not hindered, animals will range widely, most of all the mature males (bulls and castrates). Herders codified the autumnal landscape: varre or hilly, open terrain (in the cool temperatures of autumn) was associated with logjes or 'tame' animals; vuobme, or low-lying with lush undergrowth, with hil'bad. Indeed, the cows were kept on the higher ground because if they first get a taste of the rich vegetation in a vuobme, it is difficult to keep them moving as a herd. The mature males, on the other hand, were allowed to enjoy the vuobme both because it would over-tax the herders to prevent them and it is there that the animals -- many of whom

were to be the studs in the rut -- add weight and strength. Some of the castrates might be left behind in this way, but one can depend on the bulls moving inland for the rut. There is a hazard though: some bulls may well wander off with those from other herds that have been attracted to the same vuobme. It is only if there are no other animals in the vicinity that the herd will be brought for the night to the richer vegetation of a vuobme. More usually on autumn migration one collects the herd as best as one can in the afternoon -- dusk falls early -- and releases it on a long, dry hillside with a wind blowing down its slope.

Calves are becoming fairly independent, and herders are well aware of the chances of calves becoming "lost" at this time of herd mobility. It can happen when the deer scatter in search of mushrooms, especially under cover of darkness or in mist and rain, and towards the end of the rut when older bulls, through fatigue, lose control of their harems and the younger males begin to pursue the cows. It happens especially in the confusion around the large separation corrals (near the perimeter of the winter pastures) when animals are passed through the corrals not once but several times.

The introduction of these separation corrals with multiple pens has to be considered in conjunction with the crowding of animals behind summer fences followed by a rush of thousands onto the autumnal lands--all within a few weeks. Inevitably, there is some loss of control over herds and loss of knowledge as to the whereabouts of animals. The purpose of the corrals is to restore control and reconstitute the herds. But the costs are high in wear-and-tear on animals and herders. So in strongest contrast to summer, autumn is a season of exertion; more significantly, it is the one time of the year when these pastoralists sometimes end up not working 'with' the herd, thereby adding to toil and strife. Dispersal of animals at this time of year makes good ecologic sense and benefits herds and herders alike; it is the crowding of animals and the mixing of herds of separate owners, followed by their forcible separation, that runs contrary both to the welfare of the animals and to the interests of their owners.

Before the fence-and-corral complex stamped its character on autumn herding, the rut was that season, above all others, when herders reacted in response to the behaviour patterns within the herd (competition among the bulls; harems 'herded' by a senior bull; etc.). For the rut happened in specific places, and it was a notable time of close observation of one's animals -- hence of important husbandry knowledge, too. Now, though, animals are in rut on the way to the corrals, while they are passed through them (which can take a couple of days), and after the corrals, too. The trauma can be considerable for a thousand or so animals milling around within an enclosed space.

Buyers come to the corrals. It is convenient for owners to sell some animals here, and it is a time of year when cash is needed for domestic re-provisioning. But the drawbacks are also prominent in the minds of the owners: rupture in their herd knowledge at this time and temporary loss of condition of the animals around the corrals. Based on his observations of his animals through the seasons, an owner will, more likely than not, have individual animals in mind -- but he may not find them at this time.

Often, then, the owner of a njar'ga herd can expect to leave the separation corrals with a good fraction of his animals missing (temporarily, he hopes), and it may well be December before he has them all together. By the same token, the herd which he takes into the winter pastures will include a number of animals that are not his. Nevertheless, the autumn slaughter takes place then. Yet already in these first years of their use, pastoralists have different perceptions of the corrals. I think, for all, they are a new meeting place that they value: watching others' animals as well as one's own, catching up on news -- certainly listening and perhaps telling. I also noticed a generational difference. For the young men, unlike their elders, work at the corrals has an ambience of tournament: beyond the simple opportunities that corral work offers to demonstrate physical prowess, there is the competitiveness centred on the acquisition of unmarked calves that are without their mothers.

Winter

As October passes into November, autumn changes into winter, but there is no sudden metamorphosis; rather, both seasons are present for a while. Stretching beyond this intermediate period and into January is the period of winter that the Saami know as the time of darkness (skabma-ai'ge). Not only are the days now the shortest in the year --from around the end of November to the middle of January the sun is below the horizon-- but snowfall is heaviest.

The short daylight hours notwithstanding, much activity is pushed into this first part of winter. The principal business is reconstituting herds from the autumn and then, during the last days of December, separating into the smaller camps and herds of the later and longer period of winter. So there will be men, and some women, away on a round of visits to other herds; and every camp receives its visitors. There will be many deer separations, all handled without recourse to the big corrals. Draught animals no longer carry packs but now pull sleds. Dominance within the herd passes from the post-rut, and now antler-less, bulls to the cows who retain their antlers until after calving.

Then there are the shifts in the herders' technical conversations. Early in October, these were peppered with topographical references incorporating the

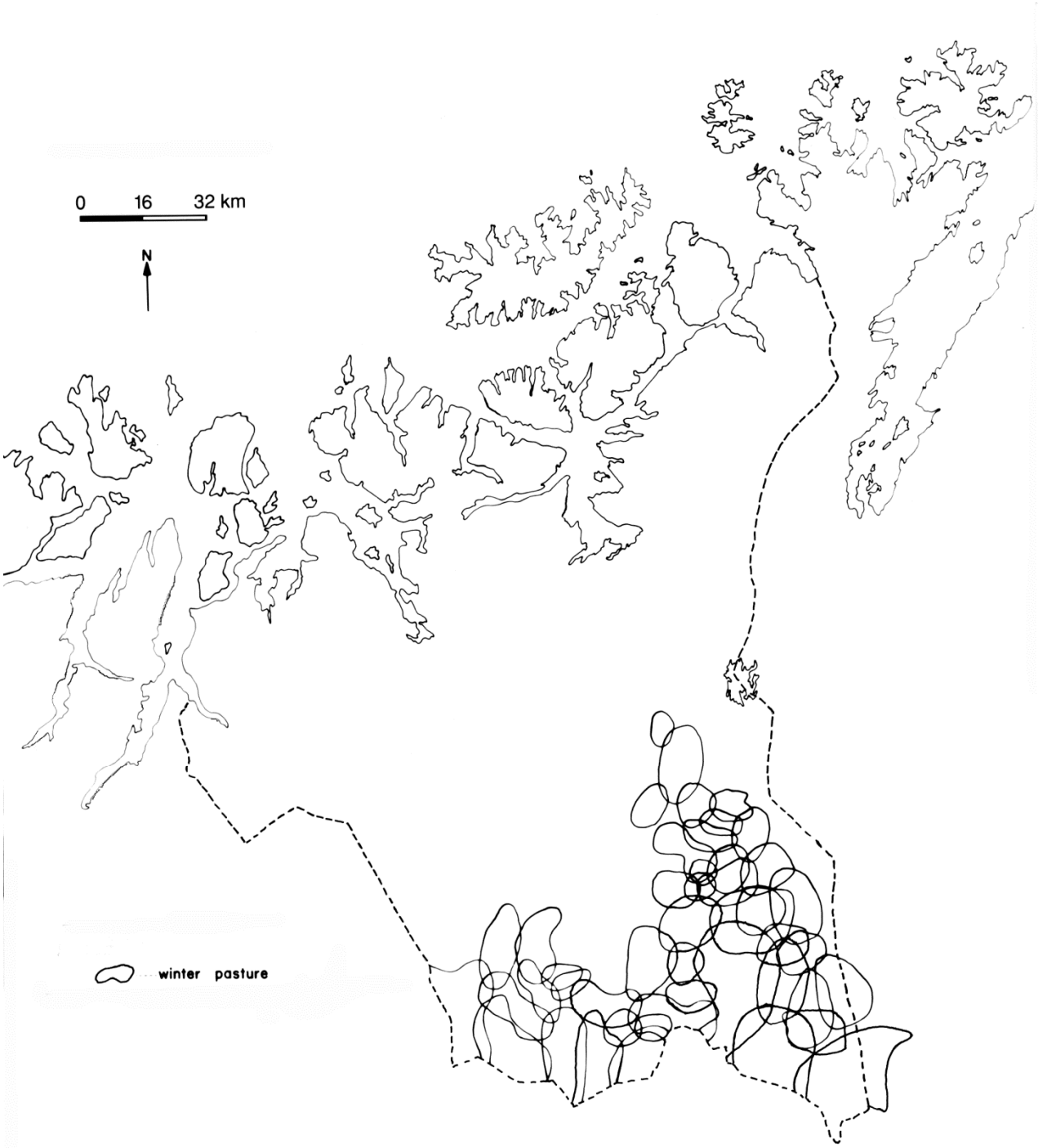
term for "bare of snow," but as November approaches it is the extensive vocabulary for snow that one hears. Snow-cover -- and its changing texture -- has multifarious effects. First, herd behaviour: animals will leave the herd one behind the other, in Indian file, whereas so long as the terrain was bare of snow they were more likely to leave bunched together or in a broad phalanx. Then the texture of a snow surface becomes a factor controlling the mobility of animals and men and -- particularly significant -- their relative mobility one to the other. Snow cover, too, offers the herder many clues: it carries evidence of recent and prevailing wind and weather conditions; it is 'read' for what it tells about the movement of a herd or the whereabouts of animals that have strayed. Perhaps most important of all, though, reindeer have to dig through snow to reach the lichen beds, so the condition and depth of snow affects, quite directly and at all times, the physical well-being of the animals. Of course, the precise significance of snow changes, crucially, as the landscape changes topographically, climatically, and calendrically.

In this early period of winter, then, the pace of things has not slackened much from autumn. But by January, or before, that changes, too. The landscape is under a thick blanket of snow and the temperature stays well below freezing: winter literally envelops the pastoralists and their animals. The area over which a herd pastures shrinks as the animals spend more time, and burn more energy, digging through to their food supply. They stay closer together. Likewise with the herders: now in their smaller winter camps with, at last, their own animals, the Saami know the months of deep winter (January to March) as a time of peace (rafes-ai'ge).

Whereas summer herds are large aggregations on physically separated pastures, on this winter terrain herds are smaller (so there are more of them) and pastures constitute an overlapping quilt (Fig. 7). The absence of physical obstacles means that animals could wander of their own accord from one end to another of the Kautokeino tundra. That herds, by and large, stay 'put' on 'their' pastures is accountable, first and foremost, to the natural attraction each pasture holds for the animals. The total pattern amounts to a fairly equitable spatial distribution of herds across the total area, with separated herds pasturing separately without commotion, often in near proximity to each other.

Of course this would not happen, let alone be sustained, without the intervention of herders --and that would be worth little without up-to-date knowledge of local changes in climatic conditions. Temperatures? Wind force? Depths of snow? To complete this necessary knowledge, the herder needs a mental case-history of how the snow fell during the preceding months or weeks: all may augur well, or, the indications may be such that he devises

Figure 7 Winter herds



possible alternative pasturing strategies with his fellows. So as is true of all seasons, one is safest where pasture is ecologically varied, even on a micro scale. Thus, herders stress the importance of being able to move locally between vuobme and open tundra: in the vuobme, snow is less likely to become tightly packed than it is on the windswept tundra; however, it often becomes too deep, especially for the younger deer --it is then that one might take the herd to pasture on the open tundra. But the viability of that move will depend on several natural factors, one of which is that the sun of late winter does not "bake" a snow crust on the exposed slopes. Perhaps by that time, though, the depth of snow in the vuobme will be reduced anyway, so ... In short, one looks to trace a viable path between changing alternatives.

The peace of this season may be threatened, however. There is always the possibility of a diminishing food supply or one which the animals cannot reach at all on account of ice over the lichen beds. Then the animals will want to wander, and it is left to the herder to compensate for the constraint he has imposed (through herding) on the animals' freedom of movement. Using his ski staff he will test the depth of snow and the strength of a crust; in worsening conditions, he may dig some "craters" to help the animals reach the lichen; and when that access is impossible, he will cut foliage and pull down hanging moss for his animals; and/or move his herd to another area even though there is already another herd (or herds) there.

Ordinarily, though, the daily problems of herding during deep winter are minimal. So, time is given to essential undertakings beyond the routines of herding, undertakings of very different kinds. For one, owners take stock of their herds. Small numbers of animals -- up to a couple of hundred, say, among several owners -- will be herded across the tundra to be sold on-the-hoof in Kautokeino, perhaps in Karasjok. And it is especially now that families butcher and prepare meat for domestic consumption through the spring and summer. Since autumn, families have been mostly eating meat boiled fresh or smoked; those with poorer economies may have sold some of the better joints and delicacies (marrow bones, tongues, and the like); the blood is never wasted but cooked in a gruel for the dogs. The meat now being prepared for the spring, however, is salted, hung and dried: the staple that herders will have with them in their rucksacks. Because it is dried, it is especially important that this meat is taken from a fat animal. Indeed, some owners make a point of taking a young female; others who could afford to but do not do so, perhaps taking a young bull instead, will be ridiculed behind their backs.

Then there are the preparations for the spring migration. Families who shared herd and camp through the winter may each be going to their own spring camp.

If so, their animals must be separated. Soon afterwards, in the case of many family herds, bulls will be separated from the cows.

Spring

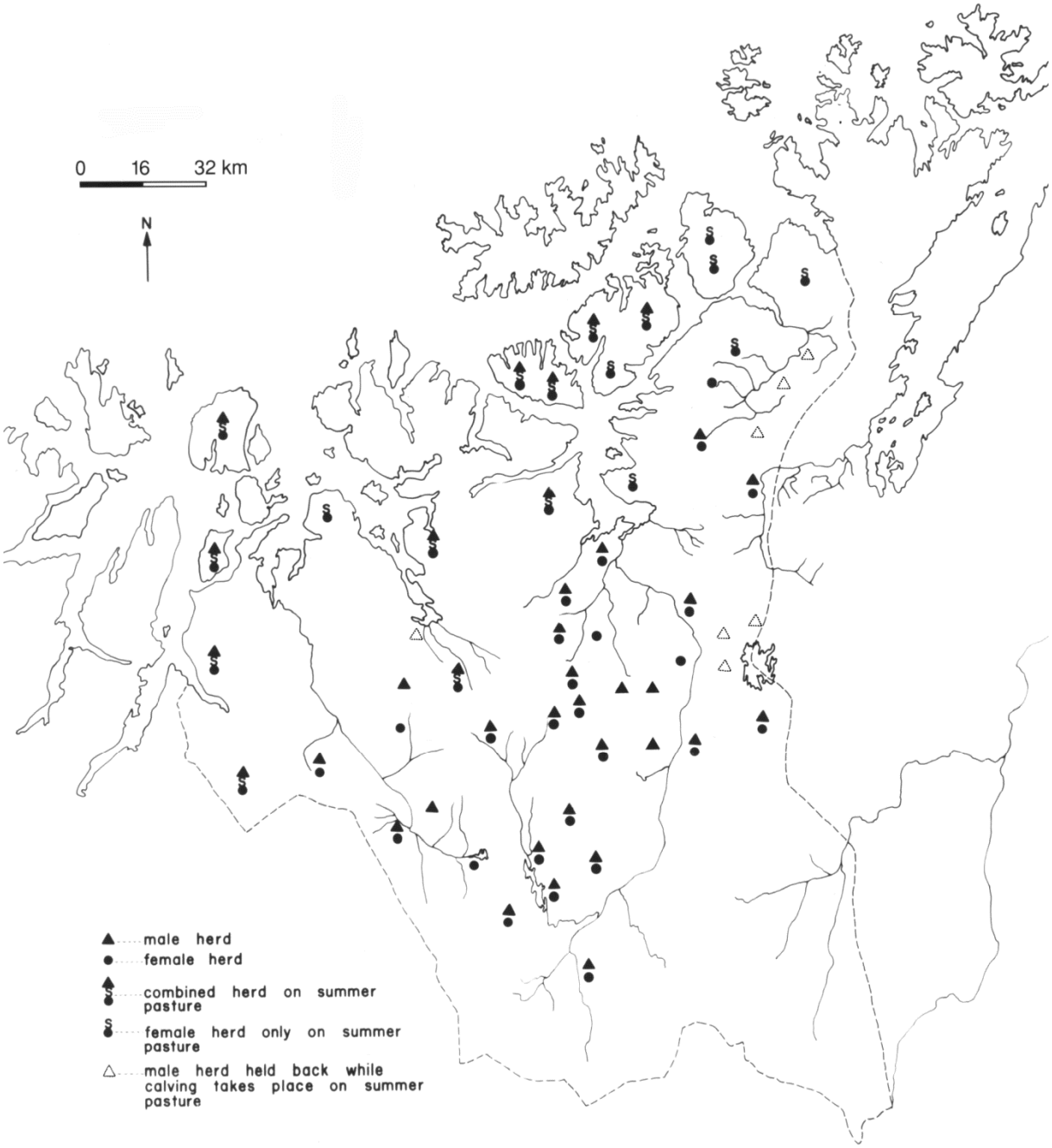
There is a confluence of factors in the movement of the herds off the winter pastures. The new vegetation draws animals: grasses in the place of the winter fare of lichens; and for njar'ga herds at least, there is probably the associated desire for salt in their diet which the coastal vegetation supplies; if these factors weigh most with the males, for the cows it is the return to their calving places (or places of birth); and for the herders, the movement is also part of the essential rotation of feeding grounds: it saves the delicate lichen beds -- soon to be without a protective snow cover -- from being overtrampled. The move off the tundra also spares the animals the worst of the mosquito plague.

The final destination of the spring migration is the summer pastures. Some herds reach these pastures before calving. However, for many others there is first the move to the calving grounds which are in much the same areas as where the herds were for the rut. All the njar'ga groups of the Middle Range, camp for several weeks in the vicinity of their calving grounds and only after that do they begin on the last and longer leg of the migration to the summer pastures. During all this time the animals are kept under close watch.

Even though owners have been able to acquire a sound knowledge of their herds during the last months of winter, and the animals have been relatively undisturbed, there is a pervasive feeling of uncertainty about the approaching calving season. In talking about what the spring may bring, herders look back over the seasons of the year that is coming to an end: "last summer was too hot" or "the animals stood too long behind the fence," are typical reflections on which rest their forebodings. How these adverse conditions may have affected the two-year old females will be uppermost in their minds. The number of them that calf can vary appreciably from year to year, and it is widely regarded as a significant index of the well-being of the herd. Nonetheless, herders don't have much confidence in the ability of these young cows to nurse and nurture their calves (the highest percentage of lost calves is among first-time mothers, I am told). Attention will also be paid to how the calves of older cows fare: are their mothers able to graze efficiently enough to provide their offspring with enough milk?

All the njar'ga groups of the Middle Range separate male animals from cows before setting out for the calving grounds. There are several reasons. For one, the bulls and castrates (especially the former), unless held back, will range widely in search of fresh vegetation that the spring thaw is uncovering. It is quite usual for the departure of the male herd from the winter pasture to

Figure 8 Spring herds (1961)



be delayed until calving is well advanced at the spring camp. The concern of the cows, on the other hand, is to find sheltered places in which to drop their calves, and they have to be herded carefully to prevent them from scattering and "hiding" in the landscape. Another reason for the separation is that although a cow which is pregnant or has a newborn calf tolerates other females, she will be nervous and restless in the presence of male animals. The date on which the first calf is dropped and the period that elapses until the last calf is born are likely to vary from herd to herd, and even from one year to another within the same herd. Among several factors, the most important is the duration of the rut in the previous autumn and the conditions prevailing in the herd at that time. While it is usual for calving to be concentrated in the first half of May, some calves may well be born before the herd of pregnant cows sets out for the spring camp and even while still in the same herd as the males. More calves are likely to be born on the way to the spring camp, perhaps a journey of two days; these will be taken along on sleds, their mothers following.

Herders usually have a particular location in mind for the calving ground --and the "nursery" (aldo manus). Perhaps a long and gentle southern slope with optimal exposure to the sun and good drainage: since the new-born calves sleep much of their time, with their mothers grazing or dozing nearby, it is important that the ground be relatively dry -- on wet ground reindeer become restless; and the openness of such a site (over which constant watch is kept) helps to give protection from predators. It is not uncommon for a sii'da to return to the same location each year: whether they occupy it in any particular year, however, depends on a couple of factors. First, the convention of usufruct with respect to calving grounds is left broadly interpreted and a principle of 'first there' is also accepted; second, the number of calves already born while *en route* may cause the herders to abandon their original plans. So they may have to settle for a calving ground which is, in their opinion, less than ideal: its selection may be forced upon them in a situation of decreasing options as calving progresses. Yet the consequences of this are usually not too serious; the terrain is, by and large, suitable and herders have an intimate knowledge of it.

By being in attendance at spring camps, herders gain valuable knowledge of their animals at this critical phase in their life cycle. Most valuable of all perhaps, one is able to distinguish between the different circumstances attached to cows without calves: cows that may be sterile (e.g. a three-year old or more that still has to calve); cows that failed to calve this time but have done so in earlier years; and in the case of cows that gave birth but lost their calf this spring, one wishes to know how they lost it. By the time a cow has calved for the second time, it has a 'biography' on the basis of which its owner is able to

predict her behaviour in various situations. With this kind of knowledge, decisions regarding which cows to slaughter will be better informed.

The migration to the coast cannot begin in earnest until a few weeks after calving. There may be several short moves to new pastures, but the calves must be allowed time to gain strength before the long journey. This period is known as the spring of summer, and it is the time of the spring camp proper. The few herders who watched over the calving are now joined by their families, who bring with them the male herd.

Herding routines now encompass the two herds. Although they are still kept separated, herdsmen are able to move from the one herd to the other. The male herd is taken on relatively wide pasturing circuits and brought back each day to a position that is "in front of" the cows and their calves. This way the cows are left undisturbed (for it is most unlikely that any of the males would wander "back" towards the winter pastures). Moreover, any cows that manage to wander (in the general direction of the spring migration) are likely to be observed by the herders who are with the male herd. Were the arrangement the other way around and the cows pastured "in front of" the males, the encroachment of the males into the cow herd would always be a likelihood, and should any of the cows wander, there would be less chance of finding them.

The landscape steadily changes character at the spring camp. After 21 May the sun does not dip below the horizon. Despite brief snowstorms, and even in those years when overcast skies withhold the sun for many hours, the snow retreats almost daily and the spring vegetation begins to grow apace. These changes mean that the decision to move out to the coastal summer pastures must soon be taken. But in deciding when to begin the move to the summer pastures, opposing considerations have somehow to be balanced. The longer one waits, the stronger the calves will be. But the longer one waits, the more difficult the journey for the calves on account of the thaw and spring floods (for rivers have to be negotiated).

Usually in the first days of June, preparations will be made to move, before it is decided exactly when to move. Rain or cold winds from the interior can delay departure (even on migration, herds tend to veer into the wind); another cause of delay can be the movements of other herds in the vicinity. But the prospect of an exhaustion of good pasture in the spring camp area brings urgency to the move. Typically, a period of warm winds from the coast, winds that will draw the animals forward (and which may defy all efforts made to keep the male herd pastured in the vicinity of the spring camp), will end such a period of indecision.

The male herds reach the coast in a matter of a few days, following an alpine route (not manageable for the nursery) on account of its snow cover and travelling by night (which is now light) for the sake of lower temperatures. Along with this herd goes the baggage train -- fully-loaded sleds pulled by draught animals -- together with most members from the spring camps (certainly any children and old people).

It is left to a few herders (men and women) to undertake the longer and more difficult journey with the cows and calves. Meagre supplies are packed on the backs of draught animals, the route renders the use of sleds impractical at this time of year. Whatever route is chosen, calves will need much rest and physical help from the herders, especially when transversing rivers and ravines. All the while they (and their mothers) need to graze and if for no other reason than that, the high altitude routes along which the (fast-moving) male herds are taken are not practicable. There would always be the risk of not enough pasture easily available (the terrain may be stony; where there is pasture it may be under ice crusts). Herders speak loosely of expecting to reach summer pastures near Midsummer's Night, 23 June.

Whether it is more advantageous to be behind or in front of another herd is a particularly pressing question when travelling with the nursery. However, there is no uniform answer. In general, those who are behind have to take care to hold their animals back, and those in front can be reasonably sure that most of their stragglers will be herded by those behind and thus still reach a summer pasture--if not the owners'. On the other hand, animals that are behind can sometimes draw advantage from following the already-trampled snow and/or the smell of the herd in front, and herders may draw advantage from learning about problems those in front of them are experiencing as they traverse the terrain. But much depends on the local, variable natural conditions and, ultimately, on who is in front or behind.

CONCLUSIONS

This portrait of the pastoral year as an ecologic system, with space and time components changing in tandem, raises several analytic issues worthy of brief comment.

Knowledge

The annual cycle of herd knowledge on Middle Range ("A" on Fig.9) differs significantly from that on the other two ranges ("B"). The difference springs from these alternatives:

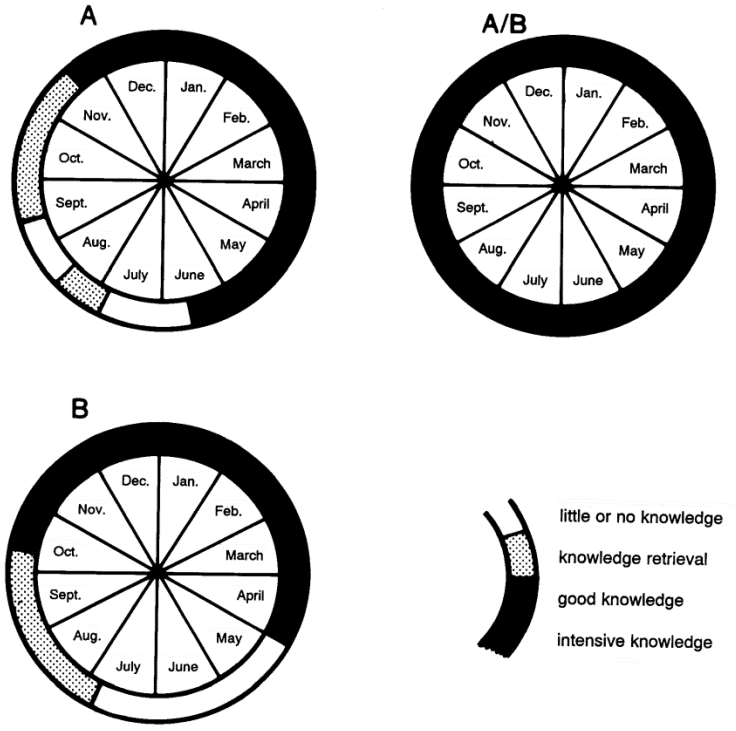
A.	A/B.	B.
calving grounds on spring pastures with herders in attendance	same as A.	calving grounds out on summer pastures without herders in attendance
critical crowding behind fences & around autumn at fences & corrals	same as B.	avoidance of critical crowding corrals
and the distribution of the alternatives is:		
most njar'ga herds	a few nanne herds	all suolo herds most nanne herds a few nar'ga herds
characteristic of West & East Ranges		characteristic of Middle Range

Only the few nanne herds in "A/B" have unbroken herd knowledge of quality: calving takes place on spring pastures, and the move to summer pastures is a relatively short one. But unbroken herd knowledge means an unbroken work cycle: some watch will be kept over the herd even through the summer to avoid undue dispersion, and the herding watch continues through the autumn --this time to hinder mixing with other herds, principally njar'ga herds as they pass by.

Now, differences as to when in the pastoral year herd knowledge is optimal have a strong -- if not determining -- influence on pastoral production profiles. Let me demonstrate this by comparing the production of two owners, one from Middle Range and the other from West Range, whose herds are approximately the same size (1000 animals before calving). In the case of the former, the high quality of herd knowledge he amasses at the spring camps directs his attention to the multi-variable permutations of his herd as a reproductive unit; the West Range owner lacks that kind of herd knowledge, but what he has in appreciably greater measure is sound knowledge and herd control through the autumn. He applies this knowledge to production -- and for him herd composition maximizes one value.

To illustrate that distinction, consider the following. Both owners have more bulls than castrates, but for quite different reasons. For the Middle Range owner, Iskun Biera, the bulls are studs for the increase of the herd; for the others, the bulk of them are to be marketed -- nor does he bother much about castration, as a means of increasing body weight, for he concentrates his production on the sale of young males. There is a clear economic rationale in play here: the greatest growth of a reindeer is in its first two years; thereafter

Figure 9 Annual cycles of herd knowledge



there is slow incremental growth, and each year animals are lost. So the sensible time to sell an animal is at the end of the two years. But Iskun Biera does not do that, his rationale is of another kind: just as he keeps biographies of his cows, so he likes to see his bulls grow and pass through the different age-classes. If for the West Range owner optimal herd size is constantly reviewed as an economic matter, for Iskun Biera the aesthetics of herd composition are no less a concern.

A glance at some slaughter and sales' percentages of the two owners adds a further dimension to this difference between them. Slaughtering three times as much as the other, the West Range owner sells them all on-the-hoof (less those kept for home consumption) which speaks to an economy of decisions; Iskun Biera, on the other hand, sells some on-the-hoof and others he himself slaughters to sell as joints of meat. The overall slaughter percentages for the two owners are 7% and 20%, respectively, and the kroner income of the one is four times that of the other.

Carrying capacity

It also follows suggest that the prevalent notion of carrying capacity as

"natural" and therefore determinable by "objective" measurement[3] is seriously misleading regarding the nature of this reindeer pastoralism. For several reasons: First, in no two years do pastures necessarily have the same "natural" carrying capacity. Second, there will be differences (of the A vs. B kind, above) in the suitability of seasonal pastures in relation to specific pastoral requirements. Third, there is the need for a pasture of each season to offer both ecologic combination and, especially in the winter, access to alternatives. Such distinctions and desiderata are not quantifiable. And fourth, pastoralists determine not just the size of their herds but its composition and, in particular, how long an animal shall live; again, these determinations rest upon subtle combinations of factors -- with different outcomes (as shown above) -- among which "natural" carrying capacity is simply the one of last resort.

Carrying capacity, then, has much to do with what these pastoralists desire. This means moving carrying capacity, in our analyses, into the active voice with expectation of different practitioner strategies according to their particular circumstances, and also their individual values. These values may be appreciably independent of the kind of circumstances we have had under discussion thus far -- as comparison between Iskun Biera and his brother, Iskun Mikko, demonstrates. Along with other close kin, the two have shared the same summer pastures (VII on Fig.6) for years. Iskun Mikko is two years younger than Iskun Biera, but the two men are similarly situated in terms of family development cycle -- if anything, it is Iskun Mikko who is the more favourably placed regarding a domestic labour force. However, he has less than half the animals his brother has. I believe this is largely accounted for by differences in the personalities of the two men -- their desires and their abilities and hence their respective self-images. Iskun Biera is "energetic" where Iskun Mikko is relaxed but it is he -- rather than Iskun Biera -- who has reindeer "talent;" Iskun Biera, for all his wealth, is not "proud" but definitely "cautious" even "miserly," whereas there is a touch of extravagance about Iskun Mikko.[4] Their production profiles offer corroborative testimony: Iskun Mikko actually slaughters rather more animals than his brother (his percentage slaughter is on a par with those of the West Range) -- including many more cows. For these two men (and many others, I wager) "optimal herd size" means quite different things, and the clue as to the nature of the difference is in (what we might call) the "optimal life fulfilment" of each. In short, carrying capacity should not be taken as analytically 'given' and based on generalized energy ratios and -- an even more

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3 Of the so-many hectares of pasture containing so-many tons of nutrient for so-many animals consuming so-many kilograms per so-many units of time kind.

4 The operative Saami words here(as spoken by informants) are: saerra, fitmat, caewlai, i duost, and hanes.

grievous sin -- pre-determined and unproblematized values such as "profitability."

Sustainability

So we are led to the question: *whose* standards of sustainability? To neglect the question, exposes the very notion of "sustainability" --a current shibboleth-- to the risk of being used as a science alibi for a political warrant to re-order practitioners' ecology and economy according to the values of the state. I was alarmed, therefore, to read in the Preliminary Programme (1992) for this MAB conference how the conclusion that "over-grazing" is the problem with current Saami reindeer pastoralism was already reached (p.2). Further, regarding primary resource livelihoods in general, the problem is how to change the regimes of utilization in a direction approaching a more sustainable resource use pattern. [This means] changing the structure of property rights to the resources (pp.3-4).

This sounds to me very much like giving 'models for' analytic primacy over 'models of'. Perhaps the difference between the two may be justly put thus: In the *model for:* the analyst constructs a scheme that is as close as is possible to certainty. However, from the practitioner's point of view, this likely means forcing certainty onto a world full of uncertainties. It also means the analyst uses abstract logic to gain control over the interaction between practitioners and the environment in which they operate; and consistency of action is seen as a virtue.
In the *model of:* uncertainty is recognized and incorporated, hence ambiguity and contradiction are also recognized as inevitable constituents of reality. This leads to a praxis in which contextual knowledge is central; and contextual knowledge is closely allied to practitioner experience, and thus, praxis has a strong pragmatic character.[5] While in the field, recording a pastoral year, I was often reminded that "this is how it is this year, but next year may be different" -- *uncertainty,* in other words, was a pervasive element in the pastoralists' understanding their occupation. And responding to it, they drew upon contextual knowledge as a guide to action. Care must be taken, then, in our search for the holy grail of "sustainability" that we don't erode practitioner responsibility for what they do, thus risking, as I argue elsewhere,[6] the creation of the conditions under which the Hardinian "tragedy of the commons" emerges.

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5 See Brian Wynne, "Misunderstood misunderstanding: Social identities and public uptake of science." *Public Understanding of Sceince*, 1:3 (281-304).

6 "Social construction of the 'tragedy of the commons' and Saami reindeer pastoralism" *Acta Borealia*,---- (1993).

SAAMI PASTORAL SOCIETY 1990: THE NATIONAL INTEGRATION OF AN INDIGENOUS MANAGEMENT SYSTEM.

by

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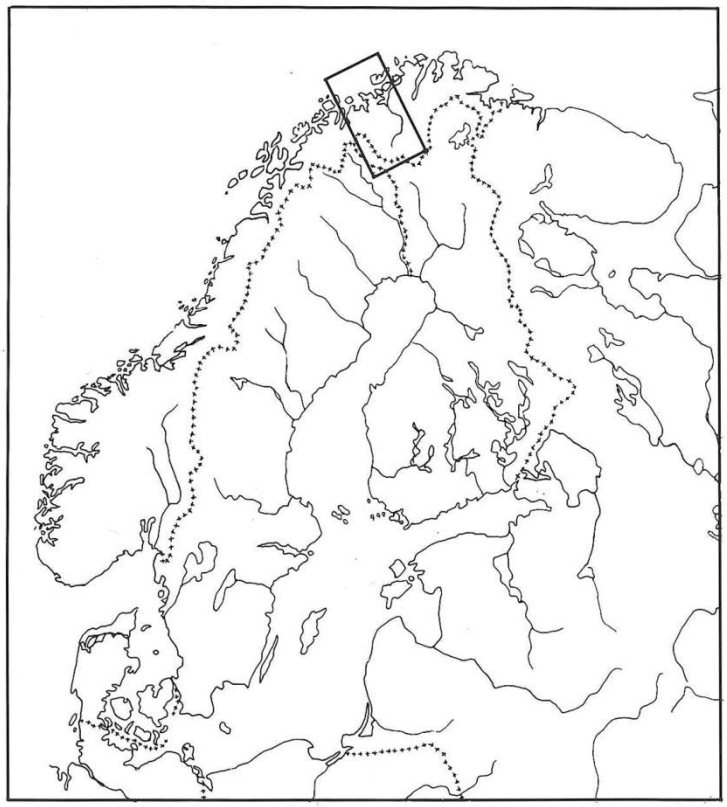


Introduction

In 1992 the Norwegian government delivered a report to the Parliament, where it was concluded that "- the law (regarding reindeer husbandry) has not worked according to its intentions. (It) has not been able to secure a balanced resource management and a viable adaption"[7].

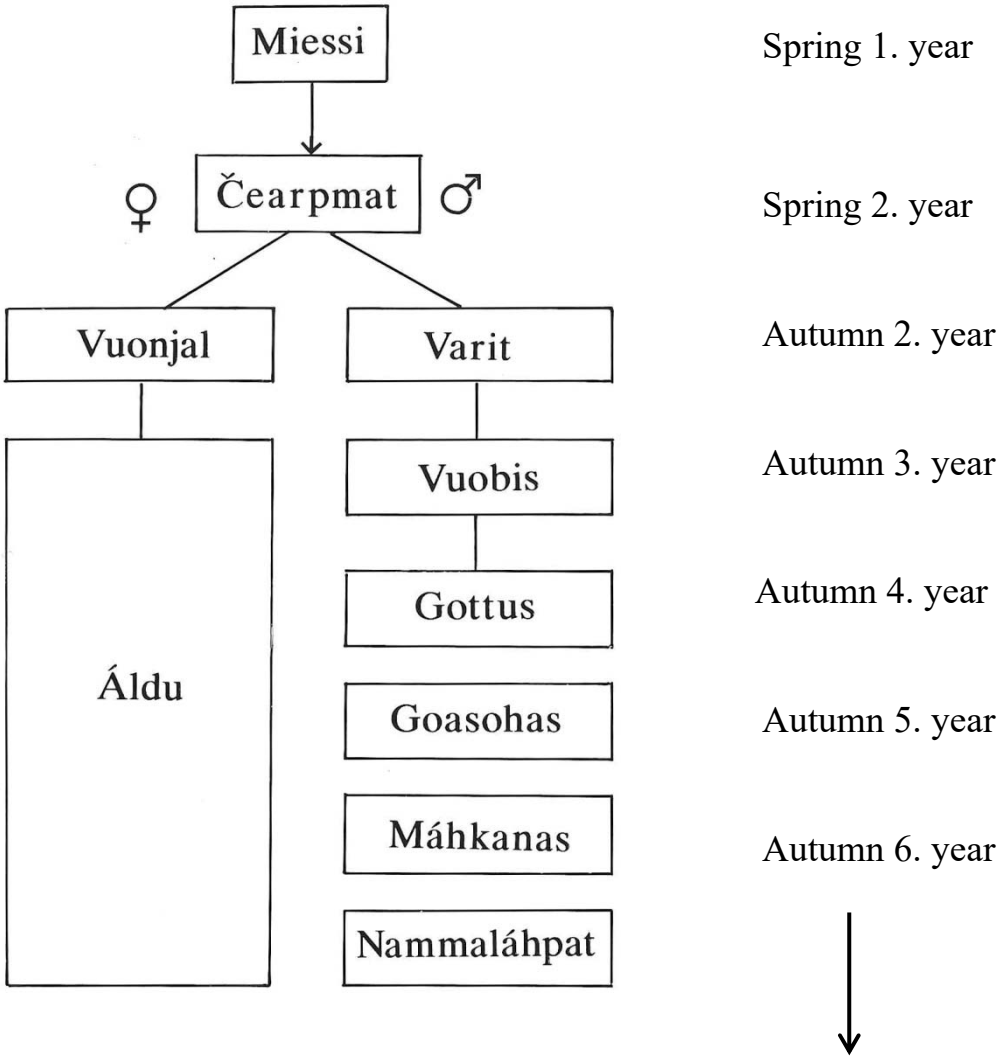
Now, these are rather harsh words being a governmental report and certainly beg for some questions. In the following I will therefore take a closer look on *why* this policy has gone wrong and ask what are the consequences of this failure?

7 St.meld.nr.28 (1991-92) "En bærekraftig reindrift", s.67.

The answers might shed some light on the viability of indigenous management systems in ecological terms and the consequences of the economic and political integration of such systems into the national state.

Saami reindeer herding has seen quite a few changes through the centuries, but some ecological basics are still there. In management terms, these are reflected through concepts like *mobility* and *flexibility*. The general descriptions of reindeer herding tells us for instance that in the county of Finnmark more than 150.000 reindeer are moving twice a year between winter- and summer areas. It is thus rather obvious that reindeer herding has a lot to do with variation in terms of pasture.

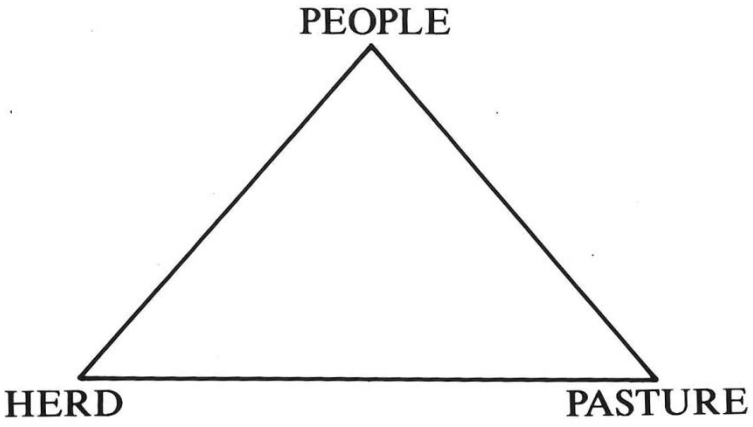
Figure 1



But we also have to remember that it is a question of variation in terms of animals. As Fig.1. tells us, there are quite a few categories of animals in a herd. Now, different kinds of animals need different kind of pasture throughout the year. To obtain this, you have to move the animals according to the different grazing conditions. The pastoral task is to obtain the optimal relation in time and space between pasture and animal (Bjørklund 1990). This has of course, been the everlasting problem as long as pastoral adaptions has existed.

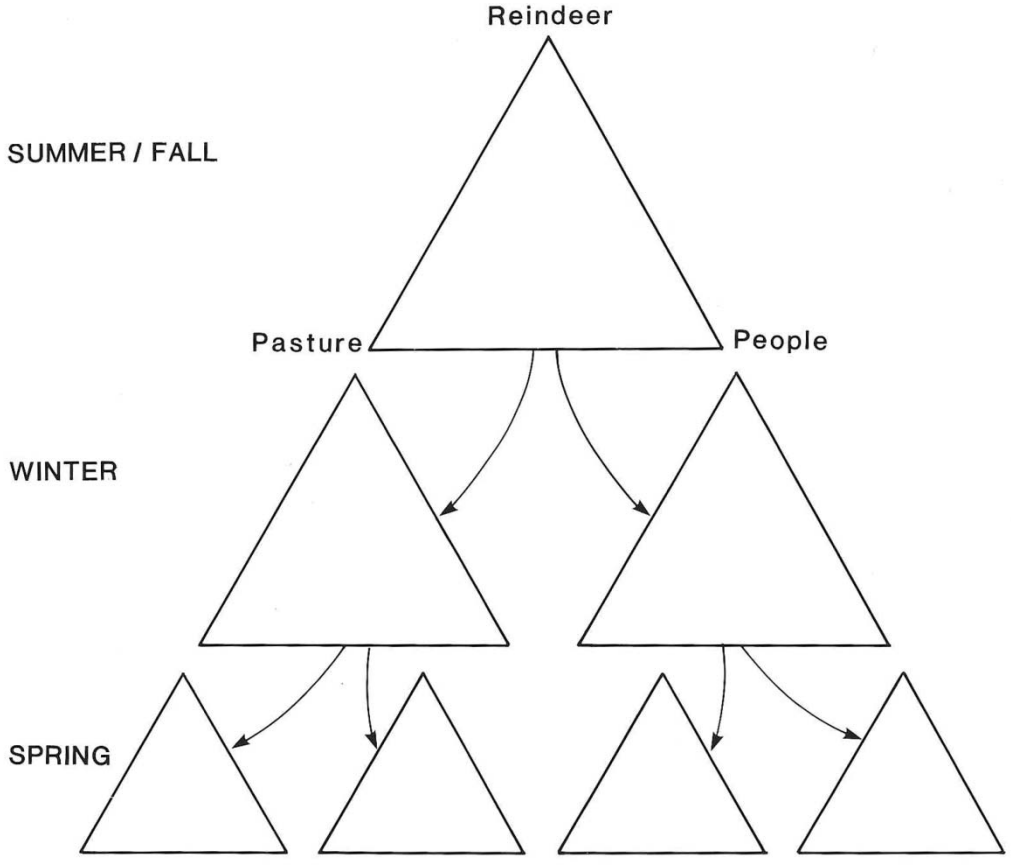
In the Saami pastoral society every animal is owned individually. The animal belongs to a boy, girl or a grown up person who cuts his or her mark in the ear of the animal. These earmarks are actually important cultural devices which tell stories about social relations among the owners. One consequence of the individual ownership is that you must always move the herd in such a way that you take care of the interests of both animals and the owner.
Now, this quest for mediating the relation between pasture, animals and their owners has to be organized in certain ways. It is this organization we could call an indigenous system of resource management. In the following I will give a short outline of how this system has been based upon pastoral knowledge and organized through a Saami cultural institution called the siida. This institution represents a flexible co-operation unit between people and animals. By dividing and combining the herds and the personell throughout the year, you try to obtain the optimum relation between animals, pasture and labour (Fig.2).

Figure 2



For instance, the available pastures in a given calving area, might not be enough for the number of animals who where together in the wintertime. So the reasonable thing to do is to split the winterherd into smaller herds, each moving into different calving (and maybe summer) pastures. As the herds differ in size through the year according to the various grazing conditions, so also do the demand for herding tasks, knowledge and labour. Thus the management unit - the siida -changes size and composition through the year, as the herders are dividing and regrouping their herds (Fig.3). Their strategy is never to be in a position where the size and composition of the herd is not in proportion with the available labour and pasture. If such a situation is approaching, individual herders will try to withdraw their animals from the common herd and join other herding units -according to kinship relations and available pasture.

Figure 3



Today, this management system is no longer operating in its traditional terms. The political and economic integration of this Saami resource regime into the Norwegian national state, has been going on for 15 years. These integrational efforts have taken place along three dimensions:

1) The ideology of the Welfare State which prescripts a levelling of income and economical welfare for all. The state is supposed to be the caretaker of the interests of any member of society and the basic political goal is to provide these members with a fairly equal amount of social and economic welfare. This is done through a rather complex system of laws, regulations and political negotiations. As for the pastoral Saami - and the Saami as a whole until the 1970's - - they were more and less outside the corporate channels of the state and this situation constituted itself a problem for the national authorities. In addition, all statistics would tell that their income of the pastoral Saami in monetary terms was way below the national average. Furthermore, their wealth in terms of animals seemed to be rather unevenly distributed.

2) Conflicts regarding the use of land came apparent throughout the 1970`s. A growing number of land-use conflicts appeared in the reindeer herding areas because of the building of new roads, hydro-electric dams and military installations. This development led to strong protests from the reindeer pastoralists and some of the cases were taken to court.

3) At the same time, new technological innovations were introduced into the reindeer herding society. Snow scooters, motorbikes and four-wheel drivers made new herding techniques more efficient, but also generated a growing need for money. Governmental housing programs and a fast growing supply of consumer goods only contributed to an expanding cash economy.

All these processes led to a situation where it was considered political important "to do something" about reindeer herding. In governmental language this meant turning it into a national economic sector with specific aims and rules regarding concepts like modernization and rationalization. Because of the growing number of animals in the end of the 1970's, many Norwegians looked upon reindeer herding as a living proof of the tragedy of the commons and argued for governmental interference. Other - among them quite a few Saami - thought of it as a source of income which could be made considerably more profitable through governmental intervention and control.

This development led to a special economic agreement in 1976 affecting all reindeer herders and a new law on reindeer herding two years later. The main intention behind the law and the regulations specified in the agreement was in

national economic terms to transform the pastoralists into meat producers and thereby generate economic growth in the sector of reindeer herding. This was to be done by 1) reducing the number of animals and 2) regulating the herding activities. The rationale of the agro-economists was that fewer animals inevitably led to bigger animals and with the help of more efficient forms of herding, the production of meat would expand[8]. The practical consequences of this policy was the introduction of an upper limit regarding the number of animals allowed in each district and an extensive set of regulations to rationalize and modernize the herding.

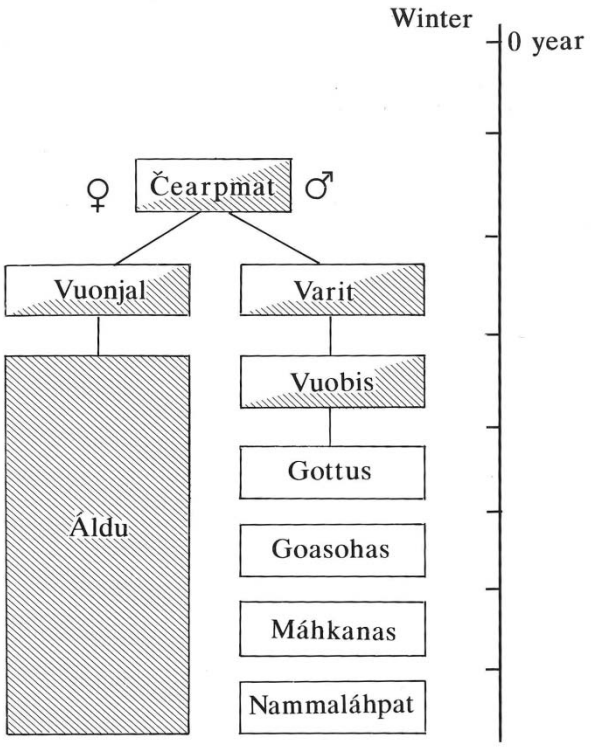
From then on reindeer pastoralism has been a management system in transition. This transition has to do with the fact that Norwegian political institutions are now taking control of the pastoral factors of production (Fig.1) - a control which earlier, as I will show, was exercised through Saami cultural institutions. It is this process of integration which is going on today and which is generating a lot of political and social turbulence. In the following I shall examine more closely the steps and substance of this integration, to see if there is something to be learned from the fate of this indigenous resource management system.

1) **The herd.** My concern here will be how the governmental interference grabs right into the size and composition of the herd. In order to get the governmental subsidies, everybody has to slaughter a certain percentage of his or her herd. For those who slaughter calves - which is an idea strange to pastoral values - there is an extra bonus. The government thus interferes directly with husbandry decisions (Paine 1964), regulating which animals to slaughter and which to let live. The ability to make this kind of decisions was always considered the proof of being a reindeer owner of your own. Basically, this is what pastoralism is all about: To be in control of the lifecycle of the animal.

The fact that the size and composition of the herd are now regulated by governmental economists has had serious consequences for the maintenance of pastoral knowledge. As one can see from Fig.4, the number of animal categories has today been drastically reduced. The system of subsidies has made it profitable to have only 2-3 categories in the herd. Also, the mechanization has greatly reduced the need for draft animals. According to the governmental scheme, the ideal winter herd today consists of no calves and very few bulls.

8 Cfr. "Grue-utvalget".

Figure 4



This situation, of course, makes the herders much less flexible when it comes to manipulating the herd. For instance, the greater proportion of bulls in a herd, the easier it is to separate the herd in two parts according to gender and manage the herds in different ways and direction if for instance pasture conditions should make this necessary.

From fig. 4 we can also tell that the "modernization" of the herds inevitable has a cultural dimension too. It has greatly reduced the vocabulary - and thus the traditional knowledge -used by the herders when they speak about the animals.

2) **Pasture.** One of the most obvious consequences of the integration of Saami reindeer pastoralism, has been the rapid growth in the number of animals. For statistical reasons it is very difficult - not to say impossible - to estimate the number of reindeer in Finnmark through time. Reasonable correct numbers are only available for the last ten years or so. But it seems justified to state that the number of animals has varied in cyclical trends throughout the last century (Bjørklund 1989).

However, it has now been documented how the relatively strong growth in the last 15 years is a direct consequence of the subsidising policy (Sara 1990). Subsidies have reduced the need for slaughter, because the pastoralists are reacting according to the kind of rationality described by Chayanov more than seventy years ago among Russian peasants: Production decreases as cash income increases (Grønhaug 1976).

It is, however, not the growing number of animals which has created problems in Finnmark, but rather the growing number of herds. More animals means larger herds which in turn generates more herds, because of management necessities and cultural practices. Because herds, as mentioned earlier, are separated according to seasonal conditions and labour demand, more herds have practical, social, and ecological consequences.

First of all the growth increased the possibility for random mixing of animals, which then had to be separated again. The increasing amount of herd separations did generate social conflicts, since such operations inevitable involved questions regarding ownership and responsibility. And furthermore; the ever repeated separations had serious effects on pasture conditions. A separation today involves a lot of motorized activity - the animals are herded together by the use of motorbikes and/or snow scooters and rushed into large corrals. When this takes place at a time of the year when the ground is not covered by snow, the results are destruction of lichen pasture. Being dry in the summertime, lichen is extremely vulnerable to any kind of wear - be it from motorbikes or reindeer hooves.

To reduce the problem of mixing the herds, long fences have been built all over the tundra. Now, these fences have impact upon Saami management practices, because such installations are not only separating herds on a permanent base. They are also permanently separating pastoral areas, making it impossible - or a criminal offence - to use pasture not assigned to you through the legal system of the state. This situation is reinforced through official regulations stipulating *when* your herd can enter and leave a given area. On the top of this development come the ever ongoing kinds of land encroachments. Tourism, roads, powerlines etc. do not only reduce available pasture, but have a tendency to close off areas which are of strategic importance in the pastoral herding strategy.

The growing numbers of animals and herds have together with the reduction of available pasture, strongly reduced the most important asset of the pastoralists, namely flexibility. It is now becoming more and more difficult to cope with variations in climate or pasture conditions. Traditionally, the reindeer pastoralists were able to mediate the carrying capacity in a given area. It is very important to bear in mind that in our context the concept of carrying capacity is not a fixed size as many biologists would argue. On the contrary, it is something which - within given biological limits - can be manipulated through management practices and herd composition. The carrying capacity of any area is something you evaluate and then mediate if necessary.

Figure 5

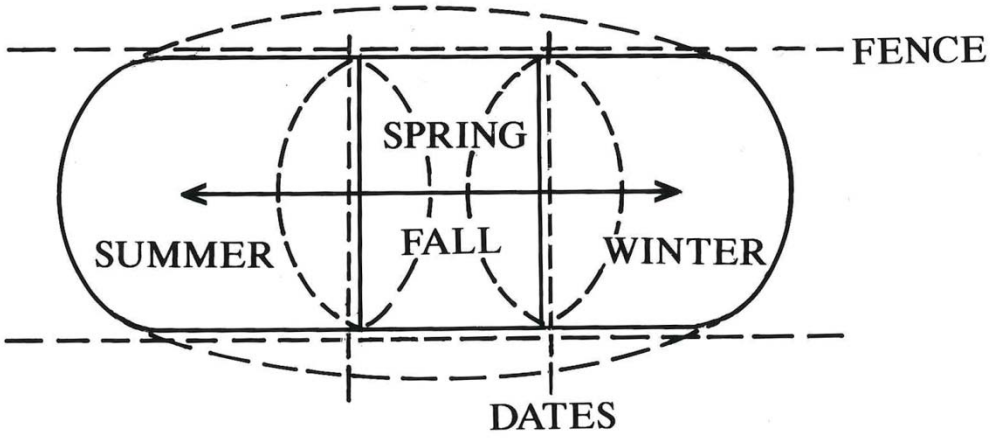


Figure 5 gives an idea of these dynamics. If for instance pasture is becoming too scarce in the summer area because herds are expanding, the answer from the herders might be to leave the area early and keep the animals longer on autumn and winter pasture. Or if the conditions in the autumn become very difficult due to climatic fluctuations one year, one solution might be to move the herd through a neighbouring area, especially if it is temporarily vacant. This kind of flexibility has characterized Saami reindeer herding as long as it has existed, but is today becoming more and more problematic. Fences, pasture regulations and a growing number of herds and animals have strongly reduced the possibility of such strategies.

3) **Personell.** Today, the working units are facing problems regarding the management of both knowledge and labour. The law of 1978 introduced an official permit ("driftsenhet") for the right to be a reindeer owner. Most Saami at the time thought of this as rather irrelevant. In their view there were quite other - and more realistic - circumstances which decided who could qualify as a herder; like capability, talent and kinship relations. But those who happened to apply received a permit. The rest did not. And from the middle of the 1980`s, no more new permits were given out because the Department of Agriculture thought it necessary to reduce recruitment. From now on herding permits could only be obtained by succession within the family.

According to the letter of the law, the recruitment of herding units was now under control of Norwegian political institutions. Traditionally, Saami cultural arrangements had taken care of the recruitment. Animals were allocated to children at certain ritual occasions. When one received a reindeer for the first time, one also received an earmark and was thus de facto a reindeer owner.

This happened both when a child was baptized and confirmed. Along with the gift, also came the responsibility of being a reindeer owner. Children learned how to take care of their animals and were thus socialized into the world of reindeer pastoralism. When the time came to marry, both spouses were in the possession of knowledge and enough animals which - together with the animals given to them as wedding gifts - made it possible to establish themselves as a new herding unit.

The fact that recruitment today depends upon legal rules and political circumstances in the Norwegian society, has profound consequences for the pastoral management of both knowledge and labour. As for knowledge, the traditional way of recruitment meant that without knowledge and skills you could not establish yourself as a reindeer owner. But within the administrative system of today, there is not necessarily a connection between knowledge and recruitment. It is not skills and knowledge which decides who get a permit, but quite other circumstances like political decisions and rules of inheritance within the Norwegian society. It has always been a basic pastoral value that all children should be able to try out their interest as herders. But it was also very well accepted that not all had the abilities to succeed. Today, it not only your competence, but rather an official permit which make you able to succeed in economic terms.

Concerning the consequences for labour, the siidas are facing a loss of flexibility and new sources of conflict. The herders are now turned into A- and B-teams, so to speak. Because of the subsidies which followed from the economic agreement, the herding permit has become a valuable asset in monetary terms. Only those with a permit get an annual cheque from the government, those without get nothing. Understandably this situation creates conflicts within the working units -the siida - because all members more or less do the same kind of work.

The loss of flexibility goes on both within and between the working units. If you do not have a permit, but work as a herder - as quite a few people are - then you are quite dependent upon somebody in the siida who has a permit. In legal terms he[9] is the caretaker of your animals. This situation makes it very difficult to leave the siida and turn to someone else if you want to, legally you are stuck with this person whether you like it or not. Thus the composition of the siida becomes more or less fixed regarding membership.

But also the relations between the siidas have become less flexible. According to the administrative infrastructure, the summer pastures are formally divided into

9 Only % of the permits in Finnmark are issued to women.

"Herding Districts" (Reinbeitedistrikter). The winter pastures are still organized and used according to Saami customary law and traditional rules. Within each "summer district" one might find up to six or seven siidas who are different working units in the winter time. Now, these siidas have to cooperate within the "summer district", but the borders between the districts do not always reflect common interests among its members. Some siidas might have overlapping management strategies, which represents potential conflicts because the district has to act as one entity in all matter concerning common pastoral affairs.

It is for instance your membership in this "summer district" which defines how much you must slaughter in order to fulfill the regulations. The district has a collective responsibility to make sure that everybody slaughter the amount specified in the economic agreement with the state. If one person slaughters less, the district might not be able to fulfill its quota and subsequently no subsidies will be paid to the district as such. If one bear in mind how much individual decisions are valued in this society - especially when it comes to reindeer husbandry - one can easily imagine the dilemmas coming out of this enforced collective responsibility.

A concluding remark to this essay, could very well be the governmental statement cited in the beginning, namely that all the efforts to integrate Saami reindeerherding into the Norwegian Welfare State has been a failure. The strategy of the herders have been to use any available means to remain in their pastoral adaption. During these efforts, the character of their management has changed.

Because access to pasture has become less flexible and the opportunity for traditional cooperation is reduced, the control over individual animals has now become less critical. Much more important is the control over the herds as such. Thus the animals do not have to be so tame anymore. The herders have therefore developed management forms where they only exercise control over individual animals when it is necessary. These occasions are when you earmark the calves, separate the herds, and select animals for slaughter.

It is in this context the extensive use of technical equipment must be understood. It is the necessity for keeping control of the herds that motivate the herders to invest maybe half of their income in expensive technology like snowscooters, motorbikes, mobile nylon fences etc. It is this equipment -not to say its use - which today constitutes the Norwegian image of what Saami reindeerherding is all about.

It goes without saying that this development also implies a loss of knowledge related to the single animals and their habitus. The critical knowledge these days concerns herd management and the use of modern technology, not behavioral or biological characteristics among individual animals. The ongoing reduction of animal categories as presented in Fig.4, is a reflection of this development.

In other words, the way the Saami pastoralists adapt to the policy of integration is by accepting what could be used in their pastoral adaption and ejecting the rest of the policy and its devices. It is these strategies which over time have created destructive traits - not only ecologically, but also in social terms. As demonstrated by the breakdown of the traditional working unit - the siida - this development has both an ecological and a social dimension. Most herders will find themselves in a double-bind situation: Any herder, who wants to act according to customary knowledge and law, will likely be punished one way or the other.

He will either become a criminal legally speaking, because laws and regulations might exclude established and well proven forms of management. Or he might be punished economically because the policy of subsidies only pay off for the ones who manage their herds the way the state want them to - and that is a way contrary to most Saami values and customs. Processes like these put people between the hammer and the nail - or even put some into the court-rooms or the social-security system of the state.

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THE HISTORY OF RIGHTS TO RESOURCES IN SWEDISH AND FINNISH LAPPLAND

by

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1. Introduction

The problems concerning the existence of indigenous peoples are similar all over the world. The key word is the right to utilize natural resources: the situation varies from a total lack of such rights to being legally and economically more or less an "endangered" species. Indigenous cultures are tightly integrated, and breaking bonds with traditional livelihoods has posed and poses a threat to entire cultures.

One such group is the Saami in Northern Fennoscandia. Their habitat stretches from about Røros in Norway through the northern parts of Sweden and Finland to the Kola peninsula in Russia. Conservative estimates put the total number of Saami at 70.000.

Life on strictly local terms has required extreme adaptability of the northern indigenous peoples. Nature is barren and unproductive, a circumstance readily apparent when looking at the livelihoods the people are engaged in. Throughout the region the traditionally most important livelihoods have been hunting of land and sea mammals, fishing, and, particularly in Northern Eurasia, reindeer herding. Subsistence has necessitated great mobility, which is reflected in the social systems developed among the peoples. Permanent habitation in villages has not existed traditionally. Usufructuary areas - whatever the bases for their use may have been - have been extensive all over.

Globally, the issue of rights for indigenous people is often referred to as "aboriginal rights". This term is an effort to recognize that indigenous peoples have a right to land and water through some principle of natural law, namely they are the original inhabitants of their land and they have actually used the land to this day.

In Scandinavia, particularly in Sweden and Finland, the situation is decidedly different. The Saami, while never actually been conquered, became true judicial subjects of the state very early on, and the prevailing legal system recognized various rights to land and water use for them. For this reason the question of Saami land rights in Sweden and Finland is not only a question concerning

history and international law, but a question highly concerning the legal history in the whole country and Lapland specifically.

2. On the origins of Saami culture

It is difficult to talk about Saami culture or analyze its past without at least some discussion on whom the Saami are. The origin of the Saamis is, of course, a matter independent of official government definition and goes back far into prehistory. Although it is not possible to present a completely accurate account on the origin of Saami culture, a useful common factor seems to be discernible with the so called asbestos ceramics in northern Fennoscandia. Asbestos ceramics spread to the north about 1500 B.C., and came to prevail over all Finnish Lapland, northern Sweden, Finnmark in Norway and the Kola-peninsula - the very area that has been traditionally populated by the Saami.

In other words, the range of asbestos ceramics seems to represent the common denominator by which we are able to extract from the past a cultural range that is internally homogenous and clearly distinguishable from the surrounding cultures. The other common denominator is naturally language. The differentiation of the language into its own family of languages is seen by linguists to have taken place simultaneously with the above material process. In those days, thousands of years ago, the Saami culture, among many other cultures, was something else than the state culture. The process which resulted in us talking about the Swedish, Finnish, Norwegian and Russian Saamis was long. The institutional methods employed by the later states in their rivalry for dominance over the northern areas involved a combination of taxation, buildings of churches, trade, and, above all, setting up a judicial and public service administration in the area. The success of Sweden in this rivalry was quite considerable. It resulted in Sweden's control over a vast area that comprises much of today´s Sweden and Finland: the Lapland region of West Bothnia (Västerbottens Lappmarker). It is the judicial-historic past of this area that I have examined in my dissertation published 1989 and will shortly sum up in the following presentation.[10]

3. The nature of Swedish-Finnish legal system

Until the beginning of the 13th century, law in the area of what is today Sweden and Finland could mostly be termed as customary law. This applied to Lapland as well. Gradually, province by province, written law came to be developed. This initially resulted in many different provincial laws.

10 Korpijaakko, Kaisa, Saamelaisten oikeusasemasta Ruotsi-Suomessa. Helsinki 1989.

The first laws pertaining to the entire state date from the mid-1300s and from the year 1442[11]. In 1809, when Finland and Sweden separated, the general law in force in the country was the Code of 1734.

Due to these facts, Sweden-Finland could clearly be considered, in their legal development, to be among the rank of countries with their own statutory law. In reality this has meant and means, that legal guidelines in a dispute must first be sought in written law (that is, not case law). Additionally, disputes concerning land and water areas have in our legal system traditionally been so-called non-mandatory disputes. They could not even have come up for action without the initiative of the private complainant. These facts prompt one to ask, what the Swedish-Finnish ownership fundamentally was like, according to written law. Some short comments on this.

4. On title to land in Sweden-Finland

A closer analysis show, that land ownership can be understood as the sum of two bodies of statutes dealing with the same matter from two different perspectives. On the one hand, the law defined the basis by which a person in general could be considered a landowner. In this context the law exhaustively listed various forms of recognized legal title: inheritance, contract of sale, gift etc. The idea was, and still is, that, in case of dispute, such title had to be proved in order to verify the existence of a right.[12]

On the other hand, the law provided for protection under law that a landowner enjoyed on the concrete use of his land. In this case the law listed up all actions that, from the point of the landowner, constituted illegal interference with his property.[13] Legal acquisition and protection under the law formed the core of Swedish-Finnish land ownership rights.

This right of ownership had a strong background in customary law, which also became evident in earlier legislation on land ownership. From the 1500s, changes in political and economic life began to affect the legal development to an increasing extent, which meant quite significant breakdown of the traditional concept of land ownership. Sweden-Finland did not enter a wholly feudal period in its development as did most countries in Europe, but for the peasant, the title to land became subject to a large number of previously unknown restrictions, starting in the mid-1500s.

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11 The country and city codes of King Magnus Eriksson and King Kristofer.

12 This by presenting the original document concerning the legal act.

13 These lists were in older legislation very detailed: using another's fields without permission, fishing and hunting without permission etc. were all listed separately.

But, in spite of everything, if a peasant succeeded in remaining indipendent under increasing burden of taxation and other pressures, he came to be officially called a Freehold peasant.[14] The privileged freehold controlled by the nobility, formed a second category of real estate in addition to taxable land. Both these two titles can nowadays be deemed to have included the most elementary criteria of land ownership rights.

The rest of the land, the third category, belonged to the Crown. A tenant on Crown land did of course not have ownership rights to the land he used, but used it against a rent.

5. Rights of the Saami in Sweden-Finland

a) Saami land use

The tax rolls for Lapland, which represents the earliest primary sources of the past from the mid-1500s, indicate, that the Saami (or better the Lapps) inhabited and used lands within certain defined unites of land called Lapp villages. A Lapp village used to cover a vast area of land and was, in modern perspective, to be compared with municipalities better than typical villages.

The Lapp villages were however not the only units of land partitioning in Saami society. Within a Lapp village, each family controlled over and used a clearly defined area of land which the documentary sources have termed as hereditary or tax lands. In Sweden-Finland, the life of each Lapp family and its means of livelihood were decisively focused on one unit of such land.

The sparse population within the Lapp villages can be seen as a direct relation to both the natural conditions of the area and to the means of livelihoods available within this area. The principal means of livelihood of the Saami were hunting, fishing and reindeer herding; hunting and fishing were indigenous to Lapland while reindeer herding came to be developed at some later date. Since the Arctic environment is barren and unproductive, a great deal of territory was (and is) needed to make these traditional pursuits into a viable means of livelihood. The problem of scarcity has to be seen from an entirely different perspective in the north than it is in the south: the stage at which scarcity of land and water areas emerged in the Saami livelihoods, occurred much sooner than in agrarian livelihoods.

Since the mid-1600s cases between Saami have been decided in annual rural court sessions, of which exact records were kept on how justice was administered among the Saami. The local court sessions were held once a year

14 In Swedish "skattebonde", Finnish "verotalonpoika".

in each Lapp village within the vast area of Lapland. Besides the Swedish judge, the jury or panel served an integral part of the court. The jury consisted of the Saami in each village, later on also new settlers, according to the law altogether twelve men. Litigation among Saami was both common and diverse, involving all conceivable aspects of human culture that might come up in such communities. A prominent concern in Saami litigation was a need to protect sources of income, the right to use land and water. Although usufructuary areas - the so called tax-lands belonging to individual families - were large, one never seems to have had too much land, even not necessarily enough. In the light of the principle of sustainability this approach is wholly consistent: in Saami land use system the people lived on what the nature could give them yearly, but on the other hand, only certain places - a good fishing place, a rich pasture for the reindeer and so on - yielded enough nourishment and other necessities. That is why these were important and had to be protected.

b. Legal title to land

Even a brief look at the documentary sources, especially the court records, shows that the families within the Lapp villages considered the tax-lands they used as their "own": "to own" is actually the very concept they used when describing their relation to the land. The privileges connected therewith were strongly defended against other families and outsiders. In other words, the nature of Saami livelihoods has been no obstacle for very strong ambitions constituting a kind of private right to the lands.

Based on documentary sources, the key problem of my research has been to clarify the precise nature of the legal status of the Lapp villages and the private tax-lands within the judicial system of the time. The problem can best be summarized by the following question: were the hereditary lands of the Saami or the Lapps[15] , regarded as their "own" only according to local practice and custom, or was this title legally recognized in the same way as were, for instance, the farms of peasant proprietors during the same period of time?

The right of a Freehold peasant mentioned before can be seen as a collection of various elements - rights as well as obligations - described in detail in legislation. If a peasant met the criteria, he could be considered in a later examination on the matter to have owned his land by dint of so called tax payer's right. If the criteria were not met, the answer is naturally the opposite.

15 The term "Saami" is based primarily on ethnic criteria and it is not used consistently in old documents. The people who lived in Lapland, used land and water for fishing, hunting and reindeer herding and payed a land tax for these livelihoods were called Lapps.

As far as the Lapps are concerned, the matter can be - and I think it must be - considered within the same framework and the same principles. If we consider the extensive range of documents related to the legal position of the Lapps on the whole, particular criteria based on specific points in legislation can, indeed, be distinguished. The overall picture of Saami land rights to be found in historical documents can be reduced to the following statements.

The courts in Lapland did apply Swedish law, but the laws and legal practice did not, in my view, endeavor to dismantle or change the unique system of land use among the Saami or the legal principles connected with it. On the contrary, Swedish law in a way expanded and stretched, as it were, to cover and protect the Saami system of land use. One of the most important rights was, that the property was transferable, i.e. it could be inherited, sold etc. A closer analysis over the Lappish court records show, that this was the case in Lapland, too. The tax-lands belonging to private Saami families were transferable property to the same extent as the land of a Freehold peasant. Under the conditions of Saami society, the most common and important form of land transfer was inheritance: this guaranteed undisturbed land use from generation to generation. Succession of land proceeded in accordance with the principles set out in the Inheritance Code.

A Lapp could also resort to other measures concerning his or her land although this was not as common. The source material does however indicate some actual sales of land and especially of certain lakes. In other words, it was legally possible. As in the case of peasants land, the land was subject to redemption on the basis of rights of inheritance, a characteristic which distinguished the land clearly from Crown land. A tenant on Crown land could not transfer it to his heirs any more than he could to anyone else.

The Lapps certainly enjoyed so called protection of possession with regard to their taxable land. Where violations of rights occurred, provisions on unlawful use were applied. In practice this has meant hundreds of cases concerning fishing, hunting or reindeer herding without permission on another Lapps tax-land.

The court documentation also contains a great deal of information on the boundaries of Lapp villages and also private tax-lands. Court decisions on such boundary disputes indicate precisely, place name by place name, wherethe boundary between the villages or the lands lay.

It is also clear that the tax which the Lapps paid on their lands was a land tax

in nature. Land registers detailing taxes and taxable lands were also drawn up from time to time, and they were the same as those drawn up for peasants´ property. Given the size and difficult conditions obtaining in Lapland, preparation of such registers was quite an accomplishment in itself.

Neither did the colonization of Lapland take place with the conscious intention to disregard or override the rights of the indigenous population. New farms were to be established primarily in unused areas. If these did not exist, the matter had to be negotiated with the Lapp concerned. Mines and the like could not be set up just anywhere on a tax-land. The procedure followed was the same as that specified in law protecting a Freehold peasant's property in connection with such measures.

Put briefly, if these same criteria prove that a peasant once had ownership rights to his land, the corresponding conclusion ought to be - or, in my opinion - *must be* admissible in the case of the Saami/Lapps. If all criteria are met, and this is what the documents show, the Lapps must be seen as having owned their land in the same way as the Freehold peasants of the time did. This right is the direct predecessor of today´s right of ownership.

6. The legal status of the Saami changes, into negative direction

In the present day situation the circumstances described above may seem almost unbelievable. However, one must remember that the perspective is crucial when evaluating the past. From the point of view of Sweden-Finland the Saami living in the periphery of the country were in fact politically very important. At that time it was thought that only the Saami were capable of inhabiting the regions permanently and thereby ensuring the sovereignty of the state in the area. Their loyalty had to be secured through favorable treatment on the part of the state.

It has become customary to point out that the change in Finland´s status in 1809 did not entail the loss of previously acquired rights. In 1809 the bond between Sweden and Finland broke and Finland became a Grand Duchy within the Imperial Russian Empire. In his sovereign pledge Alexander I promised to strengthen and solidify both previous constitutional laws and the liberties which each social class had obtained. Generally speaking this has also been the case: the change in status did not affect citizens´ property rights.

In the north the assurance made by the Czar did, however, not have a complete application. Over the years, the land title of the Saami/Lapps gradually came to be dropped from most of the official records and, in a haphazard manner, forgotten.

The most crucial and devastating circumstance was obviously the fact that the northernmost regions of Finland were for long periods without any local court institution that had been so important earlier. Local court sessions were only occasionally held in the north and, even then, these were presided over by judges unfamiliar with previous praxis and local customs. The people therefore lost not only the forum which had been so instrumental in assisting them maintain a necessary order concerning land use. They also lost tto have their possibility to get proper written documents over their rights, documents, that could be used as a proof in later disputes concerning the same land.

There were naturally many other reasons for the development, too, but one common dominator was the goals and ideals connected with the creation of the nation-states. Doctrines of race and so called racial hygiene were becoming virtual scientific disciplines at the time. The brachycephalic feature of the Saami was invoked to dub them an inferior race compared to the Swedes, Finns and Norwegians. Their entire culture was termed barbaric and a manifestation of culture at a lower level of development than civilization proper.

In addition to losing the previous important court institution, the land title of the Lapps gradually came to be omitted from public land registers as well. The Finnish Lapps or better, the Lapp villages, did pay land tax on the lands and waters within the village as recently as 1924, but this very year all the prevailing land taxes in the country were abolished by law.[16] The result was that no information on the previous land title of the Lapps existed when the general parceling of land was carried out in northern Finland by law given already in 1925. The end result was, that the hereditary lands of the Lapps came to be categorized as some kind of undefined "government lands". In Finnish practice this has meant the transfer of some 3 million hectares of land to the state ownership (i.e. 10 % of the whole area of Finland). This land is currently administered by the National Board of Forestry.

7. Conclusions

As it is clear that the state authorities of Finland, Sweden and Norway take it for granted, that the state owns the lands and waters in the Saami area, it is interesting to examine, which legal grounds these claims are based on. After having familiarized myself with all possible literature on the question and after having followed the official decision-making process concerning the northern areas in general, I think it is well founded to say, that the explanation is very simple by its nature. The claims of the states have been essentially based on the premises that, in the course of history, the Saami never acquired a real

16 1924/295.

land title to the lands they used. In other words, it is meant, that the areas inhabited by the Saami have been considered as ownerless areas, "Terra nullius", where, according to law, the state acquired title in the absence of another owner.

This explanation has also enjoyed the support of several disciplines. According to several historians, lawyers, economists etc., the development of all people progresses from a hunting and fishing stage to nomadism and after this to the highest possible level, to "civilization", that is the agricultural stage. As hunters, fishermen and nomads it was not possible for the Saami to acquire a title to the land according to these theories.

In my view, the extensive documentation on the legal rights of the Saami/Lapps proves without doubt, that the typical relations and elements constituting land ownership rights developed irrespective of whether the land in a particular case was used for farming or not. The rules of behavior associated with land ownership rights seem to have no logical connection with the nature of the livelihood engaged in; the institution has been governed by the need for legal regulation stemming from scarcity of resources. Hunters, fishermen and nomads may have needed, and the Saami certainly did need ownership rights to land as a means of regulating their mutual relations. Contrary to earlier interpretations, the Saami/Lapps recognized the basic problem of ownership centuries ago, and have sought to have norms associated with ownership applied to their legal relationships. This goal did not go unrealized, for the legal system of previous Sweden-Finland did protect the rights of the Saami in the same way it protected the rights of the peasants.

THE LEGAL STATUS OF RIGHTS TO THE RESOURCES OF FINNMARK WITH REFERENCE TO PREVIOUS REGULATIONS OF THE USE OF NON-PRIVATE RESOURCES

by

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I. SOME REMARKS ABOUT THE TOPIC OF THE PAPER.

In the Norwegian language, *Finnmark* refers to an entire county in the northern most part of Norway, while *Finnmarksvidda* means the plateau east and south of the fjords. In 1991, The Norwegian MAB Committee published *Forvaltning av våre fellesressurser. Finnmarksvidda og Barentshavet i et lokalt og globalt perspektiv*. When writing about Finnmarksvidda (title, p. 161, partly even p. 165 sqq), the whole of Finnmark is meant, down to the coast-line and out on the great islands. This is surprising.

The reason seems to be that (by law) practically the whole county of Finnmark is used for reindeer herding, because the reindeer need green grass as early as possible in the spring or summer season. This grass is found at shore level. The reindeer will inevitably first approach the shore on its transhumance from the winter pastures. Later in the summer season the reindeer graze on the grassy hillsides and the plateau in the coastal region and on the islands. So, it must be stressed that the reindeer fattens itself in the coastal region during the summer season. Then it has to move to the inland plateau in the autumn because of deep snow in the coastal regions in winter, and that it subsists on the lichen on the plateau during the winter season (p. 189 sq.).

Finnmarksvidda in our discussion must be used when we mean the plateau. The only name for the entire county - of which its reindeer husbandry depends - is *Finnmark*. The county of Finnmark measures 48 000 km^2 (by comparison the Kingdom of Denmark measures 43 000 km2). In our opinion it is necessary to have the whole county, and not only Finnmarksvidda, in mind when you are talking about the rights to common resources in this part of Norway.

Furthermore it is necessary to say a few words about the term “Saami people” used in this paper. “Saami people” is often used to mean Saami reindeer herders. Here we use the term in a much wider sense. Saamis often speak of themselves as "a people in four countries". Anyhow, most of the Saamis in this world live in the country of Norway, especially in the northernmost counties of Finnmark and Troms. The reason is evident: The coastal region of what is now Northern Norway has always offered *fish* in the fjords, rivers and lakes, *sea animals, game* and *birds* along the shores and in the mountains, *grass* and *moss* for reindeer and cattle, and wood for many human needs. One consequence is that in our days only between 10 and 15 % of the Saamis in Norway are reindeer herders, others are fishermen and farmers, or they have gone into secondary and tertiary occupations like any of the other inhabitants. In comparison, in Sweden and Finland, only Saamis who were reindeer herders, hunters and salmon catchers had the status of "lappar". Saamis who established themselves as farmers were not "lappar" any more, but "Swedes", "Finns" or "Kvens"[17]. This seems to be the reason why today, Saamis in Sweden and Finland generally are reindeer herders. A few Saamis in Sweden and Finland are hunters and fishermen along rivers and lakes. Other ethnic Saamis have been assimilated.

In Norway, reindeer husbandry is by law generally reserved for Saamis from Saami husbandry families (this is not the case in Finland). So, for the sake of clarity, *Saami reindeer herders* should be our terminology when that is meant. Otherwise we mean all persons of Saami descent. Another problem to be considered is the phrase "rights to the resources". Throughout the centuries the inhabitants of Finnmark have worked as fishermen, farmers and herdsmen, and reindeer-herders without particular reasons to try to find out what kind of rights they had to the resources they used. During the last few decades, however, the question of ownership of land, water and other resources in Finnmark has emerged. The traditional view has been that the State has the rights of ownership. In contrast to this view some representatives for the Saami people have asserted that they are the owners in areas that they have been using for their living for the past several hundred years.

The arguments for the two different views on this matter can be summed up shortly thus: According to the main legal theory of the past it was not possible to obtain ownership to land by nomadic use. According to this theory one could only acquire ownership right to unowned land by living on it and using it in

17 “Fin” and “Kven” are both used to denote people of Finnish origin. In Norway “Fin” is also used to denote people of Saami origin, usually in a derogatory sense.

some specific way, for instance cultivating it (the specification theory). Both the Danish and the Swedish King declared that land not taken into specific use was unowned land. The specification theory was stressed by the Norwegian Government in its proposal to our Parliament in 1848 (Ot.prp. 21/1848). There is reason to believe that the theory is a part of the basis for the opinion that the State was the owner of land and water in Finnmark. The administration was built on that view.

According to an Order in Council from May 27, 1775 the State began to parcel out lots for private ownership. It was said that this order introduced private ownership to land in Finnmark. This point of view has more or less clearly been laid down by the administration and in legislation since then, and also earlier than 1775. It can be found in some court rulings too. The State will now assert that the people in Finnmark have adapted this view in practice and that the State's ownership to land and water is based on what Norwegian courts call "festnet bruk", or publicly accepted use and opinion for such a long period that it cannot be altered.

The Saami people were the first to use these areas. They used the resources for their living without any interference from the State or anyone else. They had no reason to think about the term "right of ownership". The resources were shared between separated reindeer herding groups ("si'idaer"). Inside the group several resources were used in common, but some were separated for individual use. The Saamis will assert that none of them have transferred their rights to the State in any form of contract and the area has not been expropriated from them. The use of land and water was a necessity for their living and culture, and thus in their opinion the resources were theirs.

The question may be raised why in 1775 and afterwards was the Norwegian institution "almenning" (commons) not applied in a legal system in Finnmark ? - In fact, civil servants used this term since the 1690's until about 1850, probably by analogy of the general articles on commons in Christian V's Norwegian Law 1687 (3-12-1 to 8). But south of Finnmark these articles applied to established farms in definite rural districts, not to anybody outside. Established farms were new in Finnmark. Qualified legal work would have been necessary to elaborate precise rules that suited Finnmark. Even for Southern Norway such work was not undertaken until the end of the 1850's and then in order to protect the pine forests in the South-East. In Finnmark the old collective use remained outside the established farms, with some regulations by the county administration (especially on the use of forests). A formal transformation of the different *uses* of the "common" resources into legal *rights* was not undertaken. The Saami Rights Commission has been asked to give its opinion on this question.

One will encounter another complicating factor when considering the legal situation of the rights of ownership to land in Finnmark . It could be said that the state of law is different for the southern part of Finnmark (Finnmarksvidda) and the rest of the county. Since a peace-treaty of 1613 and until 1751 Finnmarksvidda had the administrative name of "fellesdistriktene"(*the common districts*). That meant that it stood under Swedish ecclesiastical and legal jurisdiction and that both Sweden and Norway had a right to taxation. This fact could have an impact on the legal status to-day. In this area the impact of Swedish rights in similar areas in Sweden could be of interest. The Saamis could point to views in the judgement of the Swedish Supreme Court in 1981 (The Taxed Mountain Case, Nytt juridiskt arkiv 1981 p. 1) and to the historical investigations of Kaisa Korpijaakko-Labba about Finnish rights concerning Lapp areas ("lappmarkerna") of Torne and Kemi in the northernmost parts of Sweden and Finland.

One argument in addition is that in this part of Finnmark the Saami people were the predominant part of the people using the resources.

The Danish-Norwegian administration had full jurisdiction over the rest of Finnmark (the "norske privative sone"). This fact could have impact on the legal status here. In this area the people were more mixed with Norwegians, Finns (kvener), and Saamis. The variety of resources utilized, were larger.

The legal situation for Finnmark as a whole is different from the rest of the country because of historical reasons, and the fact that only 4% of the county has been transferred to private ownership.

In addition to the arguments mentioned above, Norway has some obligations towards the Saami people according to International Law. These obligations are founded on The United Nations 1966 Human Rights Covenant on Civil and Political Rights for minorities and the ILO convention. Norway has, unlike Sweden, ratified the ILO convention.

In 1980 the Government set up a Saami Rights Commission. One part of the Commissions task is to give an opinion on the question: who has the right of ownership to land and water in Finnmark. The Commission has not yet given their conclusion concerning the ownership question. Thus the following discussion about rights to the resources of Finnmark will be based on the traditional opinion of the State as owner of land and water in Finnmark.

II.THE LOCAL ADMINISTRATION OF THE STATES RIGHT TO LAND AND WATER IN FINNMARK

The rights of ownership are delegated to The Local Office for administration and selling of land in Finnmark (Jordsalgskontoret). This office is located in Vadsø. The legal basis for the administration is The Act of March 12, 1965 concerning unregistered land belonging to the State in Finnmark. According to this act land can be sold or rented to private persons, municipalities and companies. Land which in the opinion of the authorities, is needed as grazing land for reindeer, cannot be sold. The same applies to land used for moving reindeer on traditional migration paths between the coast and the inland.

The Parliament has also stated in the Act that Land which, according to the view of the administration, ought to be in ownership of the State for the sake of forestry, mining industry, fishing activities, outdoor life and nature conservation should not be sold.

The Act of 1965 is a continuation of the two previous Acts of June 22, 1863 and of May 22, 1902. The Act of 1863 intended to finance the administration of forest in Finnmark by sale of land through auction. That proved a failure because the incomes were small. By the Act of 1863 all previous "amtssedler" (county deeds) for homesteads were transformed free of charge into titles of ownership. In pursuance to the Act of March 12, 1965 the King is given the authority to lay down more detailed regulations concerning use of resources in Finnmark. Such regulations were laid down July 15, 1966. I will later return to some of these regulations.

III. THE RIGHT TO REINDEER HERDING IN FINNMARK

1. The right to reindeer herding in Norway is regulated in the Reindeer Farming Act of June 9, 1978 (here abbreviated RFA). Norway is, according to section 2, divided into six reindeer herding areas (reinbeiteområder). These areas are situated in the counties Finnmark, Troms, Nordland, Nord-Trøndelag and Sør-Trøndelag/Hedmark. Reindeer herding inside these areas cannot legally be done by other than Norwegian citizens of Saami descent. Reindeer herding outside these areas can be done by Norwegian citizens, but only through special concession from the King (§ 5). Finnmark is divided in two reindeer herding areas which cover practically 100% of the county.

On a national scale the reindeer herding is a small industry. The total industry counts less than 700 management units. Only approximately 2500 persons have reindeer-herding as a main or subsidiary trade. The number of domesticated reindeers was about 220 000 by April 1, 1991. Even though reindeer-herding is a small industry in national scale, it is of great importance for the Saami people

both economically and culturally. The industry has always been looked upon as a Saami-industry. Finnmark is the main area of this industry.

The rights of the reindeer-herding Saamis to utilize outlying fields have been recognized from ancient times. This was supported by the Lapp council, which is an appendix to the border treaty between Sweden-Finland and Denmark-Norway of 1751. Along with the progress of the Norwegianization policy at the end of the 19th century into the 20th, the theory emerged that the use for reindeer-herding purpose was only a tolerate use.

According to this understanding, the legal basis for reindeer-herding was the law, as it was at any time, given by the Parliament. This view was stated by the Department of Agriculture in 1976 (see Ot.prp. nr. 9 for 1976-77 p. 42 and p. 47). The Norwegian Reindeer-Herding Saami Association was of another opinion. They pointed out that reindeer-herding has been exercised in the area for centuries and had established a legal basis for reindeer-herding that was independent of the law given by the Parliament. The Agricultural Committee in the Parliament would not decide which of these two views was right or wrong (see Innst. O. nr. 98 for 1976-77 pp. 3 and 5). The question is now under discussion in the Saami Rights Commission. If the final conclusion should be that the right to reindeer-herding was established already before the border-treaty of 1751, the existing law concerning reindeer-herding of 1978 is regulating the extent and contents of the right and is not establishing the basis for the right.

2. The organising and management of the reindeer-herding industry is regulated in the act of 1978. Specific for this industry is that the reindeer-owners themselves are given great influence and responsibility over the administration. The Ministry of Agriculture appoints a "Reindriftsstyre". This is the central administration of reindeer-herding. Persons who are active in reindeer-herding must be appointed to this board. Finnmark is divided into two reindeer-herding areas (reindriftsområder). A board must to be appointed to administer each area. Some of the members of the board have to be active reindeer-herding persons.

Each of the reindeer-herding areas is divided into several reindeer-herding districts with their own boards consisting of reindeer owners. The district board can represent the owners and the district as legal persons in lawsuits. This organization gives the reindeer-herding industry itself administrative boards on national, regional and local level. The industry has in practice the majority in all these boards, even if the election procedures of members to the boards vary. The right to reindeer-herding inside a "reinbeiteområde", as mentioned above, depends on your descent. According to section 3 in the RFA, only a Norwegian

citizen of Saami descent is allowed herding. That his or her parents or grandparents have had reindeer-herding as their main trade is a condition.

The basic unit for reindeer-herding is called a management unit ("driftsenhet"). This term was introduced in the Act of Reindeer-Farming of 1978. In principle a management unit is owned and managed by one responsible owner (§ 4). The management unit could include reindeers belonging to the owner´s spouse, their descendants, brothers and sisters and their children. The condition that the actual person is of Saami descent and not a responsible owner of another management unit applies. Reindeer belonging to several persons or families exercising reindeer-herding in common could be accepted as a management unit on condition of consent from the board of the reindeer-herding area. A reindeer-owner is not allowed to move his unit from one district to another without consent from the board of the reindeer-herding area. An existing management unit can normally not be divided. Sale and inheritance of the unit is regulated by the law. An undivided unit can be transferred to the spouse of the owner without approval. This is also the situation concerning transfer or inheritance of the undivided unit from parents or grandparents. Any other form of transferring or establishing management units cannot be done without approval. The right to herd reindeer includes the right to use available resources and put up necessary erections for the trade (§ 9), e.g. right to take materials from the forest for fire wood and to erect necessary works like fences and turf-huts and make equipment. The right to reindeer-herding also includes the right to hunt and fish in the lakes and rivers of the district. The reindeer-herding industry is legally protected against encroachments. If rangeland is taken for other purpose like roads, power lines, mining and so on, the reindeer owners, often represented by the board of their district, can demand compensation for lost rangeland and for disadvantages for the industry.

The reindeer farming industry in Finnmark has large problems to day. The situation is particularly difficult in the core areas of Finnmarksvidda. Too many reindeer have caused over exploitation of the grazing resources, which have caused low productivity and unsatisfactory economic development. The regeneration of the lichen fields in the most overexploited regions could take up to 20-30 years. These factors cause conflicts and social unrest. It seems to be difficult for the reindeer-herding industry to solve these problems themselves. This is the reason why the Government in a new white paper to the Parliament (St. meld.nr. 28 for 1991-92) has given an analysis of the situation and has proposed some remedial actions.

IV. RIGHTS TO RESOURCES IN THE UNDERGROUND AND TO WATERPOWER IN FINNMARK

Minerals with a specific weight lower than 5 belong to the owner of the ground. In regulations laid down by the Ministry of Agriculture the rights to underground resources in Finnmark do not follow the ground when the State sells it to private owners.

Minerals with specific weight higher than 5 belong to the State everywhere in Norway (as a *regale* since the 16th century), but they are free for everyone to search for. If something is found, the finder needs official permission to start exploration (or exploitation) of the resource. The owner of the ground has the right to a sort of fee maximized to NOK 6000, pr. year. According to order in Council of April 26, 1985, this fee can be adjusted in accordance with the changes in consumption price index in the period from 1974 to 1984. Even if the State has sold the ground in Finnmark, the owner's right to this fee according to the Act of June 30, 1972 (§ 42) is reserved for the State.

The right to waterpower belongs as a main rule to the owner of the ground, The Watercourse Act of March 15, 1940 (§ 1). If the State has sold the ground in Finnmark, the right to waterpower is reserved according to the Regulations of July 15, 1966 (§ 3).

V. THE RIGHT TO MATERIALS FROM THE FOREST

In Finnmark, birch (and willow, "vier", *salix*) is fairly usual in the inland, in valleys and wet areas. Pine is found in Alta, in some areas in Porsanger, in Karasjok and in the Pasvik area. Wood was a vital resource for all people in Finnmark, until the age of coal, petrol, electricity and modern communications - that is until 1880 - 1960. Wood was necessary for heating and cooking and as raw material for many sorts of equipment. The coast is rather bare, and here turf, heather, willow and driftwood from Siberia filled some of the needs of the local population.

The very first known regulation concerns the use of the pine forest in Alta. In 1693, the fogd (sheriff and judge) of Finnmark declared that the "Commons of His Majesty in Alta" should only be used by the population of Alta and to a certain degree by the population of Western Finnmark farther out. Fishermen from the counties of Nordland and Troms were forbidden to cut timber in Alta, and the merchant company had to ask the county administration for permission to cut timber for its buildings. This regulation was confirmed by prescripts in 1753 and royal resolution in 1775, and extended to all Finnmark, while the use of birch was reserved for the local populations. As a whole these regulations are still in force. An embargo on "export" of pine timber from Finnmark since the end of the 17th century was extended to an embargo for the whole of Northern

Norway by an ordinance of 1752. The embargo was definitely cancelled as late as in 1925. The regulation of timber cutting in Karasjok began in 1776. Here pine was cut by the local population (Saamis) in winter, floated down the river Tana to the Tana fjord and used especially for houses and for boats in the western part of Eastern Finnmark. The Varanger region seems to have got their timber from the (until 1826 Norwegian-Russian) Saami si'idas of Neiden and Pasvik.

The copper mine of Kåfjord in Alta 1826 - 1880's was the most important industrial enterprise in Northern Norway during the 19th century. But the enterprise was not allowed to make charcoal from the Alta forest to melt the ore into copper. Coal had to be imported from England.

In 1863 two laws included Finnmark in the wood protection policy in Norway. The income of state ground sold to private individuals should, as mentioned above, II, be put in a fund and used to pay for the forest administration of Finnmark.

What about the Saami reindeer herders ? They were supposed to conform to the same rules as other inhabitants. But of course it was usually impossible for them to ask for permission to cut wood, so the general rule has been that they are entitled to use dry wood freely and to cut fresh wood (pine and birch) for their specific needs for different equipment. In the 1860s reindeer herders were forbidden to pass through pine forests with their herds in winter, because pine sprouts tend to become brittle in frost.

The Order in Council of May 27, 1775 founded the legal basis for selling ground in Finnmark to private persons. The right to the conifer forest on the ground did not follow the ground to the new owner (§ 5). From 1820 a clause could be taken into the deeds that gave the new owner the priority to take wood necessary for his household on the property he had acquired. The new owner would receive first choice of any lumber that he needed for the maintenance of his household.
According to the Act of 1965 the forest will always follow the ground to the buyer and new owner.

Because of the different practices the State has followed during the history there are different categories of forest in Finnmark. The greatest part of the forest is however on ground belonging to the State. The question is then what usufruct rights the local inhabitants have to take materials from the woods. In the 1965 Act on selling ground in Finnmark it is said in § 4 that people from the county of Finnmark have the right to have singled out birch necessary for fire wood enough for their households. It is a question under discussion whether the local

inhabitants have a more extensive right to wood than stipulated by the Act of 1965. The answer depends on what is to be found in court rulings, administrative practice and the opinion of the inhabitants and the State. The Saami Rights Commission is discussing this problem at the moment. Their opinion is not yet official.

VI. THE RIGHT TO USE OUTFIELDS AS GRAZING LAND FOR DOMESTIC ANIMALS AND AS A PLACE TO GATHER WINTER FODDER

As far as we know the oldest regulation of this resource took place in 1595 between the Saami reindeer herders of Varanger on the one side and the inhabitants of Vadsø and two nearby communities on the other side. The two parties agreed that the reindeer herders should not pass over the pastures near the coastal communities later than the end of May. The agreement was confirmed by the county governor ("lensherre") and it was referred to in 1622 in court proceedings (*Tingbok for Finnmark 1620-1633*, red. Hilde Sandvik and Harald Winge, Oslo 1987, p. 132). Such an agreement reflects the opposite interests of reindeer herders and cattle owners.

From the end of the 17th century and onwards this situation is well known. There were also - though less frequent - the opposite interests of the reindeer herders from the inland and the reindeer herders on the coast, both Saamis, about grass in summer and lichen in the winter. We have not seen any real regulations, but there has certainly been customs as to where the reindeer herds were supposed to be. The ting protocols contain admonitions from the fogd (sheriff and judge) that the inland reindeer herders should not infringe on the pastures and range lands of the coastal population. We have noticed one interesting proposal in the 1820's from the county governor ("amtmann"), that the reindeer should leave the coast region at the same time as cattle owners sent their sheep to the mountain pastures.

Since the 1760's and the royal resolution of 1775 the authorities allotted homesteads practically free of charge and without ethnic discriminations. The homesteads were generally used for a combination of activities, especially fishing in the fjords and along the coast, one or two cows and some sheep, hunting, salmon fishing in rivers, picking of cloud berries. Generally, the "agriculture" in Finnmark was cattle breeding for the use of the family, not cultivation of the soil for cereals, potatoes and hay. Because of the very long winter season winter fodder for the cattle was a vital necessity. It had to be collected on the hillsides, on bogs and on the clearings of former dwelling-places, dried into hay and stacked, to be transported home when snow came. But the winter fodder was scarce, so in spring the cattle needed the first green grass along the shore as badly as the reindeer. And in the autumn, the reindeer much preferred the hay in the stacks to the brown and wilting grass on the ground.

Fencing in was impossible, especially as the homesteads were composed of a site for the dwelling house and a great number of "hay fields", not seldom far away. It is easy to understand why interests clashed and more so as the numbers of both homesteads and of reindeers grew.

Problems became acute after 1852. Until 1852 the reindeer herders from Finnmark could have their herds on the extensive lichen fields in Finland in winter. But in 1852 Russia closed the frontier and denied access to the grand duchy of Finland to reindeer from Finnmark. Norway followed suit by denying access to the fjords to reindeer and fishermen from Finland in the summer season. The lichen fields in Finnmark now became the minimum factor in the reindeer husbandry. In order to protect the lichen, it was vital that no reindeer should be allowed to remain on the plateau during the summer season. The government (by its commissioners) and the reindeer herders agreed that every herd had to move to the coastal region in summer. Accordingly, the clash of interests between reindeer herders and cattle owners intensified.

When the Storting in 1863 decided that homesteads should no more be allotted freely, but sold, it put as the first paragraph of the law that "the ground of the state" should not be sold when it was in different forms of collective use, notably as grazing land for reindeer and for cattle and as moving routes for reindeer between the coast and the inland (and as ground for cod drying along the coastline). This was a "major clause", the parliamentary committee said, and it is still the leading principle in today's law. The Storting followed suit few years later, by ordering commissions to round out or regroup the numerous lots of "hay fields" belonging to the homesteads.

It is safe to say that nevertheless this problem was not really solved. But compared to the 19th century the problem has taken new forms. Earlier the reindeer was tamer. Female reindeers were milked and castrated bucks were used for transport. Herds were smaller and had to be guarded against beasts of prey, at least in winter. With the modern techniques there is more distance between herders and the reindeer and apparently less control of the herd. Nowadays, meat production for the market is the important aspect of reindeer husbandry. It is not a quite new aspect.

Modern agriculture in Finnmark is still chiefly cattle breeding and milk production, but now with few units, each with many cows. The modern and high productive cow is only able to bait on flat and cultivated fields (so-called "culture range lands", "kulturbeiter"). Grass for ensilage and hay is grown on deep-cultivated fields. Baiting in the hillsides and on the mountain is now only for sheep and perhaps for some young cattle.

Before the Order in Council of 1775 there was no regulation of using outfields as grazing land in summer time for domestic animals in Finnmark. The resolution altered nothing in this practice. In 1863 the Parliament enacted a Law on selling ground in Finnmark. According to this Act and the following regulations, it was an assumption that the owner of domestic animals did not have the right to use outfields for pasture unless there was basis in the contract for it. In 1902 the State was given a stronger right to regulate rights to pasturing given in contract from that time on. And in 1955 a new clause was taken into new contracts. The State was given the right to terminate the grazing right giving notice one year in advance. In the Resolution of 1965 the right of grazing in the outfield established in new contracts was weakened even more (§ 7). According to this historical background there could be up to five groups of rights to use the outfields as grazing land for domestic animals (Sverre Tønnesen: *Retten til jorden i Finnmark* (1972, 1978) s. 264-267). There could of course be some owners of husbandry who had obtained a more extensive grazing right than the right based in his contract. Such a conclusion can only be reached by concrete judgement of use and court rulings. Whether there exists a general rule of grazing rights more extensive than that following from the contracts is now under discussion in the Saami Rights Commission. The only body that can give a definitive answer to this question is the Supreme court of Justice or the Parliament.

VII. THE RIGHTS TO THE RESOURCES IN THE ZONE NEXT TO THE SEASHORE

The general rule in Norway is that an owner of ground bordering the sea, is also the owner of a part of the ground out into the sea. The border for his property out in the sea will differ a bit depending of the deepness and the slope of the sea ground. The owner of the seashore has the right to build out into the sea. Another important right is to come to and from his land undisturbed in a boat. The seashore owner's rights include several other possibilities for dispositions, but the right to shooting or hunting is free for everyone. The right to fish is also free for everyone except for fishing salmon with some types of fishing tackle.

These general rules are also laid down in Finnmark, but there are still two question who can be discussed. The first one is the fact that some of the homesteads do not have borders out to the sea. There could be a small corridor between the sea and the ground bought from the State. The conclusion depends on what is written in the contract when the homestead was sold.

The other question is the legal situation for all the seashore not sold from the State. The State claims to have the same rights here as owners of ground

elsewhere in Norway. The answer to this is not quite certain. The inhabitants have used the resources on the shore with few or without any restrictions. The rights for people in general on the seashore formally owned by the State are under discussion in the Saami Rights Commission.

VIII. THE RIGHT TO FISH, TO HUNT AND TO PICK BERRIES

Fishing, picking berries, mainly cloud berries ("molte", *Rubus chamaemorus*) and hunting wild animals and ptarmigans ("rype", *Lagopus*) was earlier an important part of the daily bread-winning for a great part of the inhabitants in Finnmark. These resources were parts of the diet of the local population and to varying degrees were also sold to local merchants, for "export" to towns south of Finnmark. In relation to the small population these resources were rich, at times abundant. The local communities had their traditional resource areas, and it was considered bad manners to trespass into neighbouring areas. This was the situation for the reindeer herding Saami people and for the inhabitants living alongside the rivers and the fjords.

This situation has changed during the last decades. Change from a subsistence economy to money economy, more leisure time and better communications have resulted in a use of the mentioned resources as an important part of the leisure time activity both for the inhabitants of Finnmark and for tourists from other parts of the country and abroad. For the reindeer-herding industry all these leisure time activities often mean disturbances and difficulties and can cause confrontations concerning regulation and use of the outfields in Finnmark.

1. Fishing in the Sea.

Since the 1830's the principle of "free fishing" was gradually put into effect, by laws. From the 1850's Finnmark has been the main "fishing-county" in Norway. The fisheries in the fjords and along the coast attracted farmer-fishermen from Southern Norway. They settled in the coastal region. The immigration from south is probably the main reason why the population of Finnmark increased from 0.9 % (7 700) of Norway's population in 1801 to 1.5 % (32 800) in 1900 and to 2 % (80 000) in 1975.

Whaling with modern technology (from Southern Norway) started in the Varangerfjord in the 1870's. The modern whaling seems to have reduced or even extinguished most of the former whale populations within a generation. Commercial losses were probably the main reason why the whaling company then retired from Finnmark, not the uproar of the fishermen (Mehamn 1902) or state regulations (1904). The fishermen stuck to a very old belief, that the whales sent the "lodde"(*mallotus villosus*) and the cod to the coast and to the

fjords. Indeed, fish catches around 1900 were poor. But the real reasons may have been over-fishing along the coast and in the fjords with huge nets and the new trawlers, seal-invasions and - very probably - periodic oceanographic changes.

Since the 1680's until 1830 the inhabitants of the fishing stations ("fiskevær") along the coast had the exclusive right to the nearby fishing grounds. Fishermen from southern regions had to fish elsewhere. The reason was that merchant companies were under the obligation to supply the inhabitants of the station and the surrounding regions with necessary goods on long term credit, mostly paid in dried cod ("stockfisch"), salted salmon and cloud berries in barrels. Casual fishing in the fjords was free. The Saami reindeer herders themselves fished in the fjords during the summer season, but for the coming winter they exchanged dried reindeer meat against dried cod fished in the fjords during the preceding winter. Sea fish was a normal part of the diet of the Saami reindeer herders. Since 1830 until the first World War fishing in the fjords and on the coast was gradually liberalised. Since the 1930's regulations here has become common, and especially since the end of the 1980's. It is a very complicated subject. The question may be raised if it - somehow like the situation before 1830 - would be possible for the Norwegian Parliament to reserve fishing in the fjords and near the coast for the fishermen from the coast of Northern Norway and to allow only "passive" fishing gear here, thus excluding use of "active" fishing gear like trawls (“SNURREVAD” ??) here? The goal would be to protect the "local" fish - and a "sustainable" use of such ressources. - No definite answer can be given at the moment. But the entire coastal population of Northern Norway depends on fisheries for its existence, no less today than during the 18th century.

The salmon have been the main basis for Saami settlement along the rivers in Finnmark, especially along the great rivers of Tana and Alta. The county governor decided in 1763 that the salmon in the river of Alta should be reserved for the local community, a principle that was extended to the river of Tana by the royal resolution of 1775. This is still Norwegian law. For the other rivers the salmon fishing was free - the general principle in Norwegian law, that salmon fishing belongs to the individual owner of the riverside, was not introduced in Finnmark. Since about 1900 the state has usually rented the salmon fishing in the small rivers to local salmon fishing associations, who usually demand small fees from local fishers and greater fees from external salmon fishers. The income is used for supervision and development. Finnmark has a lot of lakes, rich in trout, char ("røyr", *salvelinus alpinus*) and whitefish. Regulations here have only recently been introduced for "southern Norwegians" and foreigners. Saami reindeer herders took what they needed of inland fish during the winter season.

2. The right to fish salmon in the rivers of Alta, Tana and Neiden

The right to fish salmon in the rivers of Alta, Tana and Neiden is different from the rest of the rivers and lakes in Finnmark. In Alta river owners and ground users who are living on their property, have the right to fish salmon from June 24 and the rest of the season. Up to June 24 the right to fish is free for all the inhabitants of the municipality. In the Tana River the right to fish salmon belongs to owners of properties not farther from the river than 2 kilometers. In addition it is a condition that the owner grows at least 2000 kilo hay. The right belonging to this group is limited to net fishing. A much debated question is whether all inhabitants of the Tana valley have the right to fish salmon by rod or not. The State has asserted to be the owner of this right. The question is under discussion in the Saami Rights Commission, but a definitive answer can only be given by the Supreme Court or the Parliament by legislation. At the moment the income of licenses to fish salmon by rod is used partly locally for supervision and management of the river, partly on county level for the administration of the inland fisheries. The inhabitants of the Tana valley (the municipalities of Tana and Karasjok) pay a trifle for one year's license. In the river Neiden the right to fish both salmon and other sorts of fish belongs to Neiden Fishing Community (Neiden Fiskefellesskap). The conditions for membership in this community are almost similar to the conditions for fishing salmon in Alta and Tana. The conditions of agricultural activity are however not so clearly formulated.

3. The right to fish in the rest of the rivers and lakes in Finnmark

Fishing of salmon and other sorts of fish in the rest of the rivers and lakes in Finnmark is regulated in the Act of Salmon- and Inland fish of May 15, 1992. The main rule in Norway is that the owner of the ground bordering rivers and lakes is the owner of the right to fish, section 16 in the Act of May 1992. Many of the private properties bought from the State in Finnmark are however not bordering the rivers because the State has held back a small corridor of ground between the private property and the rivers (see "Innstilling om lov og forskrifter om statens umatrikulerte grunn i Finnmark fylke" (1962) p. 17.) In these cases and everywhere else the State is, as owner of the shores of the rivers and lakes, the owner of the fishing right. The right to fish with fishing rod in rivers and lakes belonging to the State is free for Norwegian residents. Fishing with all types of fishing tackle is free for residents of the county of Finnmark. All the same, there are some regulations about how many fishing nets each resident can use in some specific lakes. Foreigners are allowed to fish with fishing rods within a distance of main roads of 5 kilometers. The right to fish both salmon, and other fish, in rivers is often rented to organizations.

4. The right to hunt

The right to hunt is regulated in the Act of small and big game hunting of May 29, 1981. The general rule in Norway is that the owner of the ground has the sole rights to hunt on his own ground, section 27. The right to hunt on ground belonging to the State is regulated in section 31. The right to small game hunting is allowed for all residents of Norway.

The right of reindeer herding Saamis to fish and hunt is regulated in the Reindeer Farming Act of June 9, 1978. In connection with legally executed reindeer herding the Saamis are allowed to fish and hunt on the same conditions as the residents in the district they are passing with their deer.

5. The right to pick berries

The right to pick berries is free except for picking cloud berries. Picking this sort of berries is regulated in the Act of March 12, 1965, section 5a. The right to pick cloud berries is as a main rule reserved for residents of the county of Finnmark. The only exception is berries you are eating on the spot.

THE LEGAL STATUS OF RIGHTS TO THE RESOURCES IN SWEDISH LAPLAND

by

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1. Most of the inhabited mountains of Northern Sweden are owned by the State, although the ownership has not been registered in the land register; in certain parts, there are also private owners, above all forest companies. However, at the same time the Saami - or, more correctly, the reindeer herding Saami - have particular rights to land and water in those parts and the adjacent forest territories; in all, these rights cover about one third of the area of Sweden. The rights are regulated in a detailed way in the Reindeer Farming Act (1971; here abbreviated RFA). As will appear from the following, this Act does not render the whole truth about the legal status of the Saami, but as an introduction it may be useful to describe the main principles of the Act-. Some of these rules have recently been changed; a Government Bill concerning amendments in the Act has been passed by the Parliament in December 1992. The new rules have come into force on July 1st, 1993. In this survey, also the earlier rules will be dealt with to some extent.

The RFA can partly be regarded as a kind of monopoly legislation which grants an exclusive right to the Saami to carry on reindeer grazing in Sweden. However, an essential part of the Act deals with the rights of the Saami to land and water, called reindeer herding rights. These are described as the right of the Saami to use land and water for their own support and the maintenance of their reindeer. This description implies that it is a special sort of usufructary right for which the Act does not prescribe any time limit. The reindeer herding right includes reindeer grazing, hunting, fishing, and some felling of lumber. The right has until now belonged primarily to such persons of Saami heritage whose parents or maternal or paternal grandparents had reindeer herding as a permanent occupation. According to the new legislation, the reindeer herding right belongs to the Saami population and is founded upon the usage of time immemorial (§ 1). However, the right can only be exercised by Saami villages, and the amendment will not mean any real change in this respect. (It should be noticed that the term "village" here denotes a particular type of legal person, being a reindeer corporation rather than a village in the usual sense of the word; see below.) Although it is not clearly stated in The Act, it is evident that a reindeer herding right is not transferable, nor can it be mortgaged.

According to § 3, the reindeer herding may be carried out year-round in the mountain lands along the Norwegian border in regions defined in the Act; in the counties of Norbotten and Västerbotten above what is called the Cultivation Border (of old denoting the line above which the land should be, in principle, reserved for the Saamis) and elsewhere on Crown land where such land has herding has been carried on of old; in the county of Jämtland and Kopparberg, moreover, in certain districts particularly designated for reindeer grazing. Further, during the period October 1-April 30, reindeer herding is permitted in such areas outside the regions just mentioned where grazing has traditionally taken place during certain parts of the year (viz. in most of the forest regions of Northern Sweden, in certain parts extending even to districts not far from the Guld of Bothnia). In the last mentioned territories, the reindeer herding right may be compared to a kind of easement (servitude) connected with the more extensive right that the Saami can exercise in the mountain area, in about the same way as an ordinary easement, in Swedish law, is connected with the ownership of real estate profiting by the right. - The two types of regions mentioned will here be called whole-year herding area and winter herding area, respectively.

The reindeer herding right is carried out by Saami villages on separate areas assigned to each village (§ 6). As mentioned above, the function of these villages is in the common interest of the members, to manage the reindeer farming in the grazing area of the village. They are not allowed to carry out any other economic activity than reindeer herding (§ 9). When registered, the Saami village becomes a legal person. In questions concerning reindeer herding rights the Saami village represents its members (§ 10). In principle, solely certain persons who carry on or have carried on reindeer farming and members of their family may be member of a Saami village (§§ 11 and 12). If membership is refused to a Saami intending to exercise reindeer farming, the County government can grant him admission, provided that there are particular reasons; thus, the Saami village cannot even decide on its own which persons should be permitted to carry on reindeer grazing on the land allotted to it.

The authority founded on this usufructuary right is divided between the Saami villages and its members in a rather complicated way. The Saami village has the right, for the common need of its members, to use the grazing area allotted to the village for reindeer grazing. Within this area, it may erect certain facilities required for reindeer husbandry, with the permission of the owner of the land. For this purpose, the necessary lumber may be felled in the reindeer grazing mountains and to a limited extent in other parts of the area, too. However, the felling of growing coniferous trees require the permission of the owner and user of the land, and remuneration shall be paid for the root value of growing trees;

exception is made for lumber felled on certain Crown land and for deciduous trees otherwise felled in the reindeer grazing areas. -Moreover, the Saami village has the right to move reindeer from one part of the village grazing area to another. The members, for their part, are permitted to construct small facilities required for reindeer husbandry and to fell the necessary lumber for this purpose as well as to fell lumber above all on Crown land for the construction or renovation of their family homes. They may also hunt and fish in the outlying parts of their village's grazing area in the reindeer grazing mountains. (§§ 15-18, 21, 25). According to the new legislation, also other Saami may be permitted to take wood intended for handicraft on the reindeer mountains and on certain other Crown land.

A person holding reindeer herding rights cannot be deprived of this usufructary right on the grounds that he has violated the rules of the Act or otherwise neglected his duties in the exercise of this right; by decisions of certain agricultural authorities, however, his use of land maybe limited in so far as concerns the size of the herd, reindeer grazing, and felling of lumber (§§ 15, 22). Further, the usufructuary right may be terminated against the will of the holder in certain other cases. Until now, the government could decree that the use of a particular area should cease if it was required for some purpose which could motivate expropriation according to the Expropriation Act or else was of vital importance to the public interest, if the area had small significance for reindeer herding, the use could even be terminated in this way as soon as the area was required for the public benefit. However, according to the new legislation, the rules of the Expropriation Act shall be exclusively applicable in this situation. -Damage and inconvenience to reindeer herding or hunting or fishing rights shall be compensated; if the damage or inconvenience does not affect any particular person, it is generally divided evenly between the Saami village in question and the Saami Fund - a public fund, the means of which are used to the benefit of the reindeer herding, the Saami culture and Saami organizations. (§§ 26, 28).

Otherwise, the owner or user of whole-year herding land must not take any measure causing considerable inconvenience to the reindeer herding, unless the land shall be used according to a municipal plan or for other activities that can be authorized according to special rules (30 §). In these cases, the Saami are not entitled to any compensation.

Neither Saami villages nor members of such villages may grant rights which are parts of the reindeer herding rights, except that ex-members may be allowed to hunt or fish for his household needs, free of charge, in the village area. Otherwise, the authorities of the state are in charge of all granting of rights in the reindeer grazing mountains. Usufructuary rights may be granted

only if it is possible to do so without any considerable inconvenience to reindeer herding; as for hunting and fishing, a condition is that granting the right is compatible with good game management or fishing conservation, and does not encroach to any appreciable extent upon legislated hunting and fishing rights of the village members. Except when exclusive fishing rights to a given body of water is granted, no permission from the Saami village is required (§ 32). If the right granted involves exploitation of natural resources, the State is to make compensation for the damage or inconvenience caused to reindeer herding; otherwise, a fee shall be charged (except when the right implies lumber felling), unless there are special reasons for granting the right free from charge. The compensation or the fee is divided between the Saami Fund and the Saami village in question (§ 34).

It appears from the above that the RFA builds on the assumption that the areas covered by the Act are not owned by reindeer herding Saami. However, the text does not expressly deal with the ownership of the land.

To sum up, the complicated system of the RFA implies that the right of the Saami in these areas is a kind of usufructuary right comprising above all reindeer grazing but also other rights connected with this, as constructing certain facilities, using lumber for household needs and using migration paths; further, hunting and fishing are included. Certain of these rights can be exercised by the Saami village, certain others by the individual Saami; further, in some respects the party entitled is the Saami fund, representing the whole Saami population.

If a non-member of the village interferes with the enjoyment of such a right, the village or person entitled can claim a remedy in an ordinary court of law, in the same way as an owner whose right has been infringed; in this way, damages may be claimed, as well as an injunction to cease an illegal activity (although at least the latter expedient does not seem very practical). In case of a legal exploitation of the resources, the Saami village can claim compensation according to a similar procedure as an owner. An intentional violation of the Saami rights to natural resources can involve criminal liability; here, too, the village or the individual Saami has the same legal position in the trial as other injured parties.

However, the power of the Saami to use and exploit the resources in question is limited in several ways, in civil law the reindeer herding right enjoys less protection against measures taken by the authorities and the landowner than other similar rights to use land and water, for instance easements created by the land authorities. The weak position of the Saami in this respect appears clearly when the rules concerning the abolishment of reindeer herding rights and the granting of usufructuary rights are compared to the ordinary principles of

Swedish law. Here, attention should be called to the imperfect protection against encroachment above all the possibility of the landowner to change the use of the land or take any other measures affecting the reindeer farming without any compensation to the Saami provided that the inconvenience cannot be regarded as considerable; further, there are reasons to emphasize the lack of influence of the Samai when fishing and hunting rights are granted on the whole-year herding land. Also in other respects, there is no way of transferring a reindeer herding right except by accepting a Saami as member of the Saami village.

An essential idea behind these rules, most of them originating from the first Reindeer Grazing Act (1886), is that the limitations of the Saami rights are justified by the monopoly exercised by the Saami concerning the reindeer grazing business; the RFA is regarded as part of the public law rather than the land law, and consequently it will seem natural that the Act regulates the reindeer herding right according to what seems appropriate essentially from an economic point of view. In general, this approach seems to have been predominant among Swedish jurists for more than 100 years, at least among those who have not studied the historical background of the rules. Even the Bill of 1992 expresses this attitude in some parts, (See 4 below).

The rules of the RFA concerning the protection of the reindeer herding right are supplemented by some important regulations in the Forestry Act. Evidently, the possibility of reindeer farming depends to a considerable degree upon the state of the forests used for grazing. According to the Forestry Act, lumber felling on whole-year herding areas may not take place without previous consultation with the Saami village affected. Further, the County Forestry Board ("skogsvårdsstyrelsen") shall decide whether timber felling in certain slow growing forests will have such detrimental effects upon the reindeer farming, that it should not be permitted, above all then the grazing areas will be reduced to such a degree that the possibility to keep the number of reindeer permitted is affected or the ordinary gathering and moving of the herd is impossible. If felling is permitted, the Board can lay down conditions that certain measures shall be taken that are obviously required to protect the reindeer farming.

2. The outlook predominant in the RFA was challenged by the Saami in the much discussed Taxed Mountains Case (*North Frostviken Saami village and others v. the State;* "skattefjällsmålet", reported in *Nytt juridiskt arkiv* 1981 p. 1). The case concerned, in the first instance, the ownership of certain areas in the province of Jämtland known as taxed mountains (after an administrative proceeding in the 1840s involving taxation and land partitioning). A number of Saami villages claimed, on historical grounds, to be rightful owners of

these areas or, secondly, to have several types of limited rights to the same areas, among others rights of reindeer grazing, hunting, fishing, felling of lumber, harvesting, cultivation, gravel mining, other mining, minerals, landowners' share in mines and hydraulic power, the Saami claimed a declaration that all these rights existed on the basis of civil law, irrespective of the RFA. The State maintained that it owned the properties in dispute and that only the rights specified in the RFA belonged to the Saami.

The process finally reached its conclusion by the judgment of the Supreme Court in 1981, where several issues of essential importance for the Saami rights were dealt with in a thorough way. The Saami parties lost on all points; as most jurists have not had time and patience enough to read the whole report, running to 253 pages, a common opinion has been that the Saami claims were altogether groundless. However, the matter is more complicated than the decision may seem to imply.

First, it should be emphasized that the judgement does not definitely solve the problems concerning Saami rights in other parts of Sweden. The Court underlined that it was not possible to form an opinion upon the legal status of the Northern mountains, which were not subject of the dispute in question. However, in the discussion of the material presented by the parties, the Court made some statements concerning the earlier rights of the Saami that have considerable interest in this context. Thus the Court found it necessary to examine the rights that the Saami would have had to the taxed mountains irrespective of the RFA, which implied an investigation of the historical background not only in Jämtland but also in the rest of the Swedish mountain areas. As a link in this analysis, the Court declared that it was possible, at least during the seventeenth century, to acquire land by using it for reindeer grazing, hunting and fishing, without cultivation of the land or even permanent residence in the area. In doing so, the Court disclaimed the common supposition that "nomads cannot acquire ownership rights". The statement has no counterpart in previous Scandinavian precedents and should be of great significance for future standpoints on the rights of the Saami in Sweden (and in Finland, too), provided that legislators and courts will pay due attention to the position taken by the Court; as will appear from the following, most jurists are apt to disregard the statement, probably in view of the possible implications for the ownership of the State.

However, this pronouncement by the Court had no decisive influence upon the outcome of the case. According to the court, the requisites for this type of land acquisition by the Saami would be in cases where they were not permanently domiciled in an area that their use of the land had to be intensive, longstanding, and basically undisturbed by outsiders; further, somewhat fixed boundaries for

the area in use should be required. None of these prerequisites were regarded to have existed in Jämtland at the critical time, viz. in the middle of the 17th century. According to the Court, it was at this time that the Saami had the chance to be considered owners of the mountains, as the State, by later legislations (the forest regulations of 1683) eventually caused the unowned land in Northern Sweden to come under State ownership.

It appears from the decision that the possibilities for the Saami to acquire ownership rights might have been better further north in Sweden, where the use of mountain land was more intense, more undisturbed, and where there were also forms of village organizations which could be considered as owners of the land. In fact, the only valuable evidence pointing to Saami ownership concerned the northernmost parts of Sweden and the present Finnish Lapland. The Court had no reason to deal more thoroughly with the Saami rights in these areas, as the litigation did not apply to them. But the decision did state that the State would not have been able to refer to the regulations just mentioned with regard to land owned by the Saami at that time, as the regulations only applied to unowned land.

The implications of the standpoint of the Court as to the ownership will be dealt with in the following, in connection with certain later historical investigations.

As for the limited rights that the Saami claimed in the second place, it should be noticed that they demanded that the Court should establish that these rights were still in existence, irrespective of the legislation; the limitations prescribed by the RFA should, in consequence, be deemed to be invalid. Such a claim would only have been approved if the legislation had been considered clearly unconstitutional; this was denied by the court (although one member dissented concerning the regulation of hunting and fishing rights, which was regarded as discriminatory insofar as the Saami lacked any influence upon the granting of such rights). The Court had no reason to discuss whether the Saami could claim compensation because they had been deprived of certain rights to natural resources through the reindeer farming legislation. However, the Court (as a kind of *obiter dictum*) concluded that their right of use was constitutionally protected in the same way as ownership rights; this did not mean that it was protected against expropriation and similar measures, but the rights could not be taken from the Saami without compensation being made for the loss, according to the Swedish Instrument of Government (ch 2 § 18).

3. As mentioned before, the Swedish authorities and jurists in general mostly regarded the judgement in the Taxed Mountain Case as a confirmation of the traditional view that the rights of the Saami did not amount to ownership

rights in any part of Sweden, and that the reindeer herding right essentially was based upon the RFA; it was even argued that the rights were more limited in the Northern mountains than in Jämtland, which is clearly contradicted by the findings of the Court.

However, the government commission that was appointed in 1982 to examine the legal status of the Saami (the Saami Rights Commission) was fully aware of implications of the judgement. In a report of 1989, the Commission proposed several amendments in the RFA in order to give the Saami a more effective protection against such measures of the owners of reindeer herding lands as would encroach upon the reindeer farming; among other things, the Commission proposed that certain forestry activities that would be detrimental to the reindeer grazing should depend on the permission of the County Forestry Board. Further, the Saami right was defined as a right sanctioned by immemorial use. The details can be omitted here; anyhow, most proposals intended to strengthen the Saami position were opposed by numerous authorities and organizations commenting upon the report. The result of the discussion was the not too effective protection afforded by the Forestry Act (see 1 above) and the amended RFA; as appears from the above, it implies rather modest changes in the legislation, although it is underlined that the Government considers the protection of the reindeer herding rights as important.
In this connection, mention should also be made of the recent legislation concerning Saami hunting and fishing rights, which the Saami regard as a serious menace to their legal position. As mentioned before, the Saami have a right to hunt and fish on the whole-year areas, although they cannot dispose freely of the right. At the same time, the State has the hunting and fishing rights in the capacity of owner of the land. The relationship between the rights of the State and the rights of the Saami is not quite clear, the Saami claim, with some support in the findings of the Court in the Taxed Mountain Case, that they originally had the exclusive hunting and fishing right which has gradually been reduced by various legislation and acts of the authorities, However, according to the Game Act (1987) the Saami shooting right is not on the same level as the rights of owners and tenants on the land, and the new legislation implies a considerable extension of the possibility for local authorities to grant hunting and fishing rights in the whole-year herding regions; the foremost aim is to satisfy the increasing need for these kinds of spare time occupations among tourists as well as local people. Of course, this state of law is incompatible with the idea that the Saami originally possessed an exclusive right to these natural resources.

The general attitude of the Swedish Government to the Saami rights is further illustrated by the statements in the Saami Bill concerning the ILO convention

(no. 169) concerning indigenous and tribal peoples in independent countries. According to article 14 in the convention, "the rights of ownership and possession of the peoples concerned over lands which they traditionally occupy shall be recognized". In the Saami Bill, the responsible Minister stated that this article was obviously incompatible with the Swedish state of law and that it probably was founded on relations altogether different from those applicable to the Swedish Saami. Hence, it would not come into question to ratify the convention. The Parliament too rejected proposals to ratify the convention although in less definite terms.

4. So far, the position of the Saami does not seem very promising from a juridical point of view. The efforts of the Saami Rights Commission to improve their legal status by creating a more efficient protection has only partly succeeded, and the detrimental effects of forestry and tourism upon the Saami activities are likely to increase. However, these negative traits may be partly compensated by the development in legal history, provided that proper attention is paid to the implications of the findings. Above all, the historical investigations of Kaisa Korpijaakko concerning the legal status of the Saami in the 17th and 18th centuries should reasonably have a considerable impact on the opinion among jurists and politicians. Above all in her doctoral thesis (Saamelaisten oikeusasemasta Ruotsi-Suomessa, 1989) she demonstrates in a very convincing way that, as far as concerns the Lapp areas of Torne and Kemi in the northernmost parts of Sweden and Finland, the Saami were treated by courts and other authorities as owners of the land (or, more precisely, possessors of taxpayers' rights that later developed into ownership) at least until about 1740; this holds true of Saami villages as well as individual Saami. Further, it is shown that all the requirements for a Saami ownership specified by the Supreme Court in the Taxed Mountains Case were fulfilled in these parts: an intensive, longstanding and essentially undisturbed use by Saami villages in areas with comparatively fixed boundaries. The Court had pointed out the possibility that such areas may have existed in the North; now, Kaisa Korpijaakko has apparently proved their existence.

If these results are accepted (as is the case at least among Finnish legal historians) it might have far-reaching consequences for the Saami rights in northern Sweden. As mentioned before, the royal regulations of 1683 on which the claims of the State on the northern mountain districts is based only concerned land without owners; if the Saami possessed the mountains in the capacity of owners, their rights were not affected by the regulations. In that case, it is not clear how the State between 1740 and the first reindeer farming legislation in 1886 would have acquired ownership to these regions; anyhow, the State cannot refer to any of the ordinary ways of acquiring good title to land originally owned by others. Still more surprising is that the hunting and fishing rights that the Saami must have exercised as owners now have been degraded to

second class rights that they are not even permitted to dispose of. Even if there are small chances for the Saami villages to be declared rightful owners of the mountains today, the mere possibility of such ownership will strengthen their legal position to a considerable extent.

Kaisa Korpojaakko's thesis has not yet been translated to Swedish, which may partly explain that it has not made any particular impression upon the Government and the Parliament, however, it has been referred to in the legal discussion, and important parts of her findings have been presented in shorter papers during the eighties. The Saami Rights commission mentioned her investigations, and when the Law Council in 1990 examined an earlier draft to a Saami Bill (containing essentially the same proposals as the Bill of 1992) the Council called attention to the fact that according to recent historical research the ownership of the State had been called in question as far as concerned the northernmost parts of Sweden and Finland. However, the Law Council did not wish to express any doubt concerning the essential basis of the legislation proposed; if new lawsuits concerning the reindeer herding right should lead to other conclusions as to the nature of the right, it was assumed that the legislation if necessary would be reconsidered. - In the Bill of 1992, the statement of the Law Council was shortly mentioned; the reference to Kaisa Korpijaakko's research was passed over in silence. According to the Minister, the statement did not give cause for any particular comments on his part. As mentioned before, the Government as well as the Parliament has not considered it possible to adopt the ILO convention concerning indigenous and tribal peoples. Apparently, the possibility of Saami ownership to certain mountain regions was not seriously considered in this context either. One explanation might be that the mere idea of such a right was too disturbing from a political aspect in view of the legislation proposed.

5. It appears from the above that the legal position of the Saami varies according to the point of view from which it is discussed. The government (independently of political color) prefers to leave Saami ownership out of account, the existence of a rather strong usufructuary right based upon immemorial usage is acknowledged, but concerning the protection of the right the interests of forestry, other industry and tourism often outweigh the Saami interests. The same, of course, is true of the opinion among forest companies and other property owners in the North, as well as among the local population on the whole. The general idea seems to be that the judgement of the Taxed Mountains case has finally settled the question of Saami rights in all the mountain regions of Sweden.

On the other hand, one need not be a Saami, nor even particularly partial to the Saami, to feel a strong doubt concerning this somewhat light-hearted attitude to

this complex legal problems. It would be an exaggeration to speak of the Saami having a strong case insofar as concerns the ownership question; however, the arguments that they can adduce seem to have sufficient weight to give the State a lot of worry, if the question of ownership to the northern mountains are brought before a court. As for the limited rights included in the reindeer herding right, the new legislation hardly does full justice to the Saami standpoint. The possibility that the rights of the Saami are far stronger than the legislation has assumed should call for some caution on the part of the Government and other owners of the land in question. However, the solutions given by the amended RFA are probably not so manifestly unconstitutional that the rules can be put aside by a Court.

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THE LEGAL STATUS OF RIGHTS TO RESOURCES IN FINNISH LAPLAND

by

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The rights of indigenous peoples to land, water and natural resources is a topical and difficult issue throughout the world. For a state, two essential problems emerge. First, it must decide which rights of the indigenous people it will recognize and what the scope of these will be. Second, it must consider the societal ramifications of the measures it takes. Recognition of the rights of indigenous peoples is ultimately a question of justice in society. Justice is realized when a society can admit that it has made a mistake. An admission of error is accompanied by a change in economic values and power relations in favor of the indigenous people. Where rights and interests conflict the decision-making person or body must ask whether a difficult decision is worth the effort.

These issues are also current in Finnish Lapland. Our indigenous people are the Saami (formerly called Lapps). They number 6 000 among a total Finnish population of 5 million; their language, culture and traditional livelihoods distinguish them from the population at large. The term "Saami" comes from the Saami language and was adopted in legislation in 1973. At present, a Saami is a defined as a person who considers him- or herself a Saami and who has learned Saami as his or her first language or who has a parent or grandparent who learned Saami as his or her first language. The Saami have their own advisory body, the Saami Parliament, whose function is to protect the rights and interests of the Saami people.[18]

1. THE PRESENT SITUATION IN THE SAAMI HOMELAND[19]

Most of the Finnish Saami inhabit and use the northernmost part of Finland, which has been referred to since 1973 as the Saami homeland in our legislation[20]. This area encompasses Finland's three northernmost

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[18] See decree No. 988 on Saami Parliament of 16th November 1990.

[19] See about the present situation of the Saami *Pekka Aikio* : "The Saami as a minority and an aboriginal nation". Speech of the President of the Saami Parliament to the chairmen of CSCE delegations 3th May 1992 in Saariselkä (arranged by the Ministry of Foreign Affairs).

[20] See decree No. 824 on Saami Parliament of 9th November 1973.

municipalities and part of a fourth. It is 35 000 km^2 in size and represents 10% of the total surface area of the country. The area has a total of 12 000 inhabitants, of whom 4 000 are Saami.

The traditional Saami livelihoods include reindeer herding, fishing and hunting. Present legislation in Finland does not grant land title to Saami engaged in these livelihoods. At various times in history homesteads were established in the area for farming and cattle raising. Owners of these were eventually granted title to the land they occupied. Both Finns and Saami own homesteads. In the Saami homeland, homesteads account for some 10% of the total land area. The remaining 90% is land which the state regards as its property.

For over 100 years, the state of Finland has controlled the lands used by the Saami. It has felled coniferous forests, leaving barren stretches of land behind, and has poisoned birch forests to make room for conifers. Treeless areas have been plowed and turned into waste land in an effort to promote timber growth. Extensive tracts of land have been inundated for the production of electricity. In the middle of a fell area there is a tourist resort recording more than 1 000 000 overnight stays a year. Finally, the state has protected by law some two-thirds of its land and imposed limits on how it can be used. The traditional Saami livelihoods enjoy no legal protection against the state as owner. Legislation defines reindeer herding as a livelihood which may be practiced both on state and private land. The right to engage in reindeer herding is granted to all residents of the Saami area. Fishing and hunting on state land have also been designated as a right belonging to all residents of the area. All of these livelihoods are under the control of administrative bodies in which the Saami do not have any special status.

In effect the traditional Saami way of life has been opened up to free competition. The competition has been quickened by the extensive network of cabins built on state land and by the year-round use of motorized vehicles in wilderness areas which is permitted to virtually everyone.

The developments mentioned above have had repercussions for both the Saami and their environment. The migration of Finns into the area has reduced the use of the Saami language, changed the social relations within Saami villages, increased Saami unemployment and prompted Saami migration to population centers. The many distinguishing characteristics of Saami culture fade and die out because they are no longer passed down from one generation to the next. In some areas, the Saami language has already died out. With no control over state lands, the Saami's attachment to nature, their use of the areas and regulation of natural resources diminishes. What the state does - and what it fails to do -

deteriorates and spoils the land, restricting the opportunities the Saami might have of practicing their traditional livelihoods.

Earlier, the position of the Saami was wholly different. Traditional land use gave them the status of masters on their own land with all the attendant rights and responsibilities. Kaisa Korpijaakko will be discussing this in detail in the afternoon.

2. THE TENUOUS LEGAL BASIS OF PRESENT LEGISLATION

The Saami - unlike many other indigenous peoples - had the status of full citizens hundreds of years ago in Sweden- Finland. Their rights and responsibilities were spelled out in laws and statutes. It was at that time that we already adopted the principle that all land must have an owner. If land had no owner, it was considered as belonging to the state (terra nullius).[21]

Over time, the rights of the Saami were "forgotten". In the 1900s, Finnish legislation rested on the notion that title to land presupposed farming and buildings; Accordingly, it became impossible for nomads to acquire title to land. The same reasoning deemed the lands which the Saami had used for centuries as 'ownerless', meaning that ownership reverted to the state. The legal basis for state title to the land in the Saami area (terra nullius) has been dubious ever since Finland became independent. In recent years, it has been proven wholly untenable. The legal basis of state title to land was shaken substantially back in 1981 in a land title dispute between the state of Sweden and the Saami. In deciding the case, the Swedish Supreme Court accepted the premise that according the law of Sweden-Finland a nomad could have acquired title to land without engaging in farming or having a permanent dwelling[22]. Later, in a doctoral dissertation published in 1989, Kaisa Korpijaakko proved that the Saami as nomads, fishermen and hunters enjoyed ownership of the land recognized by state officials in the northernmost parts of Finland and Sweden[23].

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21 See the decision of the Supreme Court of Sweden in *Birgitta Jahreskog* (ed): "The Sami National Minority in Sweden". Uppsala 1982 pp. 158, 186.

22 See "Afterword" by *Bertil Bengtsson* in Birgitta Jahreskog (ed.) "The Sami National Minority in Sweden". Uppsala 1982 p. 249.

23 See *Kaisa Korpijaakko* : "Saamelaisten oikeusasemasta Ruotsi-Suomessa". Mänttä 1989 p. 584.

The scientific community has not challenged this finding[24].

From the point of view of international law the land rights of the Saami were brought up before the Finnish Parliament in 1990 when it was considering ILO-convention No 169 on indigenous and tribal peoples. Finland could not become a party to the agreement at that time because our legislation did not conform to the provisions of the agreement concerning Saami land rights. In fact, the Government of Finland stipulated that the agreement could only be ratified if Finland would better recognize the rights of the Saami to the land they traditionally occupy and own and to the use of the natural resources on these lands.[25]

3. THE SAAMI BILL

The land and water rights of the Saami can be established in two ways. First, a court can confirm the rights of Saami on state land where a dispute arises between Saami and the state. Second, these rights can be substantiated through laws enacted by Parliament. The question of old Saami title to state land has yet to be decided in a court[26]. On the other hand, there have been numerous attempts to settle the issue by legislative means. In 1952 and 1973 state committees proposed bills which would have guaranteed Saami rights to land[27]. However, the Finnish Government did not bring either proposal before Parliament for consideration and both lapsed. In 1990, a permanent state committee - called the Advisory Board for Saami Affairs[28] - drafted a

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24 See *Bertil Bengtsson*: "Samernas rätt i ny belysning". Svensk Juristtidning. March 1990 pp.138-142; *Veikko O. Hyvönen* : "Jaollisesta omistusoikeudesta oikeusjärjestyksessämme". Oikeustiede/Jurisprudentia XXIV 1991 pp. 171-187; *Hannu Tapani Klami* : "Käsitteet ja historiantutkimus". Historiallinen aikakauskirja 2/1990 pp. 132-135; and *Heikki Ylikangas* : "Kirjallisuutta: Korpijaakko Kaisa: Saamelaisten oikeusasemasta Ruotsi-Suomessa". Lakimies 8/1989 pp 1163-1169.

25 See Governement Bill to Parliament No 306/1990 containing a proposal not to ratificate convention (No 169) Concerning indigenous and tribal peoples in independent countries.

26 See *Jyrki Virolainen* : "Lapinkylien osakkaiden maanomistusoikeudesta" in Lapin Kansa 21.1.1992.

27 See Komiteanmietintö 1952:12 "Saamelaisasiain komitean mietintö" and 1973:46 "Saamelaiskomitean mietintö".

28 See order No 367 on an Advisory Board for Saami Affairs of 26th March 1987.

legislative proposal[29].

According to studies done by the Advisory Board, state officials at one time had recognized in established practice the ownership rights of the Saami to their lands for the purpose of reindeer herding, fishing and hunting. The Saami are still using these same areas for the same purposes but the land is called state land. The title of the Saami to this land has never been legally terminated, ie. it should still be in effect. By contrast, no adequate legal basis for state title to these lands has ever been produced. For this reason, the Advisory Board considered that the present status of the state with respect to state lands violated the Saami's legal protection of property. Moreover, this situation amounts to a structural barrier causing inequality among different groups of citizens: the Saami are in an inferior position with respect to other citizens because of their special means of livelihood. Finally, the present position of the Saami conflicts with the provisions of international agreements. To rectify the situation, the Advisory Board proposed that the rights of the Saami population to land, water and the traditional livelihoods should be safeguarded by through enactment of a special Saami Law. The law would not give the Saami new rights; it would restore their previous ones. The legislation would also promote the development of the Saami language and culture, improve social conditions as well as foster sustained growth in the area. According to the bill, these provisions would neither encroach upon anyone's property nor affect the practice of any established livelihood.

The Saami bill applies to the Saami homeland. The area would be divided into Saami villages, units which would include both state lands and farms. The state lands within a Saami village would be restored to Saami ownership and referred to as Saami common land. The bill does not apply to the area of farms proper, their interests or ownership; these would thus remain unchanged. The Saami living in the area of each Saami village would own the common lands within the village and decide jointly on their use. According to the bill, the title of the Saami to the common land would be limited in that the land could not be divided or transferred to others. Moreover, the lands could neither be given as security nor taken in execution. In all other respects, however, the Saami would control and use the lands they owned and enjoy the proceeds from them. They would have title to forests and ownership rights to sand and other extractable land resources. They could build in the area and grant leases to other persons. They would grant fishing and hunting permits as well as permits for harvesting wood and the use of motorized vehicles in the terrain. Conservation areas on

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29 See Komiteanmietintö 1990:32. "Ehdotus saamelaislaiksi ja erinäisten lakien muuttamiseksi." Saamelaisasiain neuvottelukunnan mietintö 1, (which include the Saami Bill).

state lands would also be considered part of the Saami villages. They would remain conservation areas, and a separate administrative body with joint state and Saami representation would be set up to oversee their maintenance and use. If the Finnish Parliament should decide at any time to abolish the conservation area by law, the area would revert to Saami ownership and be incorporated into the common land.

According to Finnish law, the rights to ores and minerals do not belong to the owner of the land but rather to the person establishing a claim on it. The landowner nevertheless has the right to take part in mining and to receive compensation for mining activity. Mining operations cannot begin until the mining area has been finally demarcated.[30] The bill would make delimitation of a mining area more difficult, much as it is in a conservation area.

Under Finnish law, fishing and hunting are rights belonging to the landowner. In the area of a Saami village the Saami would be allowed to hunt and fish only on the common land which they own.

The bill would allow Saami to engage in reindeer herding throughout the area of the village. In other words, the herder could use land owned by anyone, as is provided for in present legislation provides. The right to engage in reindeer herding would belong particularly to the Saami, who now own 85% of the reindeer in the homeland. Any non-Saami making his or her living from reindeer herding, hunting or fishing would be allowed to continue after the law comes into effect. In addition, other residents of the Saami area would be entitled to obtain fishing and hunting permits from the Saami as they obtain them from the state at present.

4. REACTIONS TO THE SAAMI BILL

The Saami bill involves an indigenous people and the realization of their rights in the Saami area, where the Saami are in the minority. While the bill would not encroach upon anyone's private property, it would change current practice, land ownership and power relations. The power of the owner to decide about present state lands would be transferred from state officials to the Saami. These implications have prompted a variety of reactions to the bill.

The Committee for Constitutional Law of the Finnish Parliament examined the bill even before it was presented to the Government. The Committee considered it important that Saami landownership on state land should be clarified. In addition, it gave top priority to having the bill presented before Parliament so

[30] See Mine Act of 17th September 1965 No 503.

that the traditional Saami livelihoods could be safeguarded.[31] A number of statements on the bill were solicited; some were in favor, others opposed. The Faculty of Law at the University of Lapland was approved of the bill without reservations. The sharpest opposition came from the municipalities in the Saami area.[32]

The Government has not been in any hurry to bring the bill before Parliament. In fact, at this writing the Government still has no intention of forwarding the bill to Parliament. According to the Government, the reason for the delay is that no irrefutable legal historical bases for Saami land ownership can be produced, a contention which contradicts the latest research findings. In addition, the Government considers the legislation contrary to its social policy. In the opinion of Pekka Aikio, chairman of the Saami Parliament, the Government's position on the bill is politics couched in legal terminology. The line of reasoning is as follows: the Saami never had title to land at any time to begin with. And if they did have title it has ceased to apply. And if this is nevertheless still in effect, it cannot be realized in practice because the Finns in the area would get angry.[33] Due to the Government's delays, the Saami Parliament has decided to continue its drafting work on the bill and supplement its arguments.

5. EVALUATION AND CONCLUSIONS

In our society, the rights of the Saami to land are a question of both justice and values. According to our history books, the Saami have always peacefully withdrawn farther north whenever Finnish settlers arrived. In the same vein, it can be maintained that the Finns have never committed any wrong towards the Saami; the present situation of the Saami does not conflict with the Finns' sense of justice.

The Finnish media describe the Saami in a fanciful way. According to Pekka Aikio, the image of a Saami is a dirty, lazy drunk who also happens to be rich[34]. Such a person has no worth to speak of, nor any need to be protected.

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[31] See the Statement No 3 of the Committee for Constitutional Law of the Finnish Parliament of 8th May 1990.

[32] See "Yhteenveto saamelaislakiehdotuksesta annetuista lausunnoista" Sisäasiainministeriö. Kunta- ja aluekehitysosasto. Moniste 17. Joulukuu 1991.

[33] See *Pekka Aikio* 's speech of 14th January 1993 at an occasion arranged by the Ministry of Interior in Helsinki because of the UN's year of indigenous peoples.

[34] See above under No. 16.

Since our system of justice protects only valuable things, the Saami fall outside of any such protection. It is my view that the legitimate rights of the Saami to the lands of their ancestors cannot be realized in Finnish legislation as long as Finland maintains false and fictitious notions of Saami history and the Saami people today. In this, the UN Year of Indigenous Peoples we have all the more reason to rectify these misconceptions, although Finland has ample and weighty need to do so throughout its 75 years of independence.

SECTION 4: COMPARISONS AND CONCLUSION

Introduction

The utilisation of the resources of the complex eco-systems in the Barents sea and on the plains of northern Fenno-Scandia, has created very diverse systems of use rights and powers of management. The legal system defining rights and duties and empowering appropriators is currently in a state of reforming. To guide the process of reform it may be instructive to compare the experience of the far north to the situation in other parts of the world. As a step in this direction two articles are included, one discussing the fisheries of Namibia and the other the range lands of the inner Niger delta in Mali. A second approach to the reform process is theoretical analysis of the problems. This is mainly done in the first section of the book. At the end here we have included two papers discussing how to conceptualise property rights based on experiences in Norway. One paper discusses the utility of a more refined conceptual scheme for describing resource specific property rights systems.

"The Namibian fisheries resource and the role of statutory law, regulations and enforcement of law in its utilisation" by Carl-Hermann Schlettwein and Pierre Roux establishes Namibia as an interesting control case in the sense that this may be one of the few cases where statutory law designed exclusively to manage the fish resource sustainable is the only institution affecting the resource. The Benguela current flowing north along Namibia's coast is highly productive. Yet, on independence the sea was nearly emptied by the extensive fishing by a mostly European fishing fleet. In rebuilding the fisheries Namibia had to start from the bottom. Based on the Common Law as existing and applied in South Africa since 1920 and the Law of the Sea they had to design a regulatory system which could both rebuild the fish stocks and harvest them sustainable when they were rebuilt. Schlettwein and Roux provides a survey of the legal history and current status of these regulatory policies. The description provides a baseline for comparison of the development of Namibia's own fisheries. If they have got it right Namibia should benefit from their fish resource without disastrous fluctuations. It may also provide a baseline for comparisons with regulatory systems where local informal institutions and established common law rights as well as international treaties complicate the regulatory regime.

Trond Vedeld writes about "State Law Versus Village Law: Law as Exclusion Principle under Customary Tenure Regimes among the Fulani of Mali". It is based on fieldwork among the Fulani in the "leydi of Dialloubé" in the north central in-land delta of the Niger river. His concern is chiefly to discover how customary property rights regimes interact with the regimes the state administration (or those who control it) tries to impose. The traditional tenure regime with roots in the Dina state (1818-62) is today under pressure from a variety of processes originating both in the political and the ecological system. The result is increased pressure on the resources. This is most visible in the enclosure of the flood plain areas suitable for rice growing as well as a critical pasture for the Fulani during the dry season. Vedeld outlines both the customary system of rights to cattle and access to pasture, and the existing theory of property rights as enacted by the state. The system is very diverse with all levels of control ranging from open access to full private inheritable property. There is a variety of conflict areas depending on the choice between state and customary law as well as its interpretation. This opens a field of action for officials and administrators with long term implications for the legitimacy and authority of the state. One problem for the state is that the diversity of customary rights is difficult to match in substantive statutory law. Vedeld suggests that the state should put more effort into developing appropriate legal procedures for resolving conflicts equitably rather than trying to impose its own system of property rights.

In "The analytical importance of property rights to northern resources" Audun Sandberg examines the role of property rights as a link between the physical world and the social world. His point of departure is the settlement history of the north and the legitimacy of access to resources granted by the old Roman law principles of first occupancy, possession, beneficial use and effective control

(«primus occupat», «possessiones», «usum fructum», and «dominium»). He then considers 6 different resources of the north for their potential contribution to our knowledge of design principles for resource management systems. The systems for collecting bird's eggs and downs are seen as those most uninterrupted by government intervention. If the management regime of sea fish of Namibia at one extreme is totally government designed, the collection of sea birds eggs and downs is at the other extreme with a thousand year history of uninterrupted development. The management of sea fisheries are mostly government designed with only a couple of fjord fisheries with any local tradition of management. But as also documented in section 2 above, the many-stranded interrelations of international as well as national players at different levels make this a rich field to study. The third resource, the coastal waters as environment for fish farming is an interesting case illustrating the conflict between direct government intervention and regulation of the fish farmers and local coastal zone management. A more consciously designed resource management strategy does not exist. Also a focus on wild salmon as a resource shows a great potential of insights into a very diverse set of management rules governing its life from its hatching upstream in a river, going out the fjord to roam the North Atlantic until it some years later returns to spawn. A rather recent addition to the range of northern resources is the water power used in generation of hydro-electric power. The abundant and cheap energy has played a major part in transforming the north to modern industrialised communities. Recent efforts to liberalise the market for hydro-electric power and privatise the ownership structure of the power plants according to the stock-owning model, sets the stage for a new battle over the control of an important resource between the local communities and central government. In this property rights to the kinetic energy assumes new importance. Finally forests, pastures and berries are a diverse arena of management regimes. Much of the waste land in northern Norway is so-called «unmatriculated» state lands and state commons (see Sevatdal above). These unclear property rights are now contested by many interests and legal battles as well as government commissions are slowly redefining them. The dynamics of these changes needs a closer study. Sandberg ends his discussion calling for more precise use of the concepts of property rights in the social sciences and suggests that to make property rights more useful in the comparative study of institutional systems, they should be deconstructed into rights of access, rights of extraction, rights of exclusion, rights of management and rights of alienation.

In social science the key question in comparative studies is what units are meaningful to compare. Pondering this question in relation to the studies presented here it seems to be an obvious conclusion that it is not satisfactorily resolved in the study of resource management regimes. In too many cases the unit is automatically taken to be the state and its rules governing some generic resource (reindeer pasture, fish).

However, the question of what is the most meaningful unit in a study is a theoretical question. The "fuzzy" units usually employed, reflects the "fuzzy" state of theories about resource management institutions. The call for better conceptual tools to study property rights is thus a proper conclusion of this study. Of this we are sure. How to proceed to get better theory is more uncertain.

Implicit in this book is that the study of legal systems represents one area in need of better study. A better understanding of the chain of causation from the aggregation of everyday experiences of individual people through legal cases as well as the political system until a change in the law is effected - however small - must be integrated with a better understanding of the chain of causation running from the decisions of the lawmaker, the detailed implementations of the regulating agencies, the interpretations of the local administrations, law officers and public to their impact on everyday activities. This understanding must then be integrated with knowledge of the specific resources as well as the ecosystems generating them and the communities living off them.

The best guess is that there will be no one unit suitable for all questions. For the study of management institutions of renewable resources our guess is that a the unit will be a specific resource bounded by the ecosystem generating it.

THE NAMIBIAN FISHERIES RESOURCE AND THE ROLE OF STATUTORY LAW, REGULATIONS AND ENFORCEMENT OF LAW IN ITS UTILISATION.

by

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1. INTRODUCTION TO THE BENGUELA SYSTEM AND THE NAMIBIAN MARINE ENVIRONMENT

The sea off Namibia is known to be highly productive due to the up welling of nutrient rich waters from the cold Benguela current which flows north-wards along the coast. As with other coastal up welling systems, the fauna of the Benguela current is dominated by fish species that can utilise the rich plankton production in the upper water layers. However, relatively few species make up the bulk of the total fish biomass: clupeid, pilchard and anchovy represent the pelagic inshore fauna; horse mackerel, with smaller and varying amounts of chub mackerel characterise the offshore small pelagic fish; hake, often termed demersal, inhabit the whole water column with its main distribution offshore, the juvenile part of the population extends into shallower waters. In addition there are a number of less abundant fish and shellfish species, in particular, snoek, kingklip, sole, monkfish, squid, tuna, deep sea crab and rock lobster which are, however, of significant economic importance.

2 SPECIFIC MANAGEMENT POLICIES FOR THE MAIN STOCKS

Before we turn to some of the sector specific pieces of legislation and their enforcement, some of the management policies for the main stocks and the reasons for them should be mentioned.

2.1 Hake

The average annual total allowable catch (TAC) for hake set by ICSEAF before Independence was about 400 000 tonnes, a figure in no way consistent with the

available biomass. In order to redress the situation rapidly, the then President-elect of Namibia requested ICSEAF member countries even before Independence to withdraw their fleets. The new Government subsequently radically cut the TAC to 50 000 tonnes for the remainder of 1990. For the 1991 fishing season the TAC was set at 60 000 tonnes, for 1992 90 000 tonnes and for 1993 120 000 tonnes. The aim was and still is to restrict catches in such a way as to allow the stock to increase to 4 or 5 times of its present level. In addition, a ban on trawling in water shallower than 200 m was put into force, pursuant of the policy to establish exploitation patterns capable of improving the protection of juveniles and small-sized fish.

In spite of registering a doubling of the fishable biomass since 1990, the present volume is still only about a quarter of the biomass at which the stock would peak and support a Maximum Sustainable Yield. Consequently, the TAC for 1993 was kept at 120 000 tonnes, which is also in line with keeping fishing mortality below 20%. This programme is showing definite signs of success as preliminary results for last year indicate a further substantial increase in the hake biomass.

2.2 Pilchard

Of the Namibian fisheries resources, the collapse of the pilchard (Sardinops ocellatus) was perhaps the most dramatic. From an estimated biomass of about 6 million tonnes in the late 1960's the biomass dropped to a meagre 50 000 tonnes in 1980. In 1980 all directed catches for pilchards were stopped. A slow process of keeping the canning industry alive and rebuilding the stocks ensued. This resulted in a present stock biomass of about 800 000 tonnes. This is not yet a total recovery but there are at least encouraging signs.

Until a consistent stock recovery is demonstrable, pilchard fishing is allowed only to supply fish to the labour intensive canning industry and limited amounts to the less labour intensive fish meal plants. So far this policy appears to yield the wanted results. For the first time in many years the age structure of the stock has recovered to include four age classes. The presence of three and four year old fish bodes well for the future because recruitment from older fish is thought to be much better than from smaller, young fish.

2.3 Anchovy

The initial policy on this species which is less valuable than pilchard and is used mainly for fish meal production was to limit catches until the stock has recovered. Recent experience on the Namibian coast however indicates that anchovy biomass build-up fluctuates irrespectively of fishing mortality. In addition, it also appears that increases in anchovy biomass can be seen as response to the development of the pilchard resource. Taking this into account it

therefore appears to be the most practical venue to extensively fish anchovy when abundant and holding back TACs when they are not. Whether both pilchard and anchovy can be managed in a balanced way to yield substantial catches from both stocks remains to be seen.

2.4 Cape Horse Mackerel

This stock is in a healthy state. Since the possibility exists that it constitutes a competition for the increasing pilchard and hake stocks, the policy is to maintain fishing at a high level, allowing fishing mortality at a level of about 30% of the total biomass. Recent biomass surveys indicate a stock size of between 1.5 and 3 million tonnes. A TAC of 450 000 tonnes was therefore maintained for the past three seasons.

Purse seining of horse mackerel in the offshore area is encouraged because the risk of taking pilchard as by-catch is diminished. Midwater trawling is restricted to a water depth greater than 200 m to minimize accidental (or even deliberate) pilchard and hake by-catches. Recent reports from surveys indicate that these measures are proving successful and hake by-catches are now down from 15% to about 3% of the total landings.

2.5 Rock Lobster

This resource has been dramatically depleted and therefore drastic catch restrictions are applied in a programme to rebuild the stock. Prompted by the extremely low catch of 376.4 tonnes for the 1990/91 season the TAC for lobster was cut back from the pre-independence 2 000 tonnes to a mere 100 tonnes for the past season. For the current year a TAC of 200 tonnes is made available. The cut in TAC has been quite traumatic for the lobster fishing companies and significantly reduced employment opportunities in the industry. To compensate for the lost fishing opportunities temporary hake quotas were allocated to the affected companies. Maintaining low quotas and upholding the minimum size (which allows for females to breed at least twice before recruiting into the fishable population), should ensure a recovery and future sustainability.

2.6 Crab

Special measures were introduced to protect the red crab (Chachyon marineta) resource. Thus the number of crab licenses has been reduced from five to four, catches are restricted to depth greater than 400 m to protect females and juveniles and larger mesh sizes or escape gaps on traps are being introduced. Extensive tagging programmes to facilitate the assessment of biomass from tag returns are under way. Spider crab is being exploited at low levels only and research to assess stocks is implemented.

2.7 Minor species

A number of minor species, for example different tuna species, snoek (Thyrsites atun) and species that are landed as by-catch to the white fish industry such as different species of squid, kingklip (Genypterus capensis) and monk or angler fish (Lophius upsicephalus) are targeted. With the exception of snoek, these have not been the aim of specific management measures and are now also being looked into for their development potential.

Tuna is targeted and may prove easier to protect and manage than fish that come as by-catch of other species and considerations are on the way for determining the best catch technology. Also, the possibility of demarcating zones for either long lining or trawling has been considered in order to afford some protection to kingklip and to avoid gear competition. The management of snoek, however, may prove difficult. Certainly the total ban on the use of any form of gill net or drift net in Namibian waters will go a long way to protect the larger pelagic species such as tuna. Joint efforts by countries bordering the south Atlantic will enhance efforts by individual countries to rebuild and protect especially the migrant species like tuna.

3. THE CONTRIBUTION OF FISHERIES TO THE NATIONAL ECONOMY

Namibia's policies on fisheries strongly reflect the contribution of fisheries to the national economy, and Namibia's dependence on expanding that contribution. Key features of the contribution are:

3.1 The fisheries sector as major contributor to the economy

Whereas in the pre-Independence year 1989, fisheries (excluding fish processing in the enclave of Walvis Bay) contributed US $ 16.8 million to Namibia's GDP, this figure rose to US $ 120.7 million for 1991 and US $ 148.8 million for 1992. The estimate for 1993 is in the order of US $ 188.1 million. Fish processing in Walvis Bay alone increased from US $ 14.2 million in 1989 to US $ 34.2 in 1991, with estimates for 1992 and 1993 being 40.2 and 47.3 million respectively. Altogether this makes an impressive increase. Expressed in per cent the contribution rose from 2.11 in 1989 to 8.6 in 1991, and with projected figures of 9.5 and 10.5 for 1992 and 1993 respectively. This increase is due to a number of factors, the most important one being the establishment of an EEZ and the resulting control over the offshore resources. Further the increased portion of white fish landed and processed ashore and the consequent value addition significantly contributed towards the said increase. Lastly, the introduction of so called quota fees, a form of royalties, for the major species such as hake, horse mackerel and pilchard generated further revenue.

In the two year period from 1989 to 1991, fisheries are estimated to have contributed nearly 40% of the growth in the Namibian economy. For 1992 the value of fisheries output is projected to overtake agricultural output and by 1993 the value of fisheries output is projected to reach 60% of the value of output of the mineral sector which would make it the second largest contributor. In terms of growth in employment opportunities the fisheries sector unfortunately did not perform as impressively. It is estimated that the sector currently utilizes a work force of approximately 5000 persons. Nevertheless, the fisheries industry can already be counted as one of the major industrial employers in Namibia.

3.2 Fisheries as contributor to growth in employment, output and incomes in Namibia

The gains recorded so far have been achieved in a period where the focus of the fisheries policy has been on stock recovery. If this policy is successful, and there are already indications that it is working, then there will be scope for further substantial growth. In the medium term (5-10 years) and based on current international market prices the value of the Namibian fisheries is projected to be in the order of US $ 420 million. Prospects for the other major sectors are less encouraging. Agricultural output is limited by the scarcity of suitable land and water. The mining sector, especially diamonds and uranium, is presently the most valuable sector of output. However, these resources are non-renewable and their prices are vulnerable and fluctuate as is the case for most of the base metals. There is still room for future activity from further exploration and exploitation, but additional output gains are likely to bring higher economic and environmental costs. The potential conflict of interests between offshore mining activities with fisheries could be seen a point in case.

3.3 The need for sustained growth in the fisheries sector

The first Government of an independent Namibia has inherited an economic structure characterized by harsh economic disparities and social inequity. It is estimated that 70% of the national income is received by 5% of the population, while much of the rural population live in relative poverty, with little opportunities at hand for employment or income, and with only limited access to basic services. Reducing the disparities requires major expansion of resources to be committed to basic services, especially health and education, and to infrastructural development and maintenance, required for economic advancement and an expansion of job opportunities in less developed areas. Government programmes are aimed at poverty alleviation with sustained growth, so that it can address disparities without disruptive redistributive measures. For this strategy to succeed Namibia must have sustained growth in output, jobs and income from the fisheries sector.

4. CHECKS AND BALANCES

In common property regimes the importance of checks and balances cannot be over emphasized. To accommodate this, the Sea Fisheries Act provides for the establishment of a "Sea Fisheries Advisory Council". Its membership is drawn from the Ministry of Fisheries and Marine Resources, other Government institutions, the different branches of the fishing industry, representatives of employees in the industry and professional experts from outside the Public Service, thus representing the whole sector.

The Council is required to be consulted before the determination of TACs to be made available through quota allocations. It therefore actively participates in the decision making process when it comes to determining the key managerial mechanisms. It is also charged with advising Government in the management and development of sea fisheries in general. The Council is furthermore to be consulted on the application of levies for the Sea Fisheries Research Fund. This establishes a process of accountability for the use of the Fund over and above the normal Government accounts.

5. TRADITIONAL SYSTEMS OF RESOURCE MANAGEMENT AND FISHING RIGHTS

Traditional systems of management and historic or traditional rights to fish that involve conservation practices, forms of tenure and other cultural rules of access were never developed by local fishermen along the Namibian coast. Traditional fishing practices were never established due to the inhospitable nature of the largely unpopulated Namibian coastline which forms the Namib desert stretching from the Oranje River in the south to the Kunene River in the north. The fishing communities of Walvis Bay and Luderitz, the only two fishing ports on the Namibian coast have never exercised the freedom to fish unregulated without statutory control of resource management. Although fishing has been carried out in Namibia from the earliest times, the trawling industry was only established at the beginning of this century and it was only during the 1940's that a pelagic and other shoal fish industry developed,[1] whereas the first regulatory control for the better protection of fish had already been introduced in 1922 (Proc. No. 18 of 1922).

Namibia has a modern management regime where the State has the exclusive responsibility for the management of the resource and the protection of the marine environment.

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1 See: Fuggle and Rabie, *Environmental Concerns in South Africa : Technical and Legal Perspectives* at p. 261, for a brief history of marine resource exploitation.

5.1 The common law

The Common law of Namibia is Roman Dutch law. Roman Dutch law "as existing and applied in the Province of the Cape of Good Hope (South Africa) at 1st January 1920" was introduced by Proclamation 21 of 1919 to be the common law of the territory of South West Africa. Legal continuity was preserved and it continues to apply in Namibia by virtue of the provisions of Articles 66(1) and 140(1) of the Namibian Constitution, but subject to the qualification, however, that it is for the courts of Namibia to interpret and pronounce on the content and development of such common law in Namibia.[2]

In accordance with such common law the right of fishing in the open sea was common to all subject to any established local customs amongst fishermen such as the custom that the first arrival would have the first trek.[3]

With the introduction of increasing regulatory control over marine resources inroads were made from time to time into such common law by the statutory regimes that applied.[4]

Under the provisions of Article 66 of the Namibian Constitution only so much of the common law and customary law that does not conflict with the Constitution or any other statutory law still remains in force.

The common law right of unrestricted access to fishing was accordingly modified in 1922 when the first regulatory control was introduced and progressively repealed by subsequent legislative developments that replaced it by a common property fishing regime where the State controls the utilization and access to the resource. Under the present legal regime that is governed by the Sea Fisheries Act, 1992 read together with the Sea Fisheries Regulations (Government Notice No. 1 of 1993 published in Government Gazette No. 1 of 4 January 1993) no person may utilize a marine resource without having been granted a right of exploitation in terms of the Act and the exploiter is restricted to a quota allocation. No fishing vessel may operate in the territorial sea and exclusive economic zone of Namibia without a license with the imposition of fishing conditions.

5.2 Traditional foreign fishing interests

On the issue of traditional foreign fishing interests, Namibia does not recognize any right of access for any foreign fishing fleet on the grounds of traditional fishing.

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2 See: *Redondo v The State* (an unreported judgement of the Supreme Court of Namibia dated 18th June 1992) at 20 - 26.

3 *Van Breda & Others v Jacobs & Others* 1921 AD 330.

4 See: *Redondo* at 24.

There is no special provision contained in the national fishing legislation which affords a preferential right of access to foreign fishing interests on the basis that they have long fished the waters.

The foreign fishing vessels that engaged in fishing in Namibia's waters before Independence were all ordered by the Namibian Government to leave when it generated the exclusive economic zone. According to evidence given in *Redondo v The State* (an unreported judgement of the Supreme Court of Namibia dated 18th June 1992 at 37), as many as 250 foreign vessels fished in Namibian waters immediately before Independence. Since these foreign vessels had severely damaged the stock and in particular the hake resource through dramatical depletion by over-exploitation, Namibia was under no obligation in international law to negotiate a phasing-out agreement or arrangement. It cannot be argued, as Portugal did in reply to the Canadian 12 mile fishery proposal at the 1958 Geneva conference, that the coastal State should be obliged to respect the rights of foreign fishermen who had been engaged in fishing for a long period of time without damaging the stock. Scientific assessments show that in 1969, when foreign fishing commenced the total hake stock in Namibian waters was approximately 2,385 million metric tonnes, and had decreased to approximately 0,486 million metric tonnes in 1990.

In any event true historical rights to access have not been established by these foreign fishing fleets. The foreign fishing interest was only relatively recently established in 1969 when the pelagic fishing stocks in Western European waters became depleted and Namibia's fishery resources became a major focus of attention of foreign fishing vessels.

It was also during this period (1969) that the International Commission for Southern Eastern Atlantic Fisheries (ICEAF) was formed under its founding treaty. No treaty rights to traditional fishing were derived[5] from the ICEAF treaty or any other treaty binding on Namibia. Namibia was never made a party to the ICEAF but was merely referred to by the member States as the coastal authority.

Nor is Namibia under any legal obligation at international law to recognise any traditional foreign fishing rights.

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5 See: O'Connell, *The International Law of the Sea,* Vol. I at 536 - 8.

I wish to point out at this stage that an outstanding feature of the Namibian Constitution is that it is 'international law-friendly'. Article 144 incorporates the general rules of public international law and international agreements binding upon it into the law of Namibia. Under Article 96 an 'internationally fully law-abiding' framework is established which "fosters respect for international law and treaty obligations" and "encourages the settlement of international disputes by peaceful means".[6]

The Law of the Sea Convention, 1982, clearly provides that the rights of the coastal State in the EEZ are exclusive with respect to the limits of its harvestable capacity. Article 62 establishes that having declared an allowable catch, the coastal State is free to determine its harvestable capacity and only where it does not have the capacity to harvest the entire allowable catch is the coastal State obliged to give access to its EEZ to other States in respect of the surplus through agreements or other arrangements.

Article 62(3) of the Convention, which establishes the "general surplus rule", that governs access to the EEZ in respect of the surplus to other States, is carefully worded. It does not refer to "traditional rights". Without indicating any priority it sets forth a list of relevant factors and foreign fishing interests that the coastal State has to take into account in giving access to other States to its exclusive economic zone in respect of any available surplus.

One of the relevant factors which the coastal State is obliged to take into account is the need to avoid economic dislocation in States whose nationals have habitually fished in the zone. Under this rule traditional fishing interests have not been given priority over other interests, namely land locked States (Article 69) and developing States in the sub-region or region (Article 70).[7] The provision also acknowledges other national interests.

The above consideration will generally not be applicable to Namibia and is particularly not applicable to access to the hake resources - the primary interest of foreign fishing among Namibia's fish resources. There is at this stage a limited (if any) surplus available and the development and growth of the local industry is being promoted. The economic dislocation that may have been caused in some of the States concerned occurred as an inevitable result of over-exploitation and has already occurred.

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6 See: Erasmus, *The Namibian Constitution and the Application of International Law* in the 1989/90 *South African Yearbook of International Law* at 81 and Szasz, *Succession to Treaties under the Namibian Constitution* at 65.

7 See: O'Connell supra at 565 - 8 where he states that: "The range of claimants to the diminished allocable resources in the EEZ has widened. The effect of the EEZ upon states which have habitually fished is thus likely ... to be more drastic than the concept of preference."

There exists, therefore, no basis in international law upon which it can be argued that the economic dislocation which may have taken place was caused by the establishment of Namibia's exclusive economic zone and the disruption of foreign fishing operations and that it should now be taken into account when considering giving access to any surplus fishing opportunities when the resource recovers.

6. LEGAL HISTORY

The first statutory control was introduced in 1922 under the Sealing and Fishing Proclamation (Proc. No. 18 of 1922).[8] to provide for the better protection of fish and seals in the South West African territorial waters. The proclamation introduced the requirement that fishing boats had to be licensed and prohibited their use without a license or in no compliance with the conditions of the license.[9] The Administrator of the territory of South West Africa was given the power to; appoint close seasons and prohibited waters; limit, restrict or prohibit the catching of any species of fish and give special protection thereto.[10] The Administrator was further empowered to make regulations and impose penalties for the contravention thereof pertaining inter alia to the following: daily returns; the regulation of fisheries; sizes of marketable fish; mesh sizes, methods of catching fish and the licensing of nets; and the protection and preservation of fisheries.[11]

Proc. 18 of 1922 was amended by Proc. 36 of 1930 and extended the licensing requirement to factory vessels.

Proc. 18 of 1922 was replaced by the provisions of the Sealing and Fisheries Ordinance, 1949 (Ord. No. 12 of 1949) which consolidated the laws relating to sea fisheries and sealing.[12] Whilst retaining the protective controls and prohibitions established under the provisions of Proc. 18 of 1922 (set out above) it provided for further conservation practices such as the declaration of marine

8 Proc No. 18 of 1922, insofar as it related to fisheries was amended by Proc. No. 36 of 1930 and Proc. No. 1 of 1936.

9 Section 12.

10 Section 6.

11 Section 5.

12 Ord. No. 12 of 1946 was amended by Ord. 26 of 1967; 38 of 1967; and 9 of 1969. The Ord. applied to the entire extent of the South West African coastline including Walvis Bay; See in this regard: *R v Akkermann* 1954 (1) SA 195 (SWA)

sanctuaries[13] and established wider regulatory powers aimed at the protection of the marine environment[14] with a more extensive list of offences that carried increased penalties and forfeiture clauses.[15] The Ordinance also introduced a processing licensing and quota system fixing the maximum quantities of fish that may be treated by a factory.[16]

The Sea Fisheries Act, 1973,[17] (Act 58 of 1973) (The South African Act) and its regulations[18] in turn replaced Ord. No. 12 of 1949 and by virtue of section 24 applied to the territory of South West Africa.

Article 140(1) of the Namibian Constitution incorporated Act 58 of 1973 into the law of Namibia and it continued to apply to Namibia until it was repealed by the Sea Fisheries Act, 1992.

It re-enacted most of the provisions that were contained in Ord. No. 12 of 1949. Among the important provisions that had a bearing upon conservation and management were the following: the establishment, control and management of fishing harbors; the registration and licensing of fishing boats; the licensing of fishing factories; the stipulation of closed seasons and of quotas; the control of fishing nets and of other methods of catching fish; specific measures to protect lobsters and other kinds of fish, and the control of whaling.[19]

The provisions of Act 58 of 1973 were inadequate in that they did not cover the following matters:

- there was no provision made for the granting of defined fishing rights and the orderly exploitation of the resource.
- no proper quota and catch control existed. Processing quotas-licenses were granted to established processing houses which protected their interests, and it lead to monopolistic conditions prevailing in the industry.

13 Compare *R v Bester and Others* 1952(3) SA 273 (SWA)

14 Section 25.

15 Section 18.

16 Section 2.

17 Act 58 of 1973 was amended insofar as it applied to the territory of South West Africa by Act 57 of 1975, Act 22 of 1976 and Act 99 of 1977.

18 The regulations were contained in Government Notice 1912 of 12 October 1973 as regularly amended.

19 See: Joubert, *The Law of South Africa,* Vol. 10, (Sea Fisheries) by J. A. Faris at 161 etc., for an analysis on Act 58 of 1973 and Fuggle and Rabie, supra, at 269-273.

- quotas were transferable and that system was abused by the marketing of `paper quotas' to foreign interest groups.

The (unamended) provisions of the Territorial Waters Act, 1963 (the South African Act) governed the maritime zonal regime and prior to Independence it established a limited exclusive fishing zone of 12 nautical miles for the territory of South West Africa.[20]

Act 58 of 1973 contained no provision in any way limiting or restricting foreign vessels from fishing in the exclusive fishing zone of South West Africa. The provisions of Section 8 of the Act which dealt with the licensing of fishing vessels and factories was not applicable to foreign vessels and confined to the terra firma and to the territorial waters.[21]

It is against this background of legislative shortcomings that the Namibian legislature shortly after Independence enacted the Territorial Sea and Exclusive Economic Zone of Namibia Act, 1990 (Act No. 3 of 1990) to establish an exclusive economic zone and through an act of promulgation by reference incorporated the provision of Section 22A of Act 58 of 1973[22] into Namibian law.

Section 22A then prohibited the unauthorized use of a foreign vessel as a fishing boat or factory within the exclusive economic zone of Namibia with an increased maximum penalty of R1 million.

The Sea Fisheries Act of 1992 followed and established an advanced system of rights of exploitation - quotas and licensing requirements with provisions designed to exercise proper quota and catch by regulatory control of fishing and factory vessels which will be explained in the following.

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20 See: C.F.P Briesch and D.M. Powell, *Fishing for Convictions : The Namibian Maritime Zonal Regime and The Incorporation of the Sea Fisheries Act 58 of 1973 into Namibian Law* in 109 (1992), South African Law Journal 129; *Pineiro and Others v The Minister of Justice and Others* (an unreported judgement in the High Court of Namibia dated 17 June 1991) at 23-26; *S v Martinez* 1991 (4) SA741 (NmHC) at 747-750; and Redondo at 8-10.

21 See: *Redondo* at 11-13; and *S v Martinez* supra at 750; and *S v Curras* (an unreported judgement of the High Court of Namibia dated 13 February 1991) at 12-13.

22 Act 58 of 1973 was amended by Act 98 of 1977 to insert inter alia Section 22A into the principle Act but confined the scope and application of the section to the Fishing Zone of South Africa which included the area around Walvis Bay and the off-shore islands. The Namibian Act No. 3 of 1990 in turn incorporated the section as it applied to Walvis Bay into Namibian law. see: *S v Martinez* supra at 750; *S v Curras* at 1-2; and *Redondo* at 34.

7. UTILISATION OF THE FISHERIES RESOURCE AND THE RIGHT TO FISH IN CONTEMPORARY NAMIBIA

The utilization of Namibia's fisheries resources is foremost governed by the Namibian Constitution, the Supreme law of Namibia and further regulated and controlled by the Sea Fisheries Act, 1992 (Act No. 29 of 1992) and the Sea Fisheries Regulations promulgated thereunder by Government Notice No. 1 of 1993 (Government Gazette No. 1 of 1993).

7.1 The Namibian maritime zonal regime

It is necessary to make reference to the Namibian maritime zonal regime as it determines the extent of Namibia's marine resources and has a direct bearing on the scope and application of the fisheries legislation. No exclusive economic zone (EEZ) existed before Independence. Article 100 of the Namibian Constitution refers to an exclusive economic zone and read with section 4(1) of the Territorial Sea and Exclusive Economic Zone of Namibia Act, No. 3 of 1990 (the "Namibian Act 3 of 1990") created an exclusive economic zone for the entire Namibian coast line from the middle of the Orange River in the south to the Kunene River in the north including Walvis Bay and the off-shore islands extending outside the territorial sea of Namibia within a distance of 200 nautical miles from the low water line.[23]

The Sea Fisheries Act, 1992 (Act No. 29 of 1992) and the Sea Fisheries Regulations, 1993, apply by virtue of section 4(3) of the Territorial Sea and Exclusive Economic Zone of Namibia Act, 1990 (Act No. 3 of 1990), read with Article 1(4) of the Namibian Constitution, to the entire exclusive economic zone of Namibia as defined in Act No. 3 of 1990, including the EEZ around Walvis Bay and the off-shore islands.[24]

Namibia exercises sovereign rights and jurisdiction under the specific legal regime of the EEZ over the exploration and exploitation of marine resources within the exclusive economic zone in terms of the provisions of the Sea Fisheries Act, 1992.[25]

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23 See: *S v Martinez* at 750 B - E; *S v Curraz* at 6; *Redondo* at 8-10; and the article by Briesch and Powell.

24 The definition of `Namibia' in Article 1(4) of the Namibian Constitution expressly includes the enclave of Walvis Bay and the off-shore islands as part of the national territory of Namibia. The Namibian legislature and the courts are bound by Article 1(4) to exercise jurisdiction over Walvis Bay; See: *S v Martinez* at 750 and *Redondo* at 18 and 26.

25 Section 3(b) of the Act.

7. 2 Conservation and resource management

In respect of the utilization of fisheries resources the provisions of Article 95(l) of the Namibian Constitution stipulates that as a principle of State policy "[the] State shall actively promote and maintain the welfare of the people by adopting, *inter alia* , policies aimed at the... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and the utilization of living natural resources on a sustainable basis for the benefit of all Namibians both present and future ...". The legal status of the provisions relating to principles of State policy as defined in Article 101 of the Constitution is that they do not constitute legally enforceable norms but are intended as guide-lines to the Government in making and applying laws. The principles also constitute second-and-third generation human rights that is, socio-economic rights and particularly rights to a sound ecosystem. They furthermore have the force of presumptions of statutory interpretation and will, in time, gain the force of law through judicial precedent.[26]

Pursuant to this constitutional guiding principle and by giving effect thereto, the Namibian Government in its White Paper titled "Towards Responsible Development of the Fisheries Sector" (presented to the National Assembly by the Minister of Fisheries and Marine Resources December 1991) adopted as the Government's main objective for the fisheries sector the following policy namely "to utilize the country's fisheries resources on a sustainable basis and to develop industries based on them in a way that ensures their lasting contribution to the country's economy and overall development objectives", and in regard to Conservation of stock:

> "The Government is committed to rebuilding depleted fishery stocks to their level of full potential. This will be accomplished through a programme of catch restrictions and other regulations over an expected time period of 5-10 years.
>
> All stocks will otherwise be exploited on a sustainable basis and at moderate levels, in general below that estimated to give maximum sustainable yields. Regulation measures for the purpose of adjusting the exploitation levels will include TAC specifications by stocks, effort restrictions by fleet limitations and closures of the fishery by the time periods or areas."

The National Fishing Corporation of Namibia Act, 1991 was enacted in 1991 to implement the above Government policy objective and it makes provision for the incorporation of a National Fishing Corporation as a public limited liability company within the framework of the Companies Act, 1973 for the purpose to exploit the fisheries and other marine resources of Namibia, whilst at the same

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26 Gretchen Carpenter, *The Namibian Constitution - Ex Africa Aliquid Novi After All?* in 1989-90 *South African Yearbook of International Law* 21 at 56-7.

time contributing towards the development and efficiency of the industry as a whole.

The objectives of the Corporation is to carry out normal business of a fishing company for profit and shareholders gain such as the catching, processing, marketing and selling of fish and other marine resources. Provision was also made for the Corporation to facilitate, promote, guide and assist new businesses and undertakings with a view to promote Namibian interest in the industry, particularly in human resources development in fisheries.

Government will retain control of the Corporation by virtue of its capital structure in which the Government holds 51% of the shares with voting rights.

The Act was designed to attract private investment in the Corporation in favour of Namibian interest but allowing minority participation by foreign companies. An incentive to private investment is the fact that the Government's participation in the profits of the Corporation is limited to 15%.

The principle of State policy in Article 95(1) of the Constitution was incorporated into and further amplified by the provisions of section 2 of the Sea Fisheries Act, 1992 regarding the determination of general policy which provides as follows:

> "The Minister may from time to time, determine the general policy with regard to the conservation and utilisation of the Namibia marine resource to be applied with a view to -
>
> (a) the protection of the marine ecology;
> (b) the promotion, protection and sustained utilisation of the sea, its resources and derivatives thereof *to the greatest benefit of all Namibians, both present and future*." (my emphasis)

This provision which determines the primary principles according to which resource management is to be conducted require that proper conservation and management measures be taken designed to protect the marine ecology and restore and maintain fisheries resources with the sustainable utilization of the resource at a yield which will produce the greatest overall benefit for Namibia.

For the purpose of determining allowable catch, it introduces the concept of the `optimum sustainable yield' as an alternative standard for Namibia, rather

than the scientifically related maximum sustainable yield equation.[27]

Such principles of fishery management and conservation practice conform to international law and more particularly with the Law of the Sea Convention 1982. Article 61(1)-(3) of the Convention, having established the right of the coastal State, to exclusively determine the extent of the allowable catch in its exclusive economic zone, proceeds on the basis that the coastal State, taking into account the best scientific verified estimates is obliged to take measures designed to maintain or restore population of harvestable species at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities and the special requirements of developing States.

As pointed out by *O'Connell*, The Law of the Sea, Vol. 1 at 565:

> "... by qualifying maximum sustainable yield according to relevant environmental and economic factors, including the economic needs of coastal fishing communities, [it] has weakened the scientific character of the determination which the coastal State is obliged to make of the level of exploitability as a step towards the determination of the surplus available for allocation. The formula is a composite one, in which subjective judgements of an economic character modify objective judgements about verifiable ecological facts."

There are, therefore, no constraints on Namibia's right to set a total allowable catch (TAC) at a lower level than that which is scientifically required to maintain populations at level that can produce the maximum sustainable yield (MSY). It may determine a TAC at lower levels designed to restore populations and rebuild stocks, or it may do so for sound economic reasons. For example, setting a TAC at a lower level than that related to the MSY may, by reducing supply to key markets, contribute to maintaining prices. Limiting fishing activities will also generally help to maintain catch rates and therefore profitability. It would therefore, for example, for economic reasons, be perfectly legitimate under Article 61 to set a TAC less than the MSY in order to maintain catch rates and thereby sustain profitability and the economic viability of the local fishing industry.

8. FISHING RIGHTS

As pointed out above, traditional fishing rights of unrestricted access to the sea were never established in Namibia and whatever common rights to the freedom of fishing existed, they have been replaced by a common property regime where the State exclusively controls the utilization of marine resources and access thereto.

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27 See: *O'Connell* , supra, at 565, and the definition of `optimum sustainable yield' in the Fishery Conservation Act, 1976, United States of America.

The Namibian Constitution in Article 100 established sovereign ownership of natural resources within the territorial waters and exclusive economic zone. Its provisions proclaim *inter alia* as follows:

> "... natural resources... within the territorial waters and the exclusive economic zone of Namibia shall belong to the State if they are not otherwise lawfully owned."

The provisions of Article 100 have to be read and applied subject to Namibia's commitment under its Constitution to respect international law and treaty obligations.

In relation to the application of international law, Article 144 of the Namibian Constitution provides that:

> "Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution, shall form part of the law of Namibia."

In order to give effect to international law the Sea Fisheries Act, 1992 incorporated in section 3(b) the specific legal regime that applies in international law in the exclusive economic zone and claimed: "the sovereign rights of Namibia with respect to exploration and exploitation" of marine resources within the exclusive economic zone. Within the territorial sea it exercises sovereignty over the resource.[28]

A sophisticated quota - licensing system with comprehensive regulatory control measures was adopted under the Sea Fisheries Act, 1992.

The system consists of the following primary implementation instruments:

- the granting of rights of exploitation;
- the determination of total allowable catch;
- allocation of quotas;
- licensing of fishing and factory vessels;
- licensing of foreign vessels under a fishing agreement in respect of the surplus quota of the allowable catch;
- monitoring of quota holdings;
- regulatory control over fishing vessels and factories;
- law enforcement.

8.1 Rights of exploitation

A right to utilize Namibia's Marine Resources can be granted by the State exclusively. The Act created the legal framework for the orderly exploitation of fish and other marine resources by which fishing rights defined as a right of

28 Section 3(a)

exploitation, can be acquired to utilize the resource. In terms of section 14 of the Sea Fisheries Act, 1992:

> "Any person who desires to acquire a right to utilise living marine resources, aquatic plants, shells or guano for commercial purposes may ..... apply to the Minister.... for *a right of exploitation*."

When considering the granting of a right of exploitation the Minister may have regard to criteria set forth in the Act and regulations. The criteria can be grouped under the following headings:

- Commercial viability;
- Namibian interest;
    - Regional development within Namibia;
    - Multilateral and bilateral co-operation;
    - Conservation and economic development of marine resources.[29]

In order to ensure that the objectives of the Act are realized, a right of exploitation is not transferable, except with the approval of the Minister and then only if the quota (or a portion thereof) is also transferred to the same person.[30]

A right of exploitation confers on the holder thereof, referred to in the Act as an `exploiter',[31] a long-term right to utilize the resource. The exploiter is not per se entitled to access as of right, but must first acquire a quota allocation.[32]

8.2 Quotas

The Act created a quota allocation system that facilitates the implementation of proper conservation and management measures and policy to ensure that fishing by exploiters are controlled and related to the catching of an allowable catch with an optimum sustainable yield for Namibia qualified by relevant environmental and economic factors. Quotas also provide the instrument by which catch can be effectively controlled. Fishing efforts by quota holders are controlled by monitoring transhipments and landings through inspections and reconciling them with quota holding.

The Minister, after consultation with an advisory council, determines (from time to time) the total allowable catch (TAC) for a particular species which shall be available for the allocation of quotas during a specified period.[33]

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29 Section 14(2) of the Act read together with regulation 2(2).

30 Section 14(10).

31 Section 1, the definition of "exploiter".

32 Section 16.

33 Section 15.

The total allowable catch of the various harvestable species is presently determined annually.

Quotas are denominated in absolute quantities and defined in the Act as "the maximum mass or quantity of fish of a particular species allocated to a person which such person may catch during a specified period in a defined area."[34] The Act sets about a mechanism to ensure that quotas are distributed fairly amongst exploiters. Quotas are granted to exploiters or refused by the Minister in accordance with guidelines prescribed by him and are granted on such conditions as the Minister may determine.[35] Guidelines prescribed in the regulations by the Minister for the allocation of quotas incorporate the criteria applicable to the granting of a right of exploitation.[36] The Government revises revenue from levies on quotas. A quota fee determined by the Minister in a notice in the Government Gazette is payable in respect of a quota allocation.[37] Quotas are not divisible or transferable except with the prior approval of the Minister.[38] The Minister may, when the total allowable catch of a resource is to be reduced as a conservation measure, suspend, cancel or reduce a quota allocated.[39]

8.3 Licensing

The Act, like most fisheries laws, provides for a licensing regime that regulates and controls the catching of fish and the use of fishing and factory vessels in Namibian waters. The licensing of vessels implies a policy of `licence limitation' by which the number and sizes of vessels that have access to the resource as well as their overall catching capacity can be controlled and limited in relation to available catch to prevent overextended fleets and over fishing. No vessel may be used as a fishing vessel or factory in Namibian waters unless it has been licensed in terms of the Act.[40] The licence is issued by the Minister subject to such conditions as the Minister may determine.[41] Through the imposition of comprehensive conditions and the regulations extensive controls are exercised

34 Section 1, definition of "quota".

35 Section 16(1).

36 Regulation 3(2).

37 Section 20.

38 Section 18.

39 Section 17(4).

40 Section 26(1).

41 Section 26(5).

over fishing and factory vessels. The most significant of such condition, being catch control by quota specification.

Quotas are allocated to fishing vessels fixed in relation to the catching capacity of the vessel as a condition of the license. With the quota linked to the fishing power of the vessel and monitored over-fishing is more effectively contained. Some of the other important conditions that may be imposed are those pertaining to the area within, and the period during which the vessel may fish, methods and fishing gear that may not be used or which may not be carried on board the vessel, species which may not be caught, sizes, discarding, by-catch, transhipment, inspection and the placement on board of fishery control officers. These conditions may equally be imposed in respect of foreign fishing vessels operating in Namibian waters under a fishing agreement with another State or community of States.[42] Failure to comply with the conditions entitles the Minister to cancel the license.[43] The license is not transferable.[44]

8.4 Foreign fishing

Special provision is made in the Act for foreign fishing that puts in place the key element of the Law of the Sea Convention, 1982 pertaining to giving access to other States to the surplus of the allowable catch through agreements.

The Act establishes a legal framework in terms of which Namibia can negotiate on conditions it deems fit, a fishing agreement with another state or international organization representing a community of States, to authorize the operation of fishing and factory vessels in such foreign State, or a member State of such community of States, within the Namibian waters.[45] Whenever such agreement has been entered into, the Minister may, upon application by the owner of a foreign vessel to which the agreement relates, issue a permit authorizing the owner to operate it within the Namibian waters as a fishing or factory vessel. The permit is issued for such period, subject to such conditions and restrictions and against the payment of such fees as the Minister may determine.[46] This permit is also not transferable.[47]

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42 Section 27(2)(c).

43 Section 26(7)(a)

44 Section 27(8).

45 Section 27(1).

46 Section 27(2)-(3).

47 Section 27(4).

The White Paper also encourages the formation of mutually beneficial joint ventures between Namibian companies and foreign enterprises whereby the latter are expected to contribute in terms of capital investment as well as technology transfer.

8.5 Other Control Measures

The regulations contain detailed and sophisticated provisions that make provision for an extensive control system, particularly over foreign vessels operated within Namibian waters. They are the regulations of a modern management regime similar to those of Canada and Norway.

The Government of Namibia does not presently have the manpower and surveillance capacity or the financial resources to effectively monitor and patrol the full extent of the area of approximately 187,500 square nautical miles covered by the exclusive economic zone. The State is only able to utilize two ill-equipped patrol vessel one of which it owns and one which it charters.

The regulations were consequently designed to assist the Government in its control efforts and place the burden on vessel operators in respect of reporting at entry and exit from the exclusive economic zone;[48] notification of off-loading and transhipment times,[49] logging and report backs on catches[50] and compulsive regular port calls and inspections[51] etc. For the same reason, unauthorized transhipment of fish or fish products at sea is prohibited and unless authorized by the license may only be carried out in a fishing harbour under the supervision of a fishing control officer.[52] Fishing gear has to be stowed away as prescribed in the regulations by a fishing vessel that is not authorized to operate in Namibian waters and when any fishing vessel transmits a marine reserve or closed area.[53]

The important regulations that have a bearing on compliance control are the following: the establishment of catch control - (a vessel that carries fish or fish products caught within the Namibian waters may not take it out of the Namibian waters, unless the catch has been inspected and no further fishing operations have been carried out by the vessel since the inspection); inspections and the

48 Regulation 46.

49 Regulation 47.

50 Regulations 32 - 35.

51 Regulation 45.

52 Section 27 of the Act read with Regulation 47.

53 Section 30 of the Act.

carrying of fishery control officers on board (who have to be provided with food and officers class accommodation and be remunerated by the vessel owner); marking of fishing vessels and gear; and reporting requirements (any fishing or factory vessel that enters or leaves the Namibian waters has to report by radio on *inter alia* the quantity of fish carried on board).[54]

In addition to the standard provisions that are normally contained in fisheries regulations, such as marine reserves, closed areas and closed periods, the regulations have sophisticated provisions on methods of trawling, drift nets, trawl nets and purse-seining that may not be used or that may not be carried on board by different vessels, their mesh sizes, maintenance of mesh openings and prohibited attachments.[55]

The provisions enumerated above are not an exhaustive catalogue, the regulations however, are comprehensive and cover the whole field of fishing activities including angling from the shore line.

8.6 Law enforcement

The Namibian fisheries regime, being regulatory, depends largely on enforcement by criminal law through the judicial system.

The independent judiciary system of Namibia exercises its judicial power subject only to the Namibian Constitution and the law, and may not be interfered with by the Executive. Judges are appointed by the President on a recommendation of an independent Judicial Service Commission and have tenure of office. Criminal trials are conducted subject to the due process of the law in accordance with the bill of rights that includes fair trial procedures.[56]

The Sea Fisheries Act, 1992 carefully describes offences that have a bearing on conservation, without detailing these, post-independence court proceedings have shown the significance of the special set of provisions pertaining to illegal fishing by foreign vessels in Namibian waters. Any owner, lessee, charter or master that operates a foreign registered fishing or factory vessel in Namibian waters without a license is guilty of a serious offence, which carries a maximum penalty of R1 million with mandatory seizure and forfeiture of the vessel, fishing gear and catch upon conviction.[57]

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54 Part VII of the Regulations.

55 Part III.

56 Chapters 3 and 9 of the Namibian Constitution.

57 Section 33(P) and 35

The Act incorporated the bond and other security procedures established by Article 73(2) of the Law of the Sea Convention, and provides for the release of foreign vessels upon the posting of a bond in an amount equal to the reasonable value of the vessel.[58]

An outstanding feature of the Act is the presumptions that aid the state in proving offences. When trying an offence a court may apply any of the following presumptions if it is proved that:

- a fishing vessel was used in connection with an offence, it is presumed that the offence was committed by the fishing gear carried on board the vessel, and in respect of all fish and fish products found on the vessel;
- a net, line or cable was cut or released from a vessel, or abandoned, it is presumed that the vessel was fishing at the time;
- a vessel carrying a cargo of fish has over a period of two or more days, maintained a presence or generally remained in Namibian waters, or covered a particular area or periodically reversed its course to and from Namibian waters, it is presumed that the vessel operated within Namibian waters;
- processed fish or fish products in access of one metric ton and was found on board a factory, it is presumed that the vessel operated as a factory within Namibian waters;
- samples taken of fish on board a vessel have certain characteristics, it is presumed that the whole cargo has the same characteristics.

These presumptions may obviously be rebutted by evidence to the contrary.[59]

Recent events in Namibian waters have underlined the practical importance of these substantive provisions. Bearing in mind Namibia's limited surveillance and patrol capacity to control the vast area over which the EEZ extend, the fisheries resource, a valuable national economic asset is particularly vulnerable against unauthorized exploitation. The eminence of these enforcement measures was confirmed by the Namibian Supreme Court in *Redondo's* case. It held the offence to be "a serious economic crime against... Namibia" and stressed "the need to deter potential offenders... inasmuch as the unlawful depletion of Namibia's fishing resource effects, all the inhabitants of Namibia not only because fishing is a source of food, but an economic resource as well."[60]

9. CONCLUSION

Namibia's fishing resources are potentially large and valuable. They can support a highly productive industry which could contribute significantly to

58 Section 38.

59 Section 36.

60 per Ackermann A.J.A. in *Redondo* supra at 38 and 40; See further *S v Martinez* supra at 762 D-E; and *S v Pineiro & Others* supra.

the national economy. This contribution to the economic growth, together with a system of quota fees payable by resource users, is essential to achieve the basic objective of redressing existing economic and social disparities.

Although the fisheries resources of Namibia can be seen as being managed under a common property regime, the three part system of allocating long term rights of exploitation, quotas and licenses provides private entrepreneurs with the incentive to invest in and develop the fisheries sector.

The fact that Namibia at Independence inherited depleted fish resources and that its own industry operated at levels much lower than the potential, was a blessing in disguise. It affords Namibia the opportunity to, in a sense start with a clean slate which allows it to avoid the mistakes that have been made in most other fishing nations.

The pitfalls of over-capitalization and wasteful practices such as dumping of less valuable catches that so often are the results from open access to resources are avoided by the system of allocating quotas and licensing individual vessels. This system allows for enough flexibility to react to changes in the markets as well as to fluctuations of the resources.

Namibia, as a coastal state, has sovereign rights over the living resources within its Exclusive Economic Zone. This principle as provided for in the United Nations Law of the Sea Convention is fundamental to the policy of establishing TACs and the allocation of quotas. Through independent funding of the required scientific research and the participation of representatives of the different sectors of the economy in the decision making process sustainable utilization is ensured. Open access systems as the one in operation in the pre-independence years have proved to be unsustainable and are therefore rejected.

Last, but not least, the fisheries resources of Namibia are common property. The State as guardian of these assets has to ensure the sustainable utilisation now and in future. To my mind, the only way to ensure this domestically is by means of constitutional provisions, followed by the required sector-specific policies, legislation and regulations.

CUSTOMARY TENURE REGIMES AND NATONAL LAW: SOME LESSONS FROM THE CASE OF THE THE FULANI IN THE INNER NIGER DELTA OF MALI

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Introduction

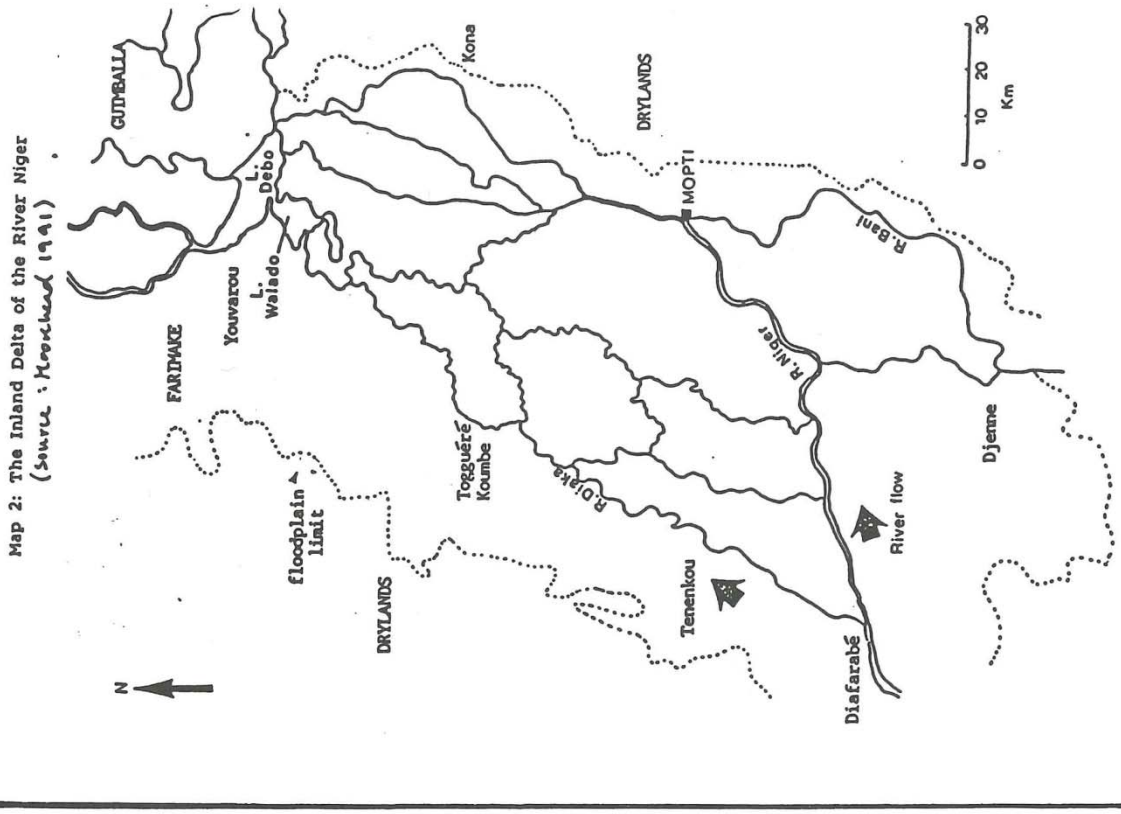
Property rights regimes governing the access and allocation of African rangeland resources generally depend on the customary tenure regimes and the states' laws, policies and practices. [61] Such property rights regimes interact with the market forces to create the overall conditions within which individuals or groups may act. These regimes have very diverse structures of governance, governments and institutions.[62]

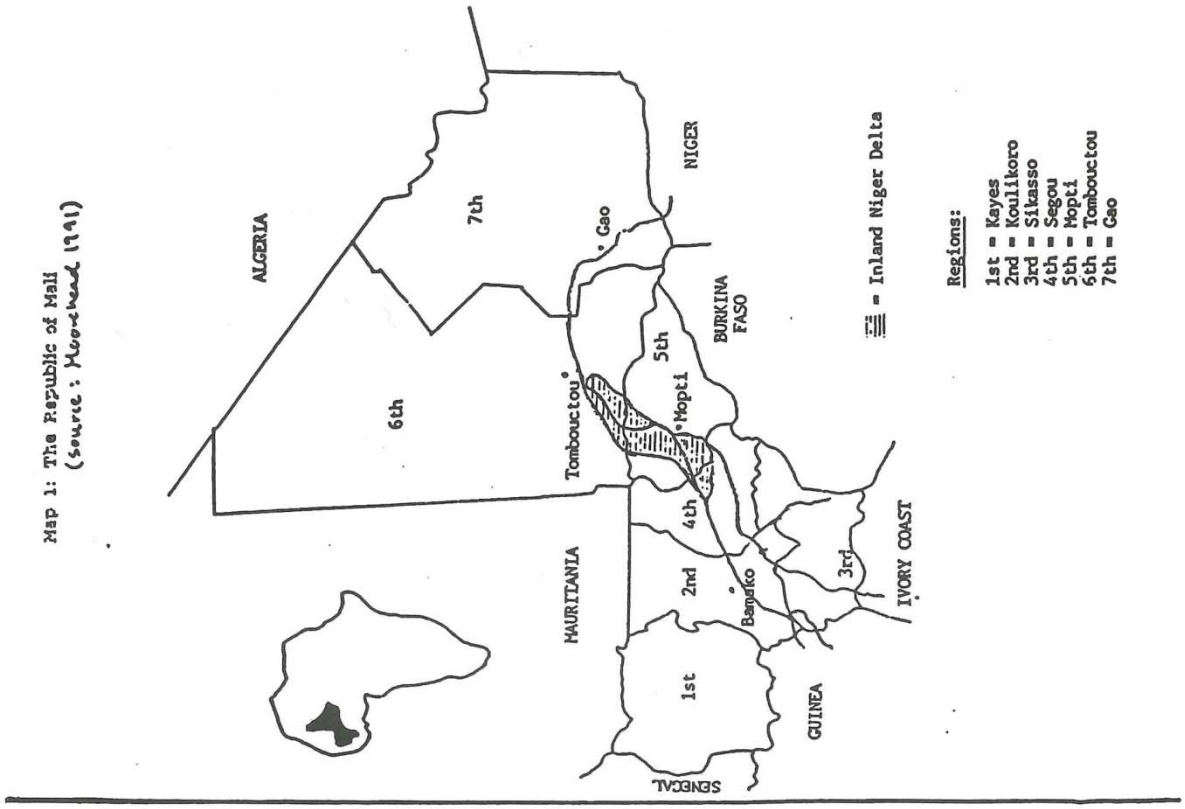
A main aim of this paper is to present the diversity and complexity exposed in one particular common property regime, and to indicate some of the dilemmas law-makers and politicians are faced with when analysing what type of governance structures and institutions would best serve sustainable, efficient and equitable utilization of these resources. [63] Related to current research on desertification and rangeland ecology, several authors have provided new

61 'Property rights regime' is defined as follows; "A legitimate and coherent system of formally or informally enforced rules and practices used for everyday appropriation of culturally necessary means of subsistence "(Godelier 1984:71-121).." whose local structure is dependent upon the structure of local government and the incentives of individual users" (Swallow and Bromley 1992:3). Natural resources management is here defined as all aspects of rangeland and water management. Property is not to be understood as an object but rather as a social relation; "a benefit (or income) stream, and a property right is a claim to a benefit stream that some higher body - usually the state - will agree to protect....." (Bromley 1992:4).

62 With reference to Swallow and Bromley (1992: 4) 'Governance ' is defined as the process of deciding what a collective will do and how it will do it. 'Governments' (or 'governing structures' or 'organisations') exist for the process of governance; that is, governments are created to carry out governance. 'Institutions' - rules, conventions, rights and contracts - are defined by the process of governance (by the government if it exists) to co-ordinate relations among the members of a collective and to constrain what the governments may do to the members of the collective in the name of governance (see also Bromley 1989).

63 Common property" could then be interpreted as "a complex constellation of rights, rules, conventions and contracts whose local structure is dependent upon the structure of local government and the incentives of individual resource users" (Swallow and Bromley 1991:3).


Map 2: The Inland Delta of the River Niger
(Source : Moorhead (1991)
GUIMBALLA
L. Débo
Youvarou
L. Walado
FARIMAKE
floodplain limit
DRYLANDS
Kona
DRYLANDS
MOPTI
R. Bani
R. Niger
Togguéré Koumbe
R. Diaka
Tenenkou
River flow
Djenne
Diafarabé
N
0 10 20 30
Km


Map 1: The Republic of Mali
(Source : Moorhead (1991)
ALGERIA
7th
Gao
NIGER
6th
Tombouctou
5th
Mopti
BURKINA FASO
4th
2nd
Bamako
3rd
IVORY COAST
1st
GUINEA
MAURITANIA
SENEGAL
= Inland Niger Delta
Regions:
1st = Kayes
2nd = Koulikoro
3rd = Sikasso
4th = Segou
5th = Mopti
6th = Tombouctou
7th = Gao

empirical evidences to the debate on legal and policy issues in rangeland management (Swallow and Bromley 1992, Moorehead 1992, Behnke et al 1993, Behnke 1994, Moorehead and 1993, Swift 1993, Cousins 1993, Bonfiglioli and Watson 1993, NOPA 1992, Shanmugaratnam et al 1992, Vedeld 1992).

Customary tenure systems under state and market pressure

The customary tenure regime of the Fulani in the Inland Niger Delta of Mali has intrigued several researchers (Gallais 1967, Ba and Daget 1962, CIPEA 1983, Moorehead 1991, Turner 1992, Vedeld 1993a, Cissé 1991). Such customary tenure regimes are embedded in the local culture. [64] They have evolved at the local level to regulate control and access to pastures, crop land and other natural resources - and reflect variations in climate, environment, technology, demography, crops and animal species and composition, kinship and social organisations, inheritance, religious significance of land and animals, economy, degree of market integration, power-structures and ethnic rivalry (Bruce 1988), as well as factors within the broader political-economic setting. African tenure regimes come in a diversity of forms and vary across countries and regions - sometimes from one settlement or ethnic group to the next. They show great flexibility and dynamism in time and space and change to meet specific needs of various user groups under changing historical contexts. Only exceptionally does there exist legal documents outlining customary rights and duties, which are acknowledge by all concerned parties.

Empirical work among pastoral groups indicate that major threats to efficient and sustainable property rights regimes for the utilization of rangelands often arise more from factors *external* to the customary tenure systems, such as inappropriate state tenure laws, policies and practices, increased encroachment by crop cultivators, and increased market integration - than from *internal* factors related to rapid growth in human and livestock populations. Drought is an important and often under-estimated factor behind the degradation of resource systems and tenure conflicts. Such findings outline a new research agenda with a focus on *how capabilities of resource users can be enhanced* - individually and collectively - to change constraints of present property rights regimes, rather than a focus on outcomes being inevitable tragedies of 'prisoners in a dilemma', as predicted in Hardin's metaphor.

Revisions of national law and more efficient enforcement of tenure regulations are important mechanisms for the construction of improved property rights regimes to African rangelands. So far national law in most African countries has

64 A customary tenure system or regime would share many of the characteristics of a property rights regime. Here it refers essentially to governance structures operating outside the national state structures - partly conditioned by and partly independent of the state.

by-passed the recognition of pastoral access rights to rangeland and water resources and customary tenure.[65]

Here lies a major dilemma and challenge for national policy and law makers. In order for customary tenure regimes to be recognised in national law, they must be categorised. But the complexity and flexibility inherent in the customary tenure systems make generalisation and categorisation according to recognised legal concepts - or social science concepts - difficult. On the one hand, African customary tenure regimes cannot easily be described by the general categories of non-property, common property, state and private property. Such categorisation will easily overrule local diversity and flexibility, and create conflicts in monitoring and enforcement. On the other hand, our understanding of how common property regimes operate is still insufficient as foundation for reliable and useful advice to policy and law makers (Ostrom 1990 and 1992). Models of common property rights regimes would be the most useful models for understanding the use of rangelands.

This paper suggests that some of the dilemmas might be approached through the introduction of procedural law, rather than statutory law (Vedeld 1993a). Land tenure reforms should be conceptualised as a continuous participatory process. Instead of national governments dictating laws and regulations, the government could facilitate the evolution of new governance structures and institutions based on principles of procedural law, within which tenure conflicts could be resolved locally and enforced on a regular basis. Certain general laws or regulations could be developed based on principles of customary institutions, which would catch local complexities while giving guidance on how to judge between opposing parties. The need for flexibility and a certain fluidity recognised by customary tenure institutions under basically 'indivisible' ecological production systems should be maintained. Law-makers and politicians might consider various constellations of 'ownership in common' (to key resources or resources of high value) and 'joint ownership' (to resources of less value) to make informed decisions about new property regimes to the rangeland resources - which are normally used jointly by various user groups (see Berge in this book for definition of these concepts). The use of strict geographical boundaries to limit access to individual or collective resource units should often be ruled out as a solution.

Even if African rangelands in important ways represent relatively indivisible resource systems, there are ways of dividing the benefits from these resources - often recognised under customary tenure regimes. Customary

65 The legal issue is of course only one, though important issue regarding property regimes for African rangelands, as indicated by this paper.

governance structures in general recognise that property rights is a bundle of rights. These structures contain access rights to different resources (arable land, pasture, trees, water, wild food) for different groups of users - as well as a range of ownership or legal systems. Categorised according to Western concepts they include free-hold titles, usufruct rights, share-tenancy rights, ownership in common, joint ownership, usufruct rights, temporary occupancy rights and rights of transit. Pastoral production systems often rely on the utilization of the whole spectrum of property systems: state, private and communal property - often within the same basic locality.

For the national law-makers a main parameter of choice regarding the construction of new property regimes, which might include recognition of already existing customary structures, is the *degree and character of excludability* to be introduced.

But state governments often lack the legitimacy among pastoral and agro-pastoral communities required to enforce property laws in a transparent and predictable manner. Hence, new property regimes should be based on principles of subsidiarity, meaning that management "tasks should be carried out as near to the level of actual users of resources or beneficiaries as is compatible with efficiency and accountability" (Swift 1993:3).

New ecological theories suggest that the drier rangelands of Africa are relatively robust and resilient and that the pastoral production systems are efficient ways of utilizing these rangelands. If this is accepted, future rangeland policies should perhaps direct more attention to equity and economic efficiency concerns - than to concerns about 'overstocking' and environmental degradation. Strict regulatory measures are unrealistic and unnecessary under ecological conditions of great variability. Law and governance structures of rangelands should be more focused on regulation of access rights than on controlling resource utilization (Behnke 1994). [66]

66 The new theories about the ecological functioning of the grazing systems may be summarised in three hypotheses - each entailing important changes in conventional range management policy; i) Carrying capacity cannot be based solely on botanical considerations, but must also take into account the management objectives of the rangeland users. It is necessary to distinguish between "economic" and "ecological" carrying capacity; ii) In African dry savannahs, rainfall variability and other episodic events (disease, fire) more than anything control plant and animal populations. As rainfall becomes lower and more erratic, and pasture production more variable in time and space, non-equilibrium dynamics appear. The grazing systems may be in constant disequilibrium. In such situations, destocking and removal of grazing pressure will not necessarily lead to restoration of vegetation and a new balance; iii) The spatial heterogeneity of rangeland production presupposes high animal movement as a precondition for efficient exploitation of the resources (Ellis and Swift 1988, Behnke 1992, Behnke and Scoones 1992, Behnke et al 1993).

Common property regimes for African rangelands: diverse, complex, flexible

According to Swallow and Bromley (1992:5) some of the customary regimes that exist (or have existed) have centralised and hierarchical governments, like several agro-pastoral groups in the East and Southern Africa, in which chiefs carry out executive, legislative, and judicial functions (for example among the Basotho of Lesotho in the 19th century) and among agro-pastoral Fulani groups under the Dina of Inland Niger Delta and Senegal River Valley. Contrary to such hierarchical structures, most pastoral groups in East and West Africa have non-stratified, stateless or egalitarian customary political structures. Governance organisations are either 'diffused' or 'minimal'. 'Diffused' customary governments imply that legislative and judicial authority is held by a relatively egalitarian elders' council, like for the Maasai, Kipsigi, Pokot, Nandi and Samburu of Kenya, and the Karimojong of Uganda. Among the hierarchical societies of the Moors and Tuaregs of West Africa, the organisations controlling access to range and water resources are based on lineage and kinship affiliations. The membership in the group confers the right to exclude other pastoral groups from the resources. 'Minimal' governments imply that neither chiefs nor elders' councils have legitimate authority or power to enforce rules. Enforcement of rules are done at individual or in coalitions of groups. Examples include the Western Dinka, Nuer and Madari of Sudan, the Turkana of Kenya and some nomadic Fulani groups of West Africa (Woodaabe of Niger and Northern Nigeria). But there are few of the common property regimes for African rangelands that are subject to institutional vacuums and open access, nor are many strictly controlled through central institutions, or completely regulated by self-enforcing institutions which co-ordinate access among co-owners as assumed by Runge (1981,1986). "Rather, the regimes are comprised of a diverse variety of rights, rules, conventions, and contracts (Swallow and Bromley 1992:7).

"The lack of legitimate and powerful governmental organisations makes effective implementation of rangeland property rights the exception, rather than the norm, in Africa." (Swallow and Bromley 1992:9). But there are several exceptions, the Dina code among the Fulani in the Inland Niger River Delta is one of these.

Common property regimes in the Inland Niger Delta

Common-property regimes have a history of several centuries in the Inland Niger Delta. The huge flood-plain pastures of the Delta serves a vital role in

sustaining livestock production and pastoralism, crop cultivation and fisheries in Mali. Wildlife and wild-land resources have also been an important element of the Delta.

The customary property regimes of the Delta have evolved to regulate access to resources between various ethnic groups and production systems: pastoralists' access to rangeland, farmers' to crop land and fishermen's to fish. These regimes have been adapted to extreme climatic variability in time and space and high diversity in ecology and production potentials. They were particularly efficient during the Dina (1818-62).

Over the past 20 years these management regimes have been gradually undermined due to a variety of factors related to state policies, tenure laws and enforcement practices, the effect of market forces, drought, demographic change, and political turmoil and unrest restricting former transhumance patterns. To varying degrees, the local producers are caught in a protracted crisis which affects resource utilization and survival strategies. The drought and low flood levels have led to drastic reduction in production, and have made the inhabitants more dependent on the market for the provision of basic needs (Moorehead 1991, 1989). A main problem has been the increased demand for crop land in the flood-plain.

The combined effect of various pressures has made the common property regimes, which previously were strictly regulated, more open to powerful interest groups within the rural communities as well as to influential outsiders with good relations to the state authorities at local and central levels. The results are increased pressure on local resources, particularly the highly productive flooded pastures, and increased potentials for resource use conflicts within and between local communities and production systems. While at the same time the conversion of the best remaining flood-plain pastures for crop fields represent an 'enclosure' of the most valuable and critical common property resource for the Fulani of the Delta. Customary tenure regimes do no longer have the required authority and legitimacy for resolving conflicts and maintaining access rules. Increasingly, the state governance structures intervene in tenure and land use conflicts. But actions are of ad hoc nature, ambiguous, and informal payment is a common way of settling disputes. 'The one who is willing to pay, wins'.

This raises the need for new property rights regimes. An important element in constructing new regimes would be to revise the national legislation in one form or another.

The Context: Population and resource use systems

The total population in the Inland Niger Delta is about 300 000 with an annual population growth rate of about 1% (i.e. net out-migration). A population density of about 18 persons/sq. km, should not necessarily represent a major problem to the long-term 'carrying capacity' of these rangelands taking into consideration the *potential* production capacity of this Delta under different technology, improved range and water management (e.g. irrigation), better market access, and improved property regimes.[67] But current property regimes are apparently not able to prevent degradation and resource use conflicts - even with present demographic patterns and systems of resource utilization.

There are different interest groups involved in the use of the Delta and surrounding rangelands, with distinct ethnic identities and production strategies. Moorehead (1991) has identified five main production systems in the Inland Niger Delta and its surrounding drylands: Transhumant pastoralists (or herders - mainly Fulani), semi-sedentary farmers (rice producers - mainly Rimaibe - former slaves of the Fulani, Bambara and Marka), agro-pastoralists (Fulani, Rimaybe, and others), agro-fishermen and transhumant fishermen (Boso, Somono). There are also absentee investors in livestock, agriculture and fisheries such as traders and government officials.

The Inland Niger Delta represents a complex ecological system of great but uncertain productivity, which depends crucially on rainfall (3-500mm) and annual flood levels of the Bani and Niger Rivers. About 16,000 sq. km is flooded under "normal" flood levels - leaving several thousand sq. km of flood-plain pastures for dry-season grazing and land for flood retreat crop cultivation (rice). Following the drought, only 1/3 of this area is presently flooded (CABO 1991). This indicates large and stochastic fluctuations in pasture (and crop) production between seasons, years and different areas. The flood-plain pastures play a vital role in sustaining livestock production and pastoralism in Mali and in the Mopti region. More than 1 million cattle and 2,5 million small-stock utilize these areas for dry season grazing 7-8 months per year, from October/November to May/June. During the remaining 4 months of rainy season the livestock transhume to dry land pastures off the Delta (Mema, Sahel, Seno-

67 Population growth and demography must be seen in conjunction with other interacting political-economic factors. Compare for example the Machokos case from Kenya under similar rainfall conditions: Many observers in the 1930s and 1940s saw the Machakos District as suffering form significant resource degradation at a population density of 70 persons/sq. km. In 1990 degradation had halted at a density of 350 persons/sq. km. The lesson is that population increase might be compatible with environmental recovery, provided new technology develops, and market access improves and make local production profitable (see Tiffen 1993, see also Turner et al. 1993, and Boserup 1990).

Mango, Gourma). Overall, the Mopti region encompasses about 23% of the total national cattle herd (1991 census), which is a main export commodity for Mali.

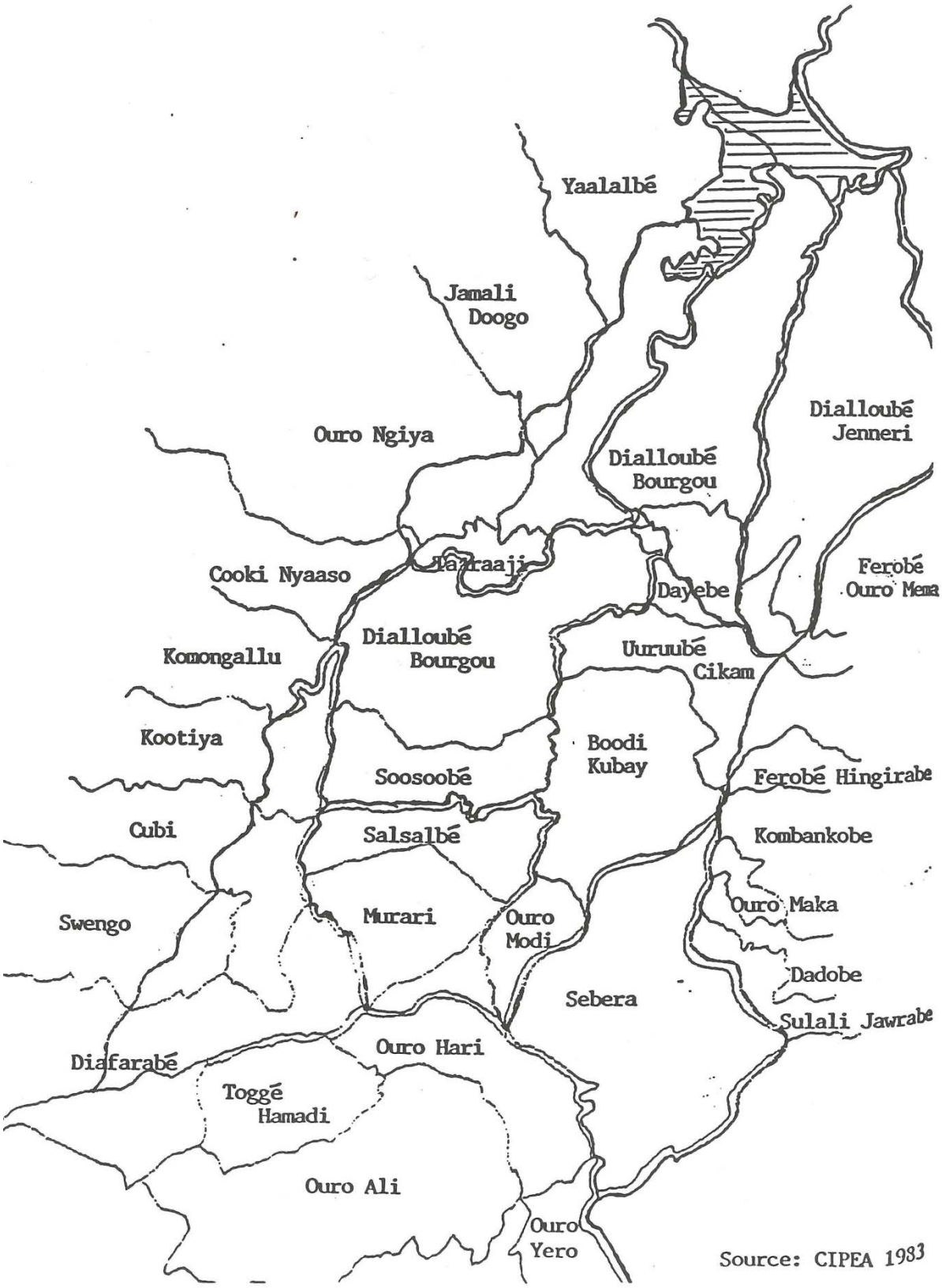
'Overgrazing': rangeland degradation and resource use conflicts.
The Delta has the highest density of animals in the region. According to recent ecological studies, grazing has still had little negative impact on the productivity of perennial pasture during the dry season (Hiernaux and Diarra 1986, CABO 1991: vol. 2) - or on annual rainy season pastures outside the flood plain, where ".. the net effects of historic rainy-season cattle actions on overall production could best be characterised as subtle or non-existent." (Turner 1992:396).[68] Rainfall has been the dominant factor affecting vegetation. An increasing problem, however, is the degradation of bush and tree vegetation by goats and sheep and charcoal burning for the smoking of fish and for fuel. Over-fishing is a major problem, but not a subject of this article.

Customary tenure on community basis: the Dina (1818-1862) [69]
The property regimes of the Inland Delta were apparently most effective following the establishment of the Macina state in the early nineteenth century (1818-62). Important regime-patterns settled under the Islamic theocratic state of Cheikou Ahmadou - the Dina. But the "effecting distribution of the pasture rights between the delta communities seems to have predated the Dina" (Lewis 1981:3, see also Gallais 1967, Turner 1992, Moorehead 1991). Elements of earlier and later systems (e.g. French colonial system from 1893, independent Mali from 1960) overlap to produce a complex layer of rules and practices. The details of the Dina governance structures and institutions were based on the Islamic law (sharia). Codification was carried out centrally and written down. Copies of this taric are still available in a few of the Delta villages. The establishment of governments at different levels, the design of institutions and mechanism for enforcement of access rights were in important ways governed from the central state administration. Grazing as well as fishing and farming have since the Dina been codified and regulated within and between

68 There has been no *systematic* evaluation of the extent of rangeland degradation in the Delta and the surrounding areas. Earlier studies and reports indicate that "overgrazing" takes place in more localised areas on susceptible soils in rainfed pastures (CABO 1990: vol. 2). But the concept of "overgrazing" is often loosely defined and, hence, it is difficult to judge the reliability of these findings in relation to a more strict definition of "overgrazing" - which would include changes in soil physical or chemical properties with negative effects on long term productivity.

69 'Dina' means 'religion'. It refers to the political and cultural revolution under the political and religious leadership of Cheikou Ahmadou who established hegemony over a territory from Macina in the south to Toumbouctou in the north.

Map 3 The pasturing Leyde of the inland delta



communities to the interest of the 'noble' Fulani. The access rights to land among the Fulani in the Delta were (and are still) attributed on a family/kinship basis. Not all groups were allocated equal access rights within a community. The Fulani of the Delta are - as most pastoral groups - organised in clans, lineage's, fractions, and extended families. The status accorded to the families of the founding lineage's of the ('noble') Fulani in each of the communities provides priority access to rangeland and crop land resources vis-à-vis other members of the community.[70] These families are descendants of the founders of the villages, which were established in the first years of the Dina. But in important ways these rights are defended or secured on a community (wuro) basis rather than on a patrilineage (suudu-baaba) or clan (leynol) basis (Lewis 1981).[71] Most members of the communities inside the Delta have certain rights of access for free to local resources. The variability in rainfall and flood patterns calls for resource-sharing arrangements between communities in different micro-ecological and micro-climatic zones. Lewis (1981:5) claims that such "inter-regional ties are worked out on a herd-to-herd, herd-to-community, or community-to-community basis. Rarely are pasture and water resource-sharing arrangements made by or on behalf of one's lineage". It means that the organisation of resource access rights is separated from that of patrilineal livestock inheritance. But as we shall see, there are important exceptions to this.

There were (and still are) several layers in the government structure of the property regimes. First, there was the central administration. Secondly, below the central administration there were chieftain-ships regrouping several villages. Thirdly, there were village chiefs in each village responsible for the distribution of access rights to certain pastoral territories (e.g. the Harima), village crop land and other natural resources in the vicinity of each village. Fourth, regarding the management of rangelands, the whole Delta was divided into about thirty

70 Within the villages I have studied, access rights to crop land and pasture are also related to castes or socio-ethnic classes. There are four or five main different castes: 1. the 'noble' or aristocrats (a. herders and b. marabous), 2. traders/merchants, 3. story tellers/artisans, and 4. 'slaves'. For example, among the former slaves, the Rimaybé, many do not have ownership to land according to customary tenure rules, but cultivate the land of their 'patrons'. Such 'patron-client' or tenancy relationships take many forms within crop cultivation, ranging from almost complete dependents via situations where the former 'client' provides only symbolic gifts to his 'patron' to conditions of almost 'freehold' tenure.

71 This is also the case for most other Fulani communities in West Africa. This distinguishes the Fulani of the Delta from the neighbouring Tuareg and Moor pastoralists to the north. These nomadic or semi-nomadic groups use patrilineal relations to form warring groups which protects grazing rights of the clan. They have always avoided state interference and control.

pastoral territories (leyde) headed by 'masters of pasture', the Jowro.[72] The Jowros and their families were delegated rights to control the pastures within their leydi (sing.) as well as duties to organise the transhumance. The Jowro would allocate access rights to grazing among groups of herders, set dates for when pastoral groups could enter the leydi, how to move within the leydi , the terms and conditions for passing and camping, and the dates for leaving the leydi. The Jowro will also collect grazing fees from outsiders. Finally, there were also appointed 'masters of water', 'masters of hunting' (babalonga) and besseman who were delegated responsibility for management of fish, wildlife and distribution of crop land resources respectively. The besseman would be the head of the Rimaybé-quarters (the 'slaves') and subject to the authority of the village chief. The Rimaybé were captured by the Fulani during the conquest and forced to settle in villages along with their Fulani 'masters'.

a. ***Area of study: Dialloubé leyde***

My field work is concentrated to a cluster of villages located in the north-central Delta within the leydi of Dialloubé (which covers most of the Dialloubé District or 'Arrondissement de Dialloubé'). This is still the centre of one of the most important chieftain-ships of the Delta. Dialloubé is the largest of the leyde covering an area of about 2, 700 sq. km and about 15 - 20.000 people. Population density is fairly low (between 5-10 persons/sq. km). Cattle population densities reach high levels since most of the cattle gather in the pastures of Lac Debo, in the northern parts of the leyde, towards the end of the dry season. The cattle of the Dialloubé leyde have access rights to the flood-plain pasture further south in the early part of the dry season (Kootyia). Later in the season those communities of the southern parts of the leyde have access rights for free to the pastures further north around Lac Debo. Pastoral groups from other leydi or from outside the Delta have to pay a fee (see below).

b. ***Animal property, access rights to pasture and transhumance management***

In three important ways the ownership and management of animals decide the owners' access rights to pasture in the Delta. Some of these customary institutions would be difficult to capture in official law texts. First of all the access right to pasture within the Delta is decided by the status and position a

72 This right to be a Jowro is inherited from father to oldest son - often in direct succession since the Dina (1818-1862). His juridistiction is limited to the sub-leydi of his hegemony and to the organisation of the corporate herding unit (egguirgol) which has priority access to the sub-leydi under his control . The domains of these Jowro are more or less defined. The Jowro has no authority in internal village politics or affairs. Unlike the village chief he has no official duties and his role is not formally recognised by state authorities (Gallais 1967).

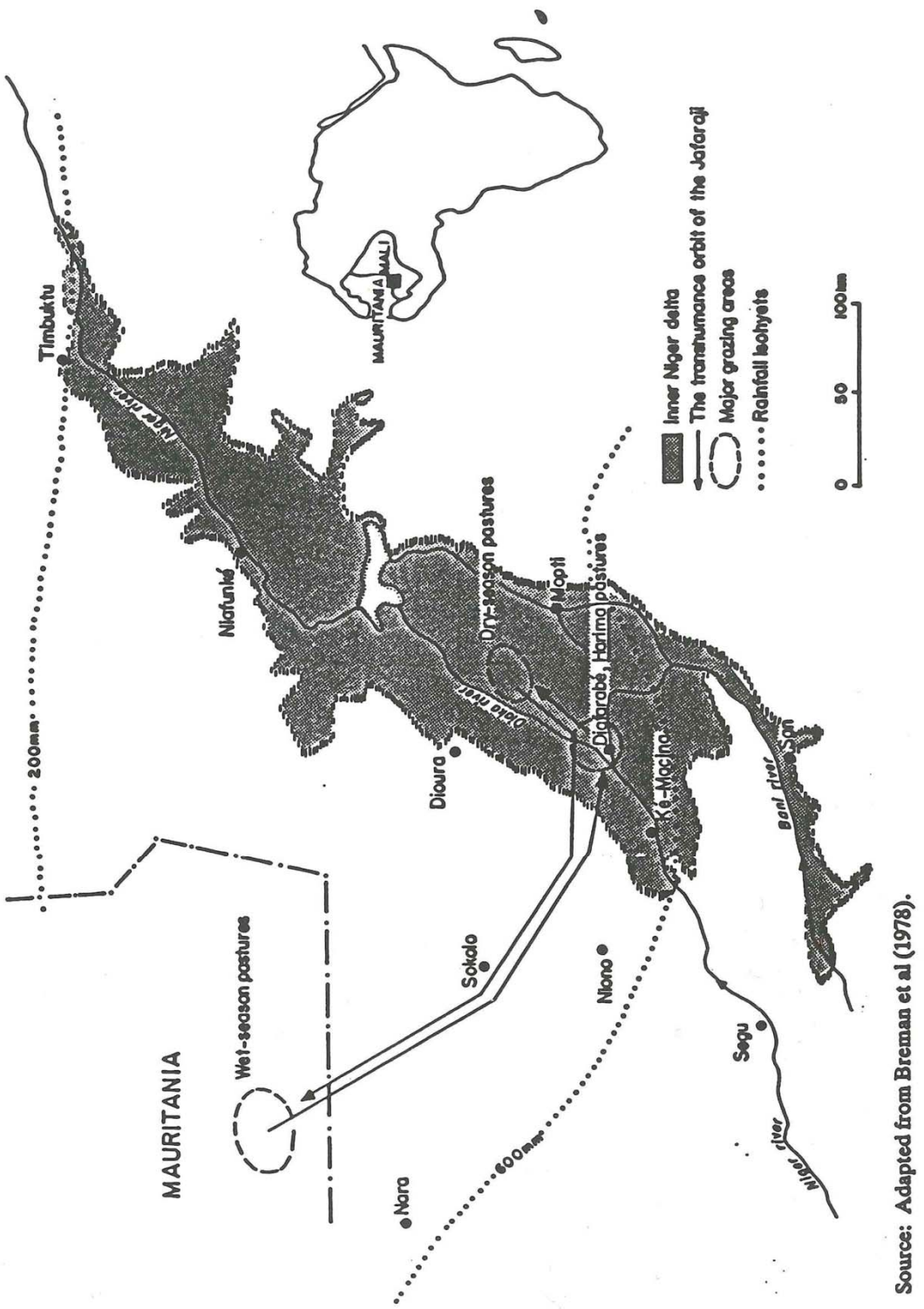
Fulani has in a certain sequence within each corporate transhumance herd (egguirgol). When these corporate herds return from transhumance and enter the Delta, each family herd follows after the Jowro according to a written sequence. The Jowro is always the first to enter. But the position a Fulani family-herd has in this sequence, is actually tied to the ownership of the main part of the family herd. It is not tied to the head of the family. If the herd is split, for example between father and son or between two brothers, the one who maintains the largest part of the family herd will guard the family position in the sequence. The other will then have to negotiate a new position with the Jowro, which is always inferior to the previous one. If a pastoralist for some reason loose his family herd, he may lose his position of access rights altogether. The inheritance of such a position follows the patrilineal inheritance of the main part of the family cattle herd. (The inheritance of the title of a Jowro follows this same principle). But can an access right to rangeland be tied to cattle ownership in modern law?

Secondly, the size of a certain herd, obviously, determines the amount of grass the owner benefit from. There is no system of quotas for members of the Delta communities. The share size of a herd, besides representing socio-political strength, is also a means to physically defend a rangeland area, for example by deliberately letting animals devastate a crop field before harvest.

Thirdly, the transhumance patterns in important ways decide access rights to different rangeland areas within and between years. Essential to herd management is the re-grouping of the individually owned family cattle into larger communal herd units. These herd units are split according to certain management criteria with the aim of optimising the use of the pastoral resources and the production output. The main product from the pastoral production is milk, which needs to be consumed immediately, or processed into yoghurt, butter or other products which can sustain a little longer storing. Milk and milk products are either consumed directly by the household or used to barter for grain or other products. Hence the herd splitting aims at the best possible allocation of milking cows within the system of herd units. Cattle (or small-stock) are generally slaughtered rather seldom for home consumption (ceremonies, gifts). But contrary to popular belief regarding pastoral livestock keepers, there is also a certain off-take for sale: 7% of total herd size reported by Wagenaar et al (1986) and 13% by Turner (1991).

There are five different types of communal herd units, which have their own governance regime through specific transhumance orbits. The main herd, the garci, is comprised of the bulls and the non-lactating cows, and only a few milking cows to provide milk for the herders' daily consumption. This herd leaves the large flood-plain pastures of Lac Debo north in the Delta for

Map 4 The inner Niger delta and the transhumance orbit



Source: Adapted from Breman et al (1978).

transhumance to the Mema or the Sahel (to Mauritania) in August (300-400 km). They return after about three months and cross the Niger River (Diaka river branch) - at dates fixed through a regional conference of local 'masters of pasture' (Jowro) and government officials (Conferance des Bourgoutière). This conference is held annually and was instituted in 1961, right after independence. Its main function is, as I see it, for the state to control transhumance and extract fees which each herd owner has to pay for passing the river. Meanwhile the benndi, which consists of the majority of the lactating cows, their calves and a few bulls, have been grazing the Harima or the pastures close to the villages, and provided milk for consumption or sale to the majority of the family who is permanently settled in the village. The benndi will remain in the vicinity of the village almost year round, but will join the garci at its return from the Mema or the Sahel in a certain transition zone in the outskirt of the Delta. These herd units join to form several egguirdi (pl.), before passing the river onto the flood-plain pastures of the Inland Delta. Each household head occupy a certain position in the egguirdi , normally fixed since the Dina. When passing the river, the Jowro will pass first and in sequence the others will follow, each respecting his own position. When moving within the Delta the position in the egguirgol (sing) decides to a large degree the quality and quantity of fodder to be obtained for each individual herd unit.

Often other herd units, the cipi and the dunti, are separated from the benndi. The former is brought to areas further from the village where there is a more permanent market for milk, for example near the major the rice cultivating settlements (e.g. in Kootyia). The latter remains in the village to provide milk when the benndi moves to meet the garci. There is also fifth management unit, the allooji, which consists of work oxen - mostly for ploughing. This is herded by the Fulani, but is mostly owned by farmers and agro-fishermen. This unit is kept around the village, but joins the egguirdi when it enters the Delta in August or later when land preparation is over.[73]

To complicate this picture further, each herder will normally have in his custody animals of other kinsmen or close friends, to whom he himself will also entrust a few animals. One herd unit may have as many as 50 owners (Waagenar et al 1986). Such exchange of animals can be for longer or shorter periods. The herder ensures proper management of the animal, while he is usually entitled to the milk from the cows. This is another way of spreading risks related to scarcity of pasture and water resources, disease outbreaks and cattle thefts. These arrangements also create alliances and complex mutual

73 By contrast, other pastoral groups like the Borana (Kenya and Ethiopia) and the Samburu (Kenya) split their animals into non-lactating and milking cows only.

dependency relations, important for building community cohesion in multi-ethnic and multi-caste societies, where also various degrees of specialisation in production exist.[74] In one of the villages I studied (Kakagna), the cattle herds owned by the different households are spread on as much as twelve different egguirdi.

c. ***Inefficiencies in the property regimes***

But the property right regimes of the Delta have never operated without frictions. There were, for example, several customary leaders and groups who in various ways opposed the Dina state and its interference with the herd movements, particularly in the northern areas among the Dialloubé were I carry out fieldwork. In fact, some observers claim that among these groups with the most strained relations with the Dina, you still today find the most extensive and secure rights to rangeland. They have always resisted state control stronger than other Fulani groups of the Delta (Lewis 1981, Gallais 1967, Turner 1992).

d. ***Regulated access rights to all types of resources***

The property rights regimes of the Inland Delta - even today - range from situations where resources for all practical purposes are open for anybody to use (open access) to situations where resources are managed by individuals or local groups as if they were ordinary private property (controlled access) (see figure 1).

The *controlled-access common property* regimes would, historically, be for resources such as the perennial flood-plain pastures, village flood-plain fields, irrigated fields, important dryland pastures, crop residues, fisheries resources, wells, certain trees, wild grain and wildlife (Moorehead 1991).

More *open-access (non-property) regimes* would be for dryland rangelands and forest/trees in the rainy season pastures outside the Delta.

According to customary tenure the crop land could not be sold, divided, rented, or put in others charge in any ways by unilateral decisions by the family chief alone. Women have no access rights to land and cannot inherit land. All men, women, and children have ownership rights to animals. The profit from the children's animals is, however, kept by the father. But he cannot touch the capital. Products from the married women's animals, such as

74 There are also other important aspects of the herd management and production which indirectly affect herd development and herd ownership - and in turn - access rights to pasture, for example: sales and purchase of animals, animal health management, choice of species composition, herd composition (number of males and females, age structures).

milk, butter, sale, or wool is her own property and cannot be demanded by the camp chief or the husband. A man will normally leave the right for women to sell milk from his cows in order to buy sugar, spice, batteries or petrol. He will sell animals when there are particular needs for money; ceremonies, taxes, clothes, voyages (Gallais 1967). The animals owned by the women are rarely touched by the husband.

Figure. 1. Rangeland and crop land tenure in the Inland Niger Delta

Potential production per ha	Land type	Tenure system	Access control
High	Flood-plain fields near village	Inheritable/not transferable	Total
	Flood-plain fields outside village	Leasehold with Jowro/ not transferable	
	Dryland crop fields	Inheritable/not transferable	
	Flood-plain pastures	Inheritable/not transferable	
	Dry land forests	Few restrictions	
Low	Dry land pastures	Few restrictions	Open

e. *The main institutional principle*

The main rule governing access was that outsiders had to pay a grazing fee (conngi), while insiders would have free access rights. Such fees are paid for passing the river, for trespassing a leyde and for camping within a leyde. This system is still in operation. But the herds of the outsiders have to follow into the Delta after the herds of the Jowro and the insiders in a defined sequence. At the first rain the herds of the allochtone must leave the Delta. The amount to be paid as a fee would depend on the size of the herd, availability of pasture and the negotiation and relations with the Jowro. These fees have increased significantly with increasing scarcity of pasture.

Income from grazing fees was mostly used locally (for visitors, marriages, other ceremonies, communal grain stores, or shared between the founding lineage's).[75] Although it was not an egalitarian system, it represented a fairly complex common property regime for the governance of resource utilization (Gallais 1967, Turner 1992, Moorehead 1991, Swift 1988 and 1989). It "worked to allocate resources between co-owners of a defined territory and manage access to non-owners, broadly in line with the physical and technical attributes of the resources they used." (Moorehead 1991:166). The regime functioned through relations of interdependencies (e.g. the slave economy) and reciprocity - backed up by a system of beliefs that accorded first comers the right to manage. The central administration as well as the other levels in the governance structures guaranteed the appropriators a *legitimate* claim to the stream of benefits arising from the use of the resources.

The colonial administration and increased market integration (1898-1960) . With the French colonial rule, the hegemony of the Fulani was gradually weakened. This undermined the governmental basis of first, the state administration of the Dina, and second, the governance structures of the Jowro and the village chiefs. Moorehead observes that under the Dina the Delta was "administered by a political and economic structure that relied upon the area for its livelihood and sought to graft its hegemony onto an existing system. The colonial administration of the Delta however, did not rely on the area for what it produced, and was staffed by expatriates whose knowledge of the zone was perforce small. Through introducing land tenure legislation based upon European pre-conceptions, it denied the rights of local producers to resources ... and confronted local producers with a system of allocation that took little account of customary rules" (1991:167).[76]

The French colonial administration in various ways facilitated the opening of the Delta for outsiders i.e. for all citizens of Mali, starting in 1919 following a drought in 1913-14(Arrété). All land which was not 'developed' i.e. not cleared and used for agriculture, was declared to be no-body's property. This implied a 'nationalisation' of rangelands previously under customary tenure. In 1955 they further strengthened the access rights of cultivators to crop land through a

75 At the time of the Cheikou Ahmadou the fees should be redistributed as follows: one third for the chief of the family (suudu-baaba), one third for his relatives; i.e. other household chiefs, one third for the fee collector, whether he is a family member or not (Gallais 1967). Today, this system is often not adhered to. The Jowro tend to keep most of the benefits.

76 The Dina system was temporarily disrupted during an invasion of toucoleurs (Fulani) from the East. A period of war and unrest followed. The Dina was re-established with the peace following the French colonial regime.

government declaration (Décret foncier et dominal) (Riddell 1982). This facilitated the break between the Rimaibe rice cultivators and their Fulani overlords in many communities (see later). By maintaining customary chiefs as local administrative rulers (Chef Cantonnements), and obliging them to provide forced labour and army recruits, the colonial administration further discredited their authority and legitimacy as customary leaders. A policy of extracting wealth from the Delta and the integration in a wider, monetised market economy led to increased pressure from these outsiders for the state to ignore customary systems of exclusion and to allow them access to resources. The result was increased pressure on local resources (Moorehead 1991).

Post-independence state (1960-1993) and changing property regimes

Moorehead claims, that "the administration of the Delta and the economic policies that have been followed since independence (1960) demonstrate a remarkable degree of consistency with colonial rule" (1991:167). The post-independence state laws reconfirm the 'nationalisation' of all rangeland in the land tenure law of 1986 (Code Domanal et Foncier (CDF), ch.1.art. 37). By using the village chiefs as the lowest level in the state administration as tax collectors, and establishing firm, often military, state control at district level, the authority of customary leaders to regulate access to land according to customary rights and to arbitrate in conflicts, weakens. Access to the Delta resources is further opened for outsiders to invest in livestock, irrigation, fishing, and charcoal burning. These groups - local or urban merchants, government officials or other investors - normally have less interest in long-term management.

Today, the *main conflict* over rangeland resources *within* the Inland Delta, as interpreted by this author, arises from the rapid and chaotic crop encroachment of the best remaining deeper lying flood-plain pastures, which receive flood-water even under present low flood levels. Such colonisation, often followed by new temporary or permanent village settlements, is carried out by farmers, fishermen and agro-pastoralists which shift the sites of their fields, or expand their area. In this game the Jowro act like a feudal land-lord. They use their delegated authority to manage rangeland on behalf of the community as an exclusive private right. Most of them lease large parts of the remaining flood-plain pastures to crop cultivators. These leasing contracts have increased in numbers during the drought. The profit for this leasing is mostly used by the Jowro and his family. A main problem is that the regeneration of flood-plain pasture, once they have been cleared for rice cultivation, requires very high inputs of labour. This has been done only in few cases. The Jowro will often receive support from local state officials - directly and indirectly in this game. The move to crop cultivation is often a

necessary and logical response to resource pressures, since productivity per hectare is so much higher than for pastures. But when this takes place without assessment of conflicting interests and uses, development opportunities are easily lost. Moreover, the livestock sector contributes by far the most to regional monetary income. Rice cultivation brings low returns (CABO 1991).

From the *outside* the Delta rangeland is also threatened by crop encroachment, enhanced by irrigation schemes financed by state and donor agencies. [77] On newly cultivated pasture or flood-plains, including cattle corridors and stop-over points, conflicts arise when pastoralists return with their animals before crop harvesting. Crop devastation has increased significantly in scale and frequency. There is also an increasing number of livestock, both cattle, sheep, and goats, owned by outside pastoralists, farmers and investors which utilize the Delta pastures in the dry season, which enhance conflict potentials and lead to degradation of vegetation. Several large absentee herd investors have negotiated access to large flood-plain pastures from the Jowro through informal payments.

Hence, the opening up of the Delta-wide common-property regime have led to powerful elites as well as small farmers 'privatising' or 'enclosing' former rangeland commons within the wider resource system. Pastoralists are also involved in these processes as they increasingly turn to crop cultivation to improve household food security. Another action by the pastoralists themselves representing a 'privatisation' of valuable resources is the increased harvesting of pasture and rice stalks/crop residues for stall feeding.

Other problems entailing resource use conflicts are related to the regulation of dates for entering the Delta, mainly by the state through the Conferance de Bourgoutiéres. Due consideration is often not accorded customary leaders' view of optimal dates. Hence, these dates are often not respected. This is also a result of the transhumance herds returning earlier than before, because each household own less animals and the family herd cannot sustain the herders with milk as long as previously. Moreover, there is increased insecurity regarding cattle thefts in the Mema and the Sahel due to conflicts between the state and Tuareg and Moors pastoralists. Returning earlier means that the risk of devastating unharvested crop fields increase. Transhumant herders also tend to respect the order of 'presceance' less and rush their herds faster through the southern parts of the Delta. A larger part of the total herd reaches the central and northern pastures earlier. This crowding has potentially negative effects on range productivity.

77 In the Cercle of Mopti, for example, about 82% of the total cultivable land is under production or fallow which leaves little reserve of arable land for the future - given present technology and productivity levels.

The present property management regime is not able to exclude people in an efficient way. "While customary tenure systems were based on the widely accepted principle of the right of the first comer to pre-eminent access and to manage the pastures, provided reciprocal access rights to herders from different parts of the delta and were consistent in their arbitration procedures, the latter day system allows access to any citizen of Mali (who never had ownership before) and arbitrates the system inconsistently" (Lane and Moorehead 1993). Access to resources is often obtained through influential members of the government. The Delta communities are no longer able to manage the resources in their own interest. The new system has failed to provide an equitable and effective alternative management regime to replace the customary one (Lane and Moorehead 1993). The present tenure and resource use conflicts result in increased transaction costs of policing and enforcement, put extra burdens on customary organisations, state administration and the court system. They entail frustrations, social tensions and disintegration of state and customary institutions. In serious cases - these conflicts also lead to loss of lives. During my last visit to the Delta, a clash between two Fulani groups resulted in 29 people killed and 42 injured in a conflict over tenure rights to pasture (7th December 1993).

There are also other problems with state actions, such as the taxation per head and per animals without re-investing in local infrastructure or social services, the arbitrary fining of individuals or villages due to 'illegal' fuelwood collection or 'over-fishing', and acceptance of bribes in conflicts over land tenure or crop destruction. There is also the use of para-military groups to enforce conflictual decisions which create conflicts.

Overall, there are a few positive signs of development, which may provide some hope for the future, such as the spread of improved technology (ox-ploughing), improved irrigation control, better animal health, introduction of new crops with higher value in local markets (vegetables), spontaneous regeneration of flood-plain pasture and increased harvesting, storing and sale of grass. These developments are most pronounced around the more important towns where population densities are higher and market access is good, such as Mopti, Djenne, Tenenkou and Korienza. There has also been scattered attempts to build pastoral associations for improved management of rangelands outside the Delta and Livestock Co-operatives inside the Delta (Shanmugaratnam et al 1992, Vedeld 1994.

Legislation and tenure policies in Mali

Improved enforcement of secure rangeland tenure and more legitimate mechanism for solving tenure and resource use conflicts are critical elements in

the construction of common property regimes in the Delta. Today, the Malian property laws and regulations include no structures or institutions which handle these issues in an accountable and transparent way.

Official property laws related to ownership and control over land and natural resources in Mali are mainly rooted in French colonial laws and Islamic law (shari'a) and draws very little on customary or pre-Islamic institutions. The French colonial laws (from 1932 and 1955-56) included systems of land registration whereby a customary user could obtain a title. There were also permits to "inhabit" and "occupy" land for residents or businessmen respectively. Contrary to what happened in many other African states at independence, Mali maintained these colonial laws. New laws were issued, sometimes contradictory to the old texts. Few people were really capable of interpreting the property law - until the mid-1980s (Hesseling and Coulibaly 1991). Today, the principal law texts regulating property rights to land and natural resources have been gathered in one main Code Domanial et Foncier (CDF) from 1986. (But there are also separate laws for forest and water resources management. (Code Forestier from 1986 and Loi fixant le régime des eaux 1990)).

The CDF 1986 maintains from earlier laws that state ownership of land is the general principle of the law. The concept of ‘private territory of the state’ (Domaine privé de l'Etat (art.37 CDF) in the law is broad and encompasses not only land registered in the name of the state, but also all non-registered land. This includes all land under customary regimes (droits coutoumiers) and all land which is vacant and without any owner/manager (maître) (art.127 CDF). The state property includes all water resources. This formal ownership of all land by the state reflects influence from the Islamic shari'a (adopted by the French colonial administration). It refers to the head of state representing the Islamic community, and, hence, "the ultimate source for ownership of land " (Park 1993:1). Many state authorities of Islamic West Africa have adopted similar laws.

There is no recognition of pastoral rights to resources in the official law texts. On the contrary, it is stated that all pastures, tranhumance corridors and animal water points are the properties of the state (ref. Décret 65 PGRM du 21 mai 1973 portant rélgementation des pâturages et points d’eau du Gourma).

On the other hand, a usufruct or ownership right can be granted to a user to “develop” ("mettre en valeur”) the land (art.39-70 in CDF 1986 sets out the procedures). Even if actual land registration has not occurred on any large scale, this notion of "mise en valeur" in the law is widely recognised by both government officials and customary leaders to apply to land cleared and taken

into use for crop cultivation, including land under fallow, but not for land under pastoral use. The Islamic shari'a includes the same regulations. Hence, both in the official property law and the customary shari'a-influenced institutions of the Delta, property rights for land under crop cultivation enjoys more firm protection than grazing.

According to the Code Forestier (CF) (art. 3) the clearing of new land requires an authorisation by the local government authorities i.e. the state district representative (chef d'arrondissement) via the village chief, who is also the lowest level in the state bureaucracy. This authorisation provides a usufruct right to the land, not an ownership title to the land. But ownerhsip is sometimes claimed by local farmers (Hesseling and Coulibaly 1991). This law is used by local state authorities to 'expropriate' rangeland under customary tenure for crop cultivation.

The contradictions between the customary and pre-Islamic institutions that still endure on the one side, and official property laws on the other leaves room for manipulation by state officials and customary leaders. These contradictions work as a serious constraint to secure rangeland tenure. Local tenure and land use conflicts are solved on ad hoc basis, often by officials and judges with little formal training in customary rights. Informal payments are often accepted, also by the judges.

The Malian tenure law and legal system contains no concepts or structures to adequately deal with these legal problems. National tenure laws in reality only recognise single ownership (state or private). There is however some recognition of common property rights on village crop land (terroir villagois) in government declarations. The establishment of state ownership to all land under customary tenure has not been followed-up with any sort of legitimate contracts between the state as the owner - and principal appropriator - and the local appropriators - except under a few of the irrigation schemes in the Delta. There is no concept of 'joint usage rights' - although in administrative and legal practice government officials and lawyers/judges regularly face conflicts related to the wide spectrum of joint ownership systems under customary law. There is no jurisprudence developed in writing. An increasing number of research works have started to raise these problems (CIPEA 1983, Rochegude 1990, Hesseling and Coulibaly 1991, Coulibali and Hesseling 1992, Le Bris et al 1991, Kintz 1990 and 1992).

For the Malian law-makers - and politicians - there are several issues to face when assessing alternatives for the construction of more sustainable, efficient and equitable property regimes, such as: how to ensure a legitimate initial

distribution of access to multiple users (in many cases to the same resources at different periods of the year or in different years), how to set criteria for access by others at some later time (inheritance, transferability); how to register and enforce rights; and how to limit individuals in the amount of resource units appropriated (e.g. by locally-enforced regulations, fees, taxes) (see Berge's article in this book).

Procedural law: land tenure reforms as a process

The flexibility and complexity of the Dina institutions cannot easily be captured and homogenised in national law by using the written Dina taric held up against pre-Islamic customs and other oral agreements. Even if initial agreement could be reached between different parties involved, the codification would rather quickly be outdated. Herd movements are irregular and the needs for access to particular key resources are unpredictable. Migration routes between dry season and wet season pastures or to external markets also need protection. In times of resource scarcity, pastoral communities often tend to expand their territories and resource entitlements, or expel their neighbours/kins, rather than to destock and adjust numbers to available grazing within their territory (Behnke 1994). Can such actions be accepted in 'officialised' property regimes?

Detailed and immediate adjudication, codification and legislation of tenure to the benefit of a wide variety of user groups for specific key resources would probably be premature. Such country-wide measures would not only be conflictual, complicated and costly, but would also easily strain flexibility and resource-sharing. While any property law reform will take time, there is an urgent need for conflict resolution structures that can arbitrate continuously over existing tenure and resource use conflicts, particularly between farmers and pastoralists - but also between different pastoral groups.

A possible solution to some of these dilemmas is for the government to elaborate and enforce procedural rather than substantive law (Vedeld 1993, see also Behnke 1994). Instead of legalising (or legislatively dictating) detailed property rights to pastoral or agricultural resources, the procedural law could specify the framework within which the concerned parties could legitimately put forward their claims to a certain resource, including the identification and building of administrative or jural institutions which would handle such claims, the principles for judging between opposing claims, as well as procedures for enforcement. Over time, a jurisprudence would develop and competence in the processing institutions be built.

Reforms should probably be seen as a participatory process, build on principles of procedural law and development of jurisprudence on a case by case basis.

Identification of customary rules is complicated by the fact that historical rights and duties of owners are ambiguous and politically controversial. Today, there exist multiple and contradictory procedures and channels for settling tenure disputes (Behnke 1992, Behnke and Scoones 1992, Swift 1989, Lane and Moorehead 1993). Hence, tenure reforms would need to be done in dialogue with all concerned parties. The establishment of independent "land tenure commissions" with representatives from the local communities and/or specialised "land tenure courts", with staff trained in customary and modern law, could facilitate the process (Vedeld 1993).

A key problem is what role the national governments and their local representatives, should play in new property rights regime. Some argue that the history of authoritarian and oppressive interventions by the state prescribe a 'minimum' interference (Swift 1993).

The new paradigms of ecology open for opportunistic management systems, much the way pastoral systems already function. This implies that management should be limited to focused interventions coinciding with key events, for example a drought or disease, combined with longer periods of minimal administrative interference (Behnke et al 1993). It requires a "focus on *timely intervention* , in the sense that intervention at sometimes is pointless, at others critical"... for example, "removal of grazing may not cause any shift from a degraded condition, unless and until some combination of other conditions, such as fire and rain, allows a re-establishment of lost plants." (Behnke et al 1993:219).

Water and land tenure security is the most critical issue for pastoral development. There are - at least - two different views on pasture tenure:
i) create larger management units (which can either be based on territorial or 'socio-economic' boundaries') which group pastoralists using the same basic rangelands - based on kinship/ethnicity, residence or a combination of these criteria e.g. pastoral or grazing associations; or alternatively, ii) make key resources the focal point for management e.g. water point management groups based on residence criteria. Combinations of the two are possible, since water point management groups can form the basic building blocks for grazing management associations.

Regulation of Access Rights to the Inland Delta
Regarding access rights to the Delta, the guiding principle should be to preserve and protect rights of access to critical resources for local groups defined by residence/kinship as well as for groups with long established temporary customary rights living in the vicinity to the Delta resources. For foreign or outside investors and absentee owners of animals access should be made more

costly. Their interests are not primarily in long-term management, but more so in local profit-making and extraction of resources. Access restrictions to the Delta should perhaps be as mild as feasible with a sustainable management - based on general goals of equity in distribution as well as the need to maintain flexibility (also to handle new settlers and new generations). But politically the national government must face the fact that all citizens can no longer have equal access to all resource system in Mali. The idea would not be to block such access completely - since investments properly done in the Delta by outsiders can be to the benefit of the local economy. The idea is to transfer to the local communities the property rights needed to improve the control and management of the resources more efficient, sustainable and fair.

Official tenure laws should be revised to take account of the distinction between indivisibility of the ecological production system and divisibility of benefits, as is done in the customary institutions. In order to maintain legal persons' access rights to the Delta resource system according to their geographic location (proximity) or membership in a social group, the distinction could be made between 'ownership in common' (the access right is inheritable) and 'joint ownership' (not inheritable). 'Ownership in common' would normally entail a more firm motivation for long-term management. 'Ownership in common' could be attributed to residents of the Delta for resources of critical or high value, such as key flood-plain resources, cattle corridors, wells and village crop land. 'Joint ownership' would be granted to both residents and 'outsiders' to less critical pasture, forest and wild-land resources. It would also be important to recognise temporary rights for pastoralists to pass a certain territory, and systems of secondary or tertiary rights (split rights) of access to groups that already enjoy such rights in the customary institutions.

Given the relative indivisibility of the Delta as a resource system - for both livestock, farming and fisheries - for outsiders as well as insiders - geographic boundaries around individual resource units should normally be ruled out as a solution. Official recognition of a fee system, based on the existing system, the conngi, should perhaps be maintained as a regulation of access to the Delta for temporary users and outside investors. Key flood-plain pasture resources that local communities want to protect, need to be identified and given more firm protection than what is provided by the Jowro today. A *simple* rangeland management plan, developed locally and recognised officially could be one tool to this end. Such plans should be enforced through local governance structures. The role of the Jowro in future property regimes must be raised openly. Many of the Jowro act like feudal land-lords, and are obviously no longer performing their delegated authority as 'pasture managers' to the

benefit of the local communities. They often reside in villages far from the flood-plain pastures they control, and can thus avoid potential sanctions from the local communities, who often have different priorities in rangeland management than the Jowro. Whether the Jowro should carry on as the responsible organisation for the collection of the rather significant grazing fees and tenancy payments is another issue which should be raised.

Several researchers claim that the resources of the Delta are degrading (Moorehead 1991) and that negative effects of resource degradation are not distributed evenly. The Fulani pastoralists experience the most severe loss of entitlements (Tuner 1992). Admittedly, the future of pastoralism as practiced in the past is uncertain - unless property rights regimes governing the utilization of these rangelands are strengthened. Regarding the management of the resource system - i.e. the physical and biological resources - the future may not look that gloomy. Recent studies from other dryland areas, including the Machakos studies (Tiffen 1993), give some hope regarding the possibility of addressing resource degradation as found in the Delta. A bit hypothetical perhaps, but with improved property rights regimes, including better price incentives, more rational rangeland management, more productive technology (animal health, oxen, irrigation, fertilizers), better infrastructure and improved access to markets, the productivity of such ecological systems can apparently be improved substantially and sustain population densities much higher than what is found in the Delta today. But due to failures of existing property regimes, the near future might entail further enclosures of common property rangelands for crop cultivation and grazing, increased *risk* of land degradation (both on crop land and rangeland), reduced forest and vegetation cover, loss of wildlife, wild-land resources and biodiversity. Some of these effects are inevitable consequences of demographic change and development. The challenge is to construct new property regimes that can minimise the degradation and distribute the costs in an equitable and legitimate manner.

Inter linkages: property rights, state policy and market incentives

The construction of new property rights regimes should relate not only to issues of property law. Construction of new property regimes must deal with a host of problems ranging from policy incentives and property laws to the socio-economic security of pastoral and agro-pastoral groups.

It would, for example, be misleading to analyse property changes at local level in isolation from historic and more recent changes in markets (including labour and credit markets) and incentive structures created by the broader political-economy.

For example, with unfavourable milk-grain barter prices maintained through various government subsidies, pastoral households have gradually been forced to increase sales of animals to obtain the same amount of grain for the household. Pastoralists have slowly been dispossessed of large shares of their livestock, now owned by farmers, fishermen, traders and government officials (Turner 1992, OCDE/CILSS 1990). Such impoverishment of pastoralists leads to loss of the socio-political power and legitimacy of their governments necessary for maintaining control over pastures. Absentee herd owners have less interests in long-term management. Pastoral leaders and organisations have become less able to defend customary tenure rights.

Pastoralists find themselves in a world which demands new skills in management of range and dryland agriculture. They need knowledge of the official language to communicate with the government, to comprehend the official tenure laws, to deal with political organisations, to struggle for better marketing facilities and more reasonable terms of trade, and to relate to rural banks and other sources of credit. They may also need skills to become more attractive in labour markets outside the land-based sectors. These aspects exemplify the diversity of the institutional needs of today's pastoral and agro-pastoral populations.

Customary institutions: evolve or dissolve?

New property regimes for the rangelands should be based on principles of subsidiarity, meaning that management "tasks should be carried out as near to the level of actual users of resources or beneficiaries as is compatible with efficiency and accountability" (Swift 1993:3). Customary authorities and local government structures should be drawn more firmly into land use planning, rangeland management, and resolution of tenure conflicts, whenever appropriate pastoral organisations should be (legally) recognised by the governments to function as autonomous bodies relating to resource management and economic activities. In many instances customary organisations will form a natural starting point for such actions. But there are limitations to these institutions related to their hierarchical nature, and lack of accountability and skills. Women has, for example, few recognised rights to land resources.

A final word of caution: customary institutions - representing tribal, feudal and hierarchical traditions - are not necessarily accountable to the local people, nor to the government, in a 'democratic' sense. It may be dangerous to be romantic about their role regarding efficiency, environmental conservation, equity and civil security. Decentralisation to local, ethnic institutions carries seeds for progress, but also potentials for conflicts. Societies often develop through solving conflicts. But recent events, in Africa and other places (e.g. Eastern Europe), show that there are also potential for dangerous conflicts when

authoritarian states withdraw and leave more power to the locality and market forces. African countries have great ethnic diversity and a long history of tribal rivalry. These conflicts may grow worse if the right balance is not found in the sharing of rights, duties and powers between state laws and policies, market and local agents.

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SOME NOTES ON THE TERMINOLOGY OF NORWEGIAN PROPERTY RIGHTS LAW IN RELATION TO SOCIAL SCIENCE CONCEPTS ABOUT PROPERTY RIGHTS REGIMES.

by

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Introduction

The various names for jointly used natural resources: communal property resources, common property resources, common pool resources, res nullius, etc., do not specify a type of ownership situation for the resource, only its use. They all convey a sense of access for everybody to a finite resource with all the problems this entails for equity of distribution and the sustainability of utilization.

If a community or a society wants to regulate the distribution of access to, and appropriation from, a natural resource, two fundamental problems are encountered: 1) how to define persons or groups of persons with legitimate access to the resource, and 2) to what degree additional rules affecting the distribution of the benefits from the resource are needed.

The present paper will discuss how Norwegian law has solved this problem and compare the legal concepts to those developed within social science. In order to develop better tools for managing common property we need a more precise language to describe and distinguish between the various possibilities for using and regulating the use of resources. In our description of the Norwegian law we will be as precise as possible. We will utilize established legal terminology to achieve this. When the (English) terminology is unknown or non-existent we shall have to go into more detailed formal explanations.

Social science concepts

The labels most frequently used to denote jointly used natural resources do not distinguish clearly between two essential characteristics which both go into the definition of what type of use situation we are dealing with: divisibility of the resource[78] on the one hand, and excludability of the users

[78] Several concepts are used to denote essentially the same characteristic. Focusing on physical divisibility the concept subtractability has been used (Ostrom and Ostrom 1977). Focusing on the process of appropriation the concept of rivalry has been used to denote consequences of divisible benefits (Cornes and Sandler 1986). In studies of production systems divisibility is used to characterized the system (Zamagni 1984). Economies of scale may depend on indivisibilities in the production system. In the present paper divisibility is used to cover all the situations where something may or may not be split into two or more parts.

on the other. The characteristics of divisibility and excludability are not either-or characteristics. Once we leave the pure cases of indivisible and non-excludable goods (pure public goods) there will be degrees of divisibility and excludability until we again approach a pure case of the perfectly divisible and excludable good i.e. "money". Divisibility of a resource and excludability from a resource are usually discussed in terms of technological possibilities in relation to physical characteristics of the resource. What seems to be less recognized is that both divisibility and excludability will depend on moral choice and social feasibility as well as physical characteristics and technical feasibility[79]. The present discussion it will be restricted to divisible resources.

If a resource has the characteristic of being divisible into resource units[80] (the benefit is divisible) which can be removed (appropriated) one by one by the resource appropriators and exclusion of individual appropriators is technically feasible, one question which should be raised in the lawmaking process, is whether to exclude, and if exclusion is wanted, how to exclude people from the group of legitimate appropriators. The principle of excludability and the degree to which it may be applied, is a problem of political and moral choice with long lasting consequences both for a resource system and for the society.

Here it is assumed divisibility of benefit, but divisibility may also be a concept applied to other aspects of the resource. Renewable resources are part of an ecosystem. The ecosystem properly identified will be indivisible, and the rate of renewal, the productivity of the resource, will depend on the protection of this indivisibility. Divisibility of benefits and indivisibility of the ecosystem will in a situation with concern for the distribution of benefits, create the management dilemma modelled by Hardin (1968) as the "Tragedy of the Commons". The incentives in a strictly individualized process of appropriation will not include the protection of the productivity of the ecosystem. The various institutionalized systems of common property rights which have evolved, change the system of incentives in a direction where it usually is possible to safeguard the productivity of the ecosystem.

The same institutions which govern appropriation from indivisible resource systems may, however, also be used in the management of appropriation from divisible resource systems. Some of the differences of opinion in the

79 Social choice of indivisibility is closely tied to excludability in interesting ways. Choosing indivisibility and excludability means that all the benefit go to a single appropriator. The inequality of distribution will be maximized. Concern for distributional consequences and choice of excludability will most certainly entail divisibility of benefit. Hence, the restriction to divisible resources for the present work.

80 The case where the benefit of the resource is indivisible, either because of inherent characteristics or appropriation technology, will not be commented on here.

ongoing debate about common property rights regimes may come from not clearly distinguishing between divisibility of benefit and divisibility of the resource system. Also the fact that the institutional manifestations of both divisibility and excludability will depend on moral choice and social feasibility in addition to physical characteristics and technical feasibility might be given a clearer recognition.

To see if the concepts of excludability from, and divisibility of, the resource system are reflected in real societies, the legal implementation of ownership in Norwegian law will be investigated.

Legal terminology in Norway

Norwegian law recognizes two main types of ownership-situations: single ownership and ownership in common[81]. The actor who holds the rights and duties recognized by law is the legal actor. The legal actor is either a real person, a recognized type of private body, or a recognized type of public body.

By and large the rights and duties of single ownership, according to the law, will not depend on what kind of legal actor the owner is. In some cases, however, the exceptions are important. Only real persons can have the odel (allodial) right to a farm[82]. Some public regulations discriminate, and of course the tax system is different for real persons and private bodies. Thus, if one wants to investigate differences in how the owners manage their resources, it is not enough to look at differences in the priorities of the owners, also the discrimination according to type of actor in the property rights regime needs to be incorporated in the study.

Ownership in common is different from single ownership mainly by special provisions taking care of decision procedures among the owners to protect the weak part in any dispute. In general both single ownership and ownership in common by the three traditionally recognized types of legal actors are

81 According to Lawson and Rudden (1982:82-84) the term “ownership in common” is the best approximation. English property law recognizes two types of co-ownership: joint ownership and ownership in common (for land the terms are joint tenancy and tenancy in common). The difference between them concerns what happens to the property on the death of one co-owner. Joint ownership implies that one joint owner´s share accrues on his death to the other joint owners, while ownership in common implies that on the death of one co-owner his share passes to his successors. The joint ownership situation is ideal for the functioning of trusts and is said to apply to the management of property while ownership in common applies to the beneficial enjoyment of property.

82 Norwegian dictionaries translates "odel" as "allodial" (i.e. "free from the tenurial rights of a feudal overlord" according to Webster´s). But in my opinion this is not the essence. The "odel" right of an owner of a farm estate is a real legal power given to the kin of the owner. The law defines a queue of his kin saying who has priority to use the odel right. The power can be used after an owner has conveyed his farm if for any reason the farm does not go to the person with the best right or if it goes to a person outside the group having odel right. Then a person with a better right can force anyone without or with a poorer odel right to sell them the farm for a particularly reasonable price called the odel price. If the right is not exercised within the first two years after the conveyance it is extinguished.

considered unproblematic (even though the problems in any particular situation may be formidable).

TYPES OF OWNERS AND OWNERSHIP

Legally recognized types of owners	
1. public bodies	
2. private bodies	
3. real persons	
Quasi-owners	
4. estates	e.g. farms or fishing vessels
Legally recognized types of ownership	
1. single ownership	one legal actor holds title
2. ownership in common	more than one legal actor holds title
Quasi-ownership	
3. joint quasi-ownership	

However, in our situation two further types of owner and ownerships are of particular interest. The new type of owners will be called quasi-owners and the new type of ownership will be called quasi-ownership, in order to emphasize that they share important characteristics with legal actors and legally recognized ownership without being legally recognized as owners or ownership.

One may say that the right to use some resource is quasi-owned if it is inalienably attached to either to quasi-owners or to legal actors in their capacities of being residents in an area or citizens of a state. Besides inalienability, the quasi-ownership of some resource is different from ordinary ownership in the protection afforded by society. It depends less on statutory law and more on customary law and continuous use than ordinary property rights.

The quasi-owner can also be thought of as an estate in its capacity as a cadastral unit[83]. An estate is not a legal actor, but the right to use some particular resource can be inalienably attached to an estate. The ability of estates to hold resources in quasi-ownership is the basis for calling them quasi-owners. The right to resources held in quasi-ownership may be annulled (extinguished) by loss of citizenship or by exclusion from particular areas (or registers as the case may be), but not transferred independently of the estate[84]. Selling the estate implies selling those particular rights as well.

[83] A cadaster is a public register of all real property. It defines title to land, identifies the property unit, and defines the boundaries of the various units of land, and it establishes the value of them.

[84] Since individuals are not bought and sold, transfer of inalienable rights of persons is impossible. But they may be annulled by loss of citizenship or exclusion from particular areas.

If the quasi-owner ceases to exist, the resource held in quasi-ownership will either also cease to exist or revert to the co-owners in case of joint quasi-ownership, or to any descendants of the estate in case of ownership in common.

This kind of relationship between a farm and some particular right has existed for a long time in Norway. It could be in the form of holding a certain proportion of all "assets", the ground itself included, or it could be in the form of the right to use some particular resource. The latter situation implies that use rights are separated from ownership to the ground. Separation of the right to use particular resources from the title to the ground is very common and can be found in a variety of forms. Thus various kinds of use rights to resources like pasture, wood, hunting and fishing have been attached to farms in this way[85]. Recently a similar situation has arisen in the relation between fishing vessels and fish quotas (the registry of fishing vessels then performs the same role as the cadastral register).

Quasi-ownership of the ground in some commons will imply ownership in common also for other resources in the area held in quasi-ownership while quasi-ownership of usufruct is joint ownership. If for example two farm estates, both with rights to hunting in the commons, are joined, the new estate will not have the hunting rights of both the former farm estates, only the hunting rights of one quasi-owner. Only if quasi-ownership of the ground in the commons is included among the assets of the farm, will the hunting rights increase with the share of the ground[86].

The quasi-ownership relation is the basis of the legal construction which is called "Allmenning" in Norwegian. Literally the word "allmenning" means "owned by all" and is used to denote an area which can be used freely by all. In this interpretation it has the same meaning as the commons, but in legal terminology the word has taken on a specific and precise meaning. Here it means an area, most typically forests, mountains or other outfields, in which the members of a local community or some group of farm estates hold, in joint quasi-ownership, most of the rights to most of the resources. The title to

85 In Roman law an inalienable right to enjoy some asset was called usufruct.

86 In the same commons there may be some farms with both ownership rights to the ground itself as well as use rights to some particular resource, and some farms with only use rights to some particular resource in the commons without any right in the ground. In this case the farms with ownership rights to the ground will have exactly the same position as the state in a state common. Only after the those with use rights have been satisfied according to the needs of the farm, will the owners of the ground be able to utilize the remaining resources to their own advantage.

the ground is normally held by the state (State-allmenning), but in a few cases it is held by the farm estates in joint quasi-ownership (Bygde-allmenning[87]).

The rights held by the persons or estates using the resources of the area designated as a commons, are held in joint quasi-ownership[88] and separated from the ownership of the ground. They are specific in the sense that after the rights holders have exercised to their satisfaction their traditionally established use rights, the remainder can be enjoyed only by the holder of the title to the ground. This is particularly important in relation to new uses of the ground. Thus the right to exploit waterfalls for the generation of hydroelectric energy goes with the ground since this is a new use of the waterfall. There are many local manifestations of the commons with state-commons and bygd-commons as the main forms.

A second version of the separation of use rights from the ownership of the ground is found in what is called "allemannsrett" (literally "all mens right") and could perhaps be translated as public rights. This right is restricted to real persons, is established by residence in the state, and applies to all ground with some restrictions for cultivated land and built up areas. Right of way, camping, hiking or picking of wild berries are examples of this. Rights to some kinds of hunting and fishing are public rights, but restricted to state commons. Public rights can be said to be held in quasi-ownership by individual persons in a way similar to the rights enjoyed by farm estates in state-commons or bygde-commons. Public rights comprise, however, fewer types of enjoyments and they have weaker protection (probably since their economic value is low or impossible to estimate).

A third type of restriction on the ability to enjoy a right and the area where it applies, is the rights of access to pasture and other necessary resources for the reindeer herders. The right to hold reindeers is restricted to Norwegian citizens of the Saami people and, since 1. July 1979, it also depends on either being active as reindeer herder on that date or having proof that at least the father or mother or one grandparent of the person was an active reindeer

87 The Norwegian word "bygd" does not translate well into English. It means a sparsely settled local community somewhere on the scale between hamlet and town. It may include a few hamlets, even a village, but the connotation is of a sparse settlement. In this connection - bygde-commons - its meaning is more in the direction of opposition to the state. It means only that the ground of the commons is owned (in quasi-ownership) by a group of farms close by the commons, while the rights to use the commons can be described in the same way as those in the state commons. However, the group of farms must include more than 50% of the farms with rights in the commons. In the cases where the number of ground owning units were less than 50%, the rights of the commons has as a rule been extinguished and the assets distributed among the ground owners.

88 It is joint quasi-ownership in the meaning of joint ownership (see note 1). If one quasi-owner ceases to exist his rights go to the other quasi-owners and not to his successors. This implies e.g. that if a small-holding ceases to be a farm (becoming for example a vacation resort) its rights in the commons go to the other quasi-owners.

herder. In principle their rights of access to the necessary resources are independent of ownership of the ground whether the ground is owned by the state, or by any other legal actor singly or in common. Their rights apply only within the 10 reindeer herding districts defined by law in 1894 and depend on continuous use of it from "time immemorial".

The legal terminology in the light of social science

The indivisibility of the resource and the divisibility of benefit in conjunction with societal goals of equity of distribution and sustainability of resource productivity, defines the boundaries of the management problems we are concerned with. The degree and character of excludability is one of the parameters of choice in the solution of the management problem.

The legal terminology seems to be largely independent of this problem. In a normal situation with single ownership or ownership in common by llegal actors, the criteria of exclusion are well defined, and a properly maintained cadastral system is supposed to take care of the definition of the resource units subject to ownership. The distributional considerations are presumed to be taken care of by the taxation system.

Our concern here is the less clearly defined situations where both the characteristics of the resource may be unclear and the distribution of access to the resource may be an issue. The legal practice around public rights ("all men's rights") and joint usage rights to various kinds of resources seem to be those of most interest.

From the goal of equity in distribution it follows that access restrictions should be as mild as possible. In those cases where legal practice does restrict access to some resource system without granting some legal actor ownership rights, the leading principles for exclusion are

1) legal right of residence (some kind of "citizenship"),
2) geographic boundaries, and
3) geographic proximity.

In a situation with indivisibility in the resource system, the boundaries of the management problem will be defined by the (minimal) boundaries of a productive resource system, and access problems must be related to this area. Thus the geographic boundaries of resource units will not be a parameter of choice for the lawmakers. This leaves residence and proximity as the established principles for limiting access rights. If maximum access to the resource system is desirable, both residence and proximity or some combination of them may serve without leaving it open to free access.

Conclusion

The problem of securing sustained productivity of a larger resource system characterized by indivisibility in a situation where technology makes depletion of the productive stock feasible does not seem to have been solved by any legal system except by transferring ownership rights to one single agent, usually a public body. But the problems of contracts between principal and appropriation agents remain and are not fundamentally different from the problems facing a lawmaker wanting to maximize access within the constraint of some maximum sustainable yield.

For the lawmaker, the following problems suggest themselves (some of them will be the same for the single owner leasing use rights) :

a. a legitimate initial distribution of access (for the single owner this may seem unproblematic, but the initial distribution may affect later policing costs),
b. what are the criteria of getting access at some later time (to what degree should the rights of access be alienable, inheritable and/ or handed out by the lawmakers) (for the single owner this will not differ from point a.),
c. how to register those with access and police their access,
d. among those with access how does one limit the number of resource units appropriated (by quotas, by taxes, by self-enforced regulations or by some other means?).

The practical answers to these questions are political. They depend on moral choice and social feasibility and have to be implemented as much through the acceptance of the people and the way the legal profession interprete their cases as through the public legislation.

But in designing regulations for resource systems recently having come under stress, it is instructive to consider how other types of resources are managed. For indivisible resource systems, the distinction between ownership in common and joint ownership is of particular interest. It is well known in English jurisprudence and, as argued here, it is found in the legal construction of state-allmenning and bygde-allmenning as well as in the public rights of land use. This distinction might be of importance in the construction of new resource regulations where one goal would be to preserve right of access for some group defined by residence in a region or proximity to the resource.

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THE ANALYTICAL IMPORTANCE OF PROPERTY RIGHTS TO NORTHERN RESOURCES

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THE NORTH

In contrast to the southern Arctic regions of the earth (Antarctica), the north has not been set aside as a "global commons" under some sort of fragile International Regime (Keohane, McGinnis & Ostrom 1993). The North was an arena of contestation between tribal collective rights, national colonisation and the expansion of individual property rights. The principles of "Home rule" as achieved by Greenland and the Canadian Nunavut are in many respects the opposite of managing the North as a "Global Commons" or a "Shared resources region".

For thousands of years opportunistic harvesting of the seemingly unlimited riches of these northern areas has been carried out by seasonally migrating groups of humans, in much the same way as migratory birds or moving packs of wolves have utilised the same area in periods of temporary retreat of the Great Ice. However, at the low level of harvesting technology that was dominant from 9000 years ago and up to 400 years ago, the north did thus function as a true global commons where humans of different tribes could go out and harvest for their needs (mostly fats and furs) and then retreat - to small farms in the sub-arctic regions or to favourable places within the Arctic itself. Lengthy expeditions were costly and a number of peoples specialised in developing survival techniques that allowed them to stay permanently in inhabitable coves within the Arctic itself. About 10.000 to 5.000 years ago we find Sami, Samojeds, Yakutsk, Inuits and Na-Dene well established and adapted to living in the northern environments. The first settlements of the north are to a great extent the history of primary occupation of favourable places (*primi occupantis*), when these were settled, the larger area was in fact occupied at the prevailing level of resource utilisation.

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89 An initial paper outlining the preliminaries of these questions was presented at a Colloquium held at the Workshop in Political Theory and Policy Analysis, Indiana University in September, 1993. Based on comments and suggestions, this was substantially expanded and revised and appeared as report in the series "LOS i NORD-NORGE" (LOS-Notat nr.18). In preparing the present version, the author is appreciative of the valuable comments from Thrainn Eggertson, Vincent Ostrom and Hans Sevatdal. The author is also appreciative of the support received from the Royal Norwegian Research Council grant no. 530-93/034.

Settling in the North itself had several advantages; one was short distance to the rich fishing and hunting grounds and the opportunity to constantly monitor the changes in fish and wildlife - and over time to build a "folk science" related to fluctuations in natural resources. The main disadvantage for northerners has through all times been the huge distance to the more densely populated areas of the continents, which meant that exchange of goods, barter and marketing was - and still is - a difficult and sometimes risky operation. With opportunities for flexible resource utilization, the conditions for self-sufficiency were favourable, while the power over world markets for specialised surplus products has remained negligible.

Another advantage of settling within the north itself is the fact that permanent residence is an important element in the long process of establishing socially acceptable property rights to northern resources. Initially we shall here use the term property rights to describe all forms of relationships between northerners and northern resources, in the legal heritage of the north these were categorised as: *primus occupat, possessiones, usum fructum, and dominium* (Stephanus 1629).

In a world of freely migrating humans, there are always two sides to resource-endowed regions. The seemingly great advantage to resource management in the north, its sparse population relative to its richness in natural resources, was also its great disadvantage; the scarcity of defenders of the "favourable places" and the inability to defend the rest of the resource base - "the outer and the upper". Most northern societies were able to accommodate - even welcomed - a trickle of poor migrants from the south. But faced with various kinds of intruders - from plundering armies to large scale state settlement programmes, the societies of primary and secondary occupants showed their vulnerability. Despite the vast open areas of the north, the number of favourable places was limited and in the case of the intruders' occupation of these, the result was often starvation and poverty for the original inhabitants.

Although full state sovereignty was imposed relatively late in the "Far North" - some observers hold this to be from the 1930s onward - it can be instructive to explain some of the longer lines in the development of the "internal colonisation" (Young 1992).

At the height of the Viking-age, around year 1000 - 1250 A.D., the sea between Norway, Spitzbergen, Greenland, Iceland and Scotland/Ireland was a Norse "Inland sea" and numerous Norse "northern settlements" were established along the northernmost coast of Norway, along the northern river valleys of Sweden, on Iceland, Greenland and even on Labrador. This expansion ceased in the 14th

century. Both the increased power over trade routes by the Hanseatic League and the demographic effects of the Black Plague in 1349 are believed to be important factors here. After the 15th century we no longer find Norse colonies in Greenland and Labrador.

After the rediscovery of America there was again new European expansion towards the north. The first known "biocide" of the north was in the 16th century, when Dutch Whalers and Walrus-hunters adhering to the newly won "freedom of the seas" doctrine, depleted the huge herds of fat-bearing sea-mammals and extinguished the fat "Geir-fowl". All they left were their names: The "Spitzbergen", the "Barents Sea" and the "Jan Mayen".

The Norwegian (under Danish rule), the Finnish (under Swedish rule) and the Russian expansion towards the north was to some extent a result of a northbound trickle of migrating people - hunter/fisher/farmers and traders. This was not so much a result of population pressure as it was a result of a wish to escape from serfdom, drudgery and poverty. Because of the great distances involved, and the strength of the aboriginal cultures, the *de facto* property relations in these northern areas became different from those of the south, especially in the Russian empire (Pipe 1974).

But mainly the Danish "rediscovery" of Greenland and the Swedish/Danish/Russian colonising of the "Top of Europe" was the result of the power struggles among the European kings, queens and tsar. This was the same kind of processes that led to the British, French and Russian colonisation of the northern areas of America: - of the Northwest Territories, of Yukon, of Labrador, of northern Quebec and of Alaska.

By the 17th century, the European nation states, including Russia, had each carved out their sections of the entire northern commons and "colonised" them with their governing systems, their culture and in many instances also with their peoples, their religious institutions and subsequently their welfare institutions. But at the outset of this Great Experiment, the North looked like a "pizza" - carved into sectored pieces under the jurisdiction of the different nation states of Europe. Because of the long influence of kings and states, the degree of self-governing capacity that we find in these northern areas must therefore always be related to the role of the colonising state and - which was very often the case in the north - the state-churches of Scandinavia and Russia. It was usually the king or the church which granted settler communities or aboriginal communities whatever privileges that was necessary for self-governing institutions to develop.

The overriding, big question of who has the rights to northern resources does not only depend on which Nation State claims the land or sea area, but also on who has lived there before and who do live (permanently) in this area today. It is a big question on the international arena - between the nation states in the UN or Law of the Sea framework (e.g. the cod-wars between Iceland and UK and between Iceland and Norway). It is also a big question within each of the nation states: which categories of citizens have what kind of rights to northern resources: All nationals, all resident northerners, all rural northerners or only resident aboriginal northerners. On the international level there is mounting agreement that it is unrealistic to regard the North as a global commons, the jurisdictions of the eight "Arctic States" has become too entrenched for that (Young 1992). This debate is reduced to the question of whether parts of the North should be considered a "shared resources region" where resources can best be managed by two neighbouring nation states or a "regional commons" where for instance the European Union manages a large section of the European Arctic.

On the national level it is much less clear who has rights to the resources of the north. On the European and Asian continent, the distinction between the "aboriginal" peoples of the north and the "natives" of the colonising states is today often blurred, in many instances they have been living in the same geographical areas for several thousand years. However, their different adaptations to ecological and man-made niches, and their different cultures have existed side by side for hundreds of years, despite frequent intermarriages and heavy pressure on the minority cultures" to "go Russian", to "go Finnish" or to "go Norwegian". In the northern areas of America, the distinction between aboriginal people and colonising people - or "native peoples" and "immigrant peoples", (Sproule-Jones 1993), is easier to draw and is also much more an integral part of "Northern Politics". However, the vivid, but long-drawn political processes of aboriginal (native) land- and water-claims in Canada and Alaska have to a large extent influenced the public debate on aboriginal and local land rights and water rights in Northern Europe. With the formation of an association of the "Small peoples" of Russia and Siberia, there are also signs that such a debate gradually is in the coming in both the European and Asian part of Russia.. Both the recommendations of UNCED's Agenda 21 and the emphasis on "subsidiarity" within the European Community contribute to this.

In this respect the political situation of the whole of the northern circumpolar region has become more similar in the last 20 years. This should be of benefit to the policy analyst as it permits more meaningful comparative analysis, e.g. analysis of the managing of similar resources in two or three areas with distinctly different systems of nation state supremacy. The grand experiment of the north that was initiated by the European Nation States has now been running

for about 300 years and there is sufficient evidence to start an evaluation of it at a larger scale.

In the final analysis the question of Northern Politics is often boiled down to this very simple question of who has the rights to the resources of the North. But this form of rhetoric often conceals the analytically more interesting questions of how property rights to resources are created and maintained. These questions should therefore be made more complicated by rephrasing them somewhat:

> Do we find elements of social contracts in Northern Politics, where the Nation States continues to have ownership rights and access to the northern resources, while the northerners continues to have access to the state Treasury?
>
> What happens to such social contracts if the welfare benefits to northerners diminish or when the state loses or give away centralised power to local communities or to institutions based on aboriginal identity?
>
> How are property rights in the North affected by decentralisation of political authority on one hand (devolution) and on the other hand the slow legal/political process of transferring more resource governing authority to local authorities or aboriginal associations in the north?

We shall here mainly use Northern Norway as a case to try out some preliminary hypotheses about such relationships and try them out on six different types of resources -some major resources and some resources of minor importance. However, the reader should bear in mind that these questions can be raised at a generalised level in all the northern circumpolar areas - and that comparative studies in two or three northern areas could bring new insights which a one-shot approach does not give.

THE PUZZLE

In a modern "welfare state" like Norway, one might think that questions of the members' link to resources were of minor importance that a benign state caters to the livelihood and happiness of all its subjects irrespective of their inherited or achieved rights. It is a puzzle that this is not the case and that resource rights again enter the public realm. In fact the questions of both individual and collective, local and regional rights to resources even seem to increase in importance as the question of the relation of the nation state to the greater European Union moves up on the political agenda. In addressing this puzzle, it is important to keep in mind that even a seemingly solid institution like the welfare

state exists only as long as it is maintained by its members. Following the tradition of Aristotle, Toqueville and Weber, the position taken here is that if individual members do no longer act in support of institutions, these will wither away, break down or change their form (Kaminski 1992).

The welfare of northerners has always depended on their relations to natural resources, on their command of access to resources and on their ability to exclude others from extracting these resources (Dacks 1981, 1990). These kinds of relations between individuals, groups of individuals, communities and states with respect to resources are commonly coined property rights. These span from the most modest user rights to the most potent ownership rights. Such rights are fundamental elements in all resource management or in the governing of resources by collectives. In the political sphere such rights also carry heavy symbolic values and "our rights to resources" are frequently used to create identity and to rally followers for or against a particular solution. One basic argument in this report is that more sharply defined concepts of property rights will be useful tools for analysing the interdependence between human and economic enterprise and the governing of resources. Further, it is argued, the full potential of property rights concepts has not been realised due to lack of definitional clarity, ideological bias in Scandinavian social sciences and sloppy operationalisations by scientists.

The underlying importance of rights-based relationships to resources is demonstrated by their tendency to survive numerous attempts to "modernise" the northern societies:

Industrialisation in the north has traditionally been largely resource-based and heavily dependent on the rights of access to minerals, sea- and land areas, fish resources, hydropower, timber etc. An overall attempt to shift the industrial base to market based, knowledge-based, or "competence-industries" that can be established independent of a resource base, has not been successful. In spite of heavy public investment in higher education and research in the North, there has been few off-springs from research, thus the "R&D-strategy" of the early 80s has to a large extent failed (Andersen & Sandersen 1992). The lack of a complex economic base can also be related to the political influence of those who have their interests tied to the natural resource exploitation. The surviving "alternative industry" is mainly computer based branches of public corporations which are decentralised by political decisions. The most feasible strategy for co-operation between industry and higher education therefore seems to be increased emphasis on competence in the resource based industries, increased complexity and closer networks within the processing industries. Recently there has been a liberalisation of the hydro-power market, removing the competitive advantage to metal industries of proximity and privilege to waterfalls. However, there are

strong forces working for a reversal of these policies and we might witness a development where those enterprises that have most secure and clearly defined property rights to their resource base will have a tendency to invest more in their processing and marketing skills and thus gain a competitive advantage over industries with no such privileges.

Transfer payments have for 1 1/2 generations defined the level of welfare for large groups of northerners. The "welfare state" has to a large extent "modernised" the north. Faced with uncertain "Arctic agriculture", the risky grazing of sheep and reindeer and chance fishing on widely fluctuating stocks, the stability of transfer payments from the central government to farmers, fishers and reindeer pastoralists has been comforting. Also the transfer payments to municipalities, to social security, unemployment benefits, and public services are part of the "modernisation" of the north. It seems like Northerners are somewhat more careful in "harvesting" from the national welfare system than Southerners, but that this to some extent is utilised to compensate for failures in major fisheries or in agriculture (Hanssen 1993). Some northern communities may in certain periods contribute far more to the national treasury than they receive in transfer payments, some contribute far less, the overall effect is a relative stabilisation of incomes and returns on investments and an equalisation of welfare between communities, regardless of shifts in harvests, natural endowments and the distribution of rights to these. During the years of construction for the social-democratic welfare-state, the importance of property rights were thus played down. Everyone was believed to have a universal right to a certain level of welfare, irrespective of residence, mobility or rights to natural resources. With a gradual questioning of the foundations of the Scandinavian welfare state model in the 1980s and 90s, special attention has been on the tendency to "overgraze" on welfare goods and to "free-ride" in relation to the solidarity duties towards the maintenance of the welfare state. Transfer payments have also been seen as unfortunate "government subsidies" that have contributed to overcapitalisation and overcapacity in fisheries and overstocking in dairy farming and reindeer-husbandry, thus resulting in a "government induced tragedy of the commons" as well as "non-robust" economic enterprises. In the current "remodelling" of the Norwegian welfare state there is more emphasis on the individual duties of the members towards the collectives and a partial deconstruction of semi-automatic transfer arrangements. Real needs, individual responsibilities and real economic performance will play a more important role in determining a just distribution of welfare goods. This does not necessarily imply a decrease in the total level of welfare goods delivered by central and local government, but that the character of such goods and their distribution will be different. In this more "rights and duties" based welfare state the importance the "fruits of one's own labour" are likely to reappear. In the world of real politics, this kind of remodelling is, however,

balanced by other processes on the macro level: The positive image of the nation state in the north is closely connected to the benefits of the welfare state (Eriksen 1993). If these dries up, or is perceived as unjust by large groups of the northern electorate, the negative image of the state, that of the coloniser and exploiter, will surface. To some extent, therefore, the Nation State will be willing to buy off Northerners with extensions of "traditional" welfare goods in order to fend off challenges to its role as privileged land-owner and sea-owner in the north. But at the same macro level there are also other and counteracting processes: The symbolic value and through the manipulation of symbols, the political value of local rights to resources seems to increases in times when the national welfare state is being questioned, and is only vaguely related to the economic importance of such resources (Gaski 1993).

In a mixed economy like the Norwegian economy, markets have usually been governed by legal frameworks initiated by political bodies or by institutional arrangements agreed upon by way of negotiations between organised interests. The high transaction costs and loss of efficiency from cumbersome market regulations have in recent years set in motion a prolonged process of deregulation of markets, where the explicit aim of government economic experts has been to allow the market mechanism work wherever this is more efficient than other means of aggregating decisions. With less government interference in the commodity markets, the product markets and the labour markets, the underlying structures of ownership and user rights will resume some of their importance and again bear influence on the distribution of income- and benefit-streams and on the overall distribution of welfare. One of the reasons for the renewed academic interest in the study of origin and maintenance of property rights is therefore the fear that deregulation might thus lead to increasing inequalities, to social misery and political unrest. Through refinements on the art of crafting institutions for property rights based management regimes; such unwanted side effects of deregulation can hopefully be avoided.

Northern areas are basically resource based regions and the number of resources in northern areas is large. Both non-renewable resources and biologically renewable resources are the backbones of northern economies and societies. It is therefore impossible in one study alone to analyse all the changes in resource relations that results from greater northern self-consciousness and from changes in the role of the nation state. It is necessary to select some of the most typical resources and carry out the analysis with a scope that is wide enough to encompass both the individual and household level, the local community level, the intermediate level/ the nation state level

and the international or "regional" level. In this respect, some resource governing systems give a higher "analytical payoff" than others as they reveal more of the underlying social processes in contemporary society. In using Northern Norway as a case, six different kinds of resources stand out as having a rich analytical potential. As will be seen from the brief exposition of the resource governing challenges facing each of these resource types, they are comparable on some dimensions while they differ greatly on other dimensions. The governing systems for these six resource types also interact with each other in a number of ways and such interactions might increase or decrease the challenges of governing that particular resource:

Birds' Eggs are analytically important in spite of their negligible economic importance. The eggs of sea-gulls and certain wild ducks have for thousands of years been collected during the spring by fisher households and farmer households as subsistence food. Later in spring also the downs of certain ducks, notably eider ducks, were collected and treated for the use in downs and pillows. The nesting environments of "eggs- and downs-birds" were enhanced by simple constructions of protecting stones, wrecked boats etc., while no enhancement was usually undertaken in relation to "egg-birds". Traditionally spring was the time when the stores of cereals and meat were run down after a long winter, fish was hung to dry for cash and fresh eggs represented an important source of protein for all members of the household. The eggs were only collected from those kinds of birds that have the capacity to lay additional eggs if some are lost or stolen. For obvious reasons collection took place while the eggs were still fresh, thus giving the birds a chance to add new eggs. Strict rules of how many eggs can be removed from the various kinds of nests and at what times by which households have maintained this sustainable resource management system through centuries (Vold 1981). The only threat to this kind of viable egg collecting systems seems to be external factors like the overfishing of certain key species of fish which are crucial food for the new-born chicks and International Regimes, notably E.C. regimes which indiscriminately ban all collecting of eggs from wild birds in order to protect some endangered species of birds.

Because of their minimal economic importance, the egg-collecting institutions of Northern Norway have in most places been untouched by interventions from government or big business. Thus we here find design principles that have evolved gradually and have been continuously refined since the Viking age. In most respects these can serve as a baseline for comparison with the design principles of newer and more messed up resource governing systems.

Wild Sea Fish is economically the most important renewable resource in northern areas -which in fact is mainly northern waters. Because of this, sea

fisheries and ocean fisheries are entangled in state regulations, international regulations and the continuous games played by the organised interests of fishers, fish industries and fish exporters. These are not only games played against the nation states or weak international supervising bodies, but to a large extent games where one group of organised interest uses the apparatus of the state or the "community" in its gameplay against another group of organised interest. Apart from a few exceptions, the organisation of the Lofoten Fisheries being one, some local fjord fishing regimes in Finnmark being another, there is only a small potential analytical contribution to the body of knowledge of design principles from "naturally evolved" resource management systems in fishing. However, the analytical importance of wild fishery governing regimes is significant in dealing with the role of the nation state and the role of provinces/counties/associations in resource management and in dealing with the workings of international governmental organisations (IGOs) and international non-governmental organisations (INGOs) (McGinnis and Ostrom 1993). However, some of the effects on local fisheries from the incentive structures provided by the government-designed governing institutions can provide insights that are analytically important. Crucial factors here seem to be:

* The lack of correlation between rights and duties for Norwegian fishers.
* The negative effects on recruitment of young fishers of increasing exclusiveness in the authorisation of fishers.
* The decreased flexibility of coastal fishers and the social and political costs of a high mobility ocean fishing fleet (Sandberg 1993 a).

Recently there have been several moves, both by local communities, by coastal fishers, by politicians and academics within the northern areas, to have dismantled the extremely complex and seemingly illegitimate government and international regulatory systems for harvesting wild fish. The idea has been to replace these with simpler systems of fishers' co-management regimes or territorially based management regimes that utilise the capacity of the Northerners to exercise self-discipline and self-control. The convergence of folk knowledge and modern multispecies management tools (Eikeland 1993) has made these ideas politically more feasible. Recent experience has shown that neither national, nor regional (e.g. European) management regimes can manage or control the highly efficient and highly mobile international fishing fleet that belong in the big fishing nations, but increasingly fish on the high seas under various flags of convenience - where they are not bound by quota agreements between the "responsible fisheries nations". Mounting difficulties in monitoring this international fleet and their adherence to agreed quotas might result in a total closure of the global commons called the "high seas", a preliminary test of this is the current work of United Nations on the

management rights - and responsibilities -of coastal states regarding "straddling stocks of fish". With such an enclosure, there would only be one type of salt-water fisher left in the world - the coastal fisher.
Recent studies have also shown that when confronted with streamlined and simplified government resource management regimes, coastal fishers have a capacity within short time to design their own supplementary rules in order to avoid gear collision and secure a reasonable harvest for all participants (Bjørnaa 1993).

In line with this kind of thinking and with findings like these, the whole fisheries management could be handed over to the coastal fishers themselves or their fishing communities in the form of

* "Producer organisations" (POs - a tolerated exemption to EC principles),
* Coastal territorial "boxes" (an EC invention),
* Fjord basin "management boards" (a local demand),
* Aboriginal councils (a Sami demand), and
* Local government (a provincial demand).

What primarily carry analytical importance here are the actions of the nation states and the interest-groups connected to the various proposals and the reactions to these of the different parts of national governments and international governmental organisations, notably of the environmental sections as against the fisheries and export sections of these.

Coastal Ecosystems are the basic resource in the development of aquaculture along the northern coasts. The gill-net-"pens" that are the present basis for salmon farming, interacts directly with the flowing sea-water and the health and the rapid growth of the farmed salmon is highly dependent on a pure and healthy coastal ecosystem. This is important even at the level of the individual aqua-culturalist; the externalities (pollutants and contaminating agents) produced by one firm are not likely to affect only neighbouring aqua-culturalist, but also the firm itself when the tide turns. Thus there should be very strong incentives in aquaculture firms to either be far away from each other, or if that is not possible, to internalise all or most of the externalities, the effect of both strategies is in effect to treat the clean and healthy coastal environment as the crucial production factor that deserves some cost in order to be maintained. The psychology of selling fish also place heavy emphasis on the mental connections made by the potential customer between the quality of environment where the fish was grown and the quality of the product. These kinds of considerations should also be valid for the "new" kinds of farming the seas: sea ranching, marine transhumance and more open range systems of point feeding and fjord basin enhancements. In theory therefore, everyone in the aquaculture sector -

and in the aquaculture dependent communities - should strive as hard as they can to maintain and improve the common good that a clean and healthy coastal ecosystem represents to them.

In reality the world is different: Apart from the ecological hazards of oil drilling, leaking oil tankers and sunken nuclear submarines to the Arctic waters, the aqua-culturalists have the same tendency as other enterprises to be free riders on what they consider to be a public good, the clean and healthy coastal ecosystem. The time horizon is often short (-"this crop of salmon - while the price is good"), and the fisherman's cultural paradigm of chance luck is prevailing. Also the government licensing system with size limits for each firm gives adverse incentives to stock too much fish in a small volume, thus exceeding the environmental carrying capacity of a certain location. Quite often this means that the aqua-culturalist has to move to a more distant location or install "fans" that disperse the "externalities" to a wider area. In addition to this, the aqua.culturalists' demand for clean and healthy coastal environments and their subsequent consumption of these, has to compete with all sorts of needs and use of coastal ecosystems for sewage disposal, recreation, sport fishing, spawning areas and fry feeding areas for wild fish.

When the national government is administering the licensing system, while the local government has the responsibility for sewage and recreation, the end result has often been a "right" of the aqua-culturalists to pollute the local coastal ecosystem - by "central government authorisation". At the same time as this "right to pollute" is contrary to the objective interests of the aqua-culturalists, it also renders the central government vulnerable. As far as overproduction, black marketing and poor quality fish on the international market is a result of the government licensing system, the government is morally obliged to support the fish farmers, both with transfer payments and diplomatic muscles in the event of "trade wars". This awkward position of a central government comes as a result of political ambitions to "manage" the growth of a new trade so as to avoid "boom and bust" situations. Experience has shown that this is virtually impossible to achieve, the enterprising aqua-culturalists will always outsmart the government while the government's attempted governance will eliminate any self-discipline and self-restraint that the aqua-culturalists might have had at the outset. It therefore seems necessary to replace management of the aquaculture sector with governing of the aquaculture resource itself; the clean and healthy coastal ecosystem.

The future governing of coastal ecosystems of the North needs to take into consideration all the different uses of coastal ecosystems and to place the co-ordinating authority at a level of governance where efficient deals can be struck between competing uses. Coastal zone management by local government, with

mandatory adherence to strict environmental standards, would make the health of the coastal ecosystems the prime objective, thus benefiting the whole group of aqua-culturalists in the longer run (Sandberg 1993 b).

If decisions on this kind of multipurpose use of fragile ecosystems are taken to the local level property rights have a tendency to assume importance. Depending on the particular history of a community, a fjord or an archipelago, few or many will claim rights to islands, sounds and shores, to river mouths or to traditionally good fishing places. The whole coastal community will usually voice the right to have non-polluted sea-waters and the preservation of good spawning areas and fry feeding areas for various species of fish. The riverine and urban communities bordering on the coast will usually voice the right to fresh coastal recreational qualities and unrestricted runways for migrating wild salmon, sea trout and Arctic char. The analysis can take as a safe point of departure that this kind of property rights will be made relevant in quite a different way if the permission to farm fish and the conditions for doing so is no longer given by a distant central government office, but by the community who is going to experience the effects of this.

Wild, migrating salmon is a very special kind of resource and maybe one of the most valued resources among northerners. In a resource management context it is special because it as an anadromous fish moves between the open ocean, the coastal waters and up the numerous rivers surrounding the northern oceans. Along its route, the salmon encounters widely different property rights systems which are as difficult to traverse as the waterfalls of the most rapid rivers. On the high seas no one owns the salmon, but it roam widely and is hard to get. Downstream from these vast feeding grounds, the salmon become more concentrated as it move closer to the coast. Here coastal fishermen with traditional rights and government licences used to put up a virtual fence of drift nets across the path of the salmon. As it enters the sounds and fjords, shore owners have their traditional fixed-net-set places (*Kilnot*) - some of which date back to medieval ages. Here the sport fishers also troll for salmon or put out a single net when nobody watches. In the fjords the salmon also encounter runaway distant relatives from numerous fish farms and the smell of excrement from young salmon fry in fry farms, incidents that can upset the process of finding a genetically suitable mate and disturb the homing instinct. When the remaining salmon finally reach the river of its origin, both the shore and the river channel itself is someone’s private property, usually the property of the farmstead bordering upon the river. Fishing is here usually by rod and can only be done with a specific permission from the owner. In some rivers of the north, farmers still practice traditional salmon "harvesting" with traps or nets, in others "executive salmon fishing" have developed to cater for

English lords or American businessmen. In still other and less famous rivers, the river owners have pooled their property rights together and sell fishing permits that give access for the general public to numerous private shores at a reasonable price. With secure property rights to salmon rivers, the owners are usually eager to enhance the river environment to achieve a greater spawning success, to supplement the fish stock or to restock the rivers after attacks of the *gyrodactilus* parasite. Most of these activities are undertaken as co-operative effort between the owners, often with co-operation from the local government or from the local Sport-Fishers' Association. Apart from all the advanced sport-fishing equipment, the greatest hazard to the salmon river environment is the extensive regulation of rivers for hydropower, which disturbs the flooding season, and the construction of highways on river banks, which destroys the gravel flats used for natural spawning.

The analytically challenging aspects of wild, migrating salmon, is the relative importance the different kinds of property rights take on when something has to be done to the dwindling stocks of river salmon. At first the coastal fishers' right to fish ocean salmon with drift-nets was "suspended" following effective lobbying from river owners and environmentalists. This caused a battle over elimination of traditional coastal fishing rights that is still alive in the public realm.

A more difficult debate is a current discussion over the rights of river-owners to have "their salmon" and their rivers protected from genetic contamination of runaway farm salmon and to have the runway of their salmon - all the way from the free ocean to their private river - protected from "foreign pheromones" (the smell substance that is the basis for the homing instinct). The "protection zones" necessary to give optimal runways to all the salmon rivers of Northern Norway would render large areas out of bounds for aquaculture and significantly hamper the commercial development of new forms of farming the seas, notably sea ranching and marine transhumance (LENKA 1990). The traditional property rights of river owners to "their" genetic brand of salmon are reasonably strong when confronted with the newly acquired rights of aqua-culturalists to farm salmon in certain locations or the more diffuse rights of sports-fishers to troll in the fjords. Adding to this is the division of authority on both central government level and at the local level. A Directorate of Nature and Wildlife has become the agent of the river owners, the environmentalists and the sport-fishers, while a Directorate of Fisheries has become the agent of the aqua-culturalists and ocean fishers.

There is a number of other conflicts of rights connected to wild, migrating salmon in the framework of a resource that moves from "upstream" to "downstream", such as the century old conflict between net-site owners in the

fjords and river-owners, and between river rod fishers and fjord-trollers.
All these conflicts over property rights have a significant analytical potential in explaining what kind of social processes are set in motion when there arises a need to enhance a resource which everyone in the community values highly.

Forests, berries and pastures represent as a resource the whole of the uninhabited lands and mountains of the North. Although nobody lives in these areas that does not mean that they are not used by anyone or that they are useless. In Norwegian these areas are traditionally called "*utmark*" i.e. the outer fields, which means that they were used by the nearby farms or villages as additional fields in order to make a living in a harsh environment. Wood and timber was collected from the forests, wild berries were picked during the autumn season, cows and milk-goats were grazed in natural mountain pastures in the transhumance system and sheep and reindeer were left to roam freely in the mountains. Instead of expensive herding of these, farming communities and Sami communities have increasingly relied on predator control in what they consider "common property lands". Recently international commitments have forced the Nation State to take over most of the management of predators in order to preserve a viable national stock of wolves, bears and lynx in the North. This does, however, clash with the present processes of extensification of animal husbandry in the same areas.

In addition to these farm-related activities, hunting and fishing of fresh water fish have been a major source of food and cash. Although these areas look much like wilderness to the untrained observer, the entire uninhabited area of the north have been utilised by northerners for thousands of years. Lakes have continuously been restocked with fish by certain families, clans or villages, game has been managed in different ways in defined territories (*vall*), snares are set for grouse in mutually respected places. Thus there are bundles of more or less visible rights tied to these areas.

It is in the case of forests, berries and pastures that the role of the nation state as a holder of vital property rights in the north is most marked. The state does not merely exercise jurisdiction over this territory, for a greater part of the Northern lands, the state is *de facto* owner. Because of the special history of the north, its rich resources, its sparse and in many cases nomadic population, the nation states could in most cases colonise the north and make all uninhabited lands state property without much opposition from the indigenous population. For instance in Norway, the whole Northern part is exempted from the laws that govern the operations of commons in rural areas (*statsallmenning* and *bygdeallmenning*). In Northern Norway and Northern Sweden and to some extent also in Northern Finland, the state has been selling state owned land to induce people to move from the south to the north. The state has also guaranteed free access for all

nationals to state owned land in the north and the public good that unrestricted hiking, berry-picking, fishing and hunting (against a licence fee) in the north represents. These are considered a vital part of the welfare of the whole nation. Recently this free and indiscriminatory access to the "wilderness" has also attracted millions of tourists to the "top of Europe", thus providing a good seasonal income for northerners who have sufficient entrepreneurial initiative to make money from a public good. State corporations in the forest sector have also been made economically "independent" of the Treasury, which means they are all the more dependent on the continued property rights of the state to vast areas of forest land.

The question of whether the state also is *de jure* owner (a socially accepted owner) of these Northern lands is extremely complicated and related to basic constitutive processes in the whole society. As in most western societies, this kind of definition of socially acceptable rights goes on as a "double path" process - sometimes constitutive rules are changed by the political system, sometimes by the judiciary system, sometimes by both (Ørebech 1991). In Norway the powerful coalition of hikers, hunters and sport-fishers, the tourist-industry, the state, the state corporations and the urban and southern "public" has been challenged by land claims from the Sami, claiming aboriginal rights to land, forests, rivers and lakes in the "core area' of the Sami. A Royal Court Commission (*Samerettsutvalget*) have been reviewing these claims for the last 15 years. The state ownership has also been challenged by claims by northern farmers to have restored the old "common property rights" in the outer fields that the state has "stolen" from the local villages - in much the same way as local fishing communities are filing complaints against the state for theft of traditional fishing rights in connection with the introduction of a quota system. A Royal Court commission (*Utmarkskommisjonen*) has for the last 10 years been reviewing the rights of various northern villages to forest products, to unrestricted pasture, to commercial berries (cloudberries), to fish and to game. This commission has reached several verdicts, some of them confirmed by the Norwegian Supreme Court that legally clears the way for the politicians to introduce laws that give state lands a "commons"-status also in Northern Norway.

This also shows that the *de jure* rights of the state to "state lands" are not so fundamental that it cannot be changed by ongoing constitutive processes. The property rights questions involved in these kind of legal and political battles therefore points to their fundamental importance in analysing the role of the state in a resource endowed region.

Water Power is maybe the most important resource in explaining the transition of the European northern societies from traditional farming/herding and fishing

societies to modern industrial societies and subsequently to "welfare" societies. Access to cheap hydro-energy was a significant comparative advantage to many towns or regions in the north, whether its primary resource was fish, iron ore, timber, imported bauxite or simply the nitrogen in the air. The entire industrialisation process of the north and a number of the urban conglomerations of the north are products of proximity to abundant hydro-power resources.

The property rights of the energy in waterfalls (*fallrett*) were bought by industrialists, municipalities or the state at an early stage of hydropower development. In most cases they were bought cheaply as the farmers who owned the rivers saw no immediate value in the masses of falling water. To the traditionally inclined farmers it was the salmon that was the real value of the river and for their own mills they would rather use the smaller and more manageable streams. The development oriented farmers were easy to persuade that hydropower development would benefit the local community and to facilitate this, the property rights of the whole river had to be gathered on one hand. Thus the property right to water-power was separated from the other property rights in most communities at an early stage.

After almost 50 years of hydro-power development and production in the fragile northern environments, experience has shown that although water-energy is a renewable resource, it is not without effects on the local environment. The massive multi-year water storages tend to change the local climate, in many instances the vegetation of the area deteriorates; these are processes which again affects wildlife, game and tourism. The fisheries of regulated lakes and rivers gradually deteriorate the disappearance of the spring flushing gradually affects the ecology of the fjords and near coasts. Thus this kind of energy is not totally "clean". While the holders of northern waterfall-rights earn good incomes from their property rights, the holders of other property rights, and the local population of northern communities, experience a significant environmental deterioration, particularly in their mountain areas.

Until recently, the deal has been somewhat fair, in return for some lowering of environmental quality the northern communities have had secure jobs guaranteed by cheap and "clean" hydropower. However, with the recent liberalisation of the European energy market and new institutional arrangements that lower the transmission costs dramatically, the favoured position of northern "energy-communities" has changed. The theory prescribes that economically efficient use of this scarce and "clean" energy can only be achieved by a free flow of energy to those customers who can pay the

best price. This is also in the interest of the owner of the hydro-power plant. If outside interests, or the state, own the power plant, the proximity to the waterfall is no advantage anymore and only the disadvantageous side of the energy/environment deal is left to the local community.

With water-power, the property right aspects are particularly interesting, as they in many cases were designed to facilitate financing and construction of a particular hydropower project - often with participation of local industrial interests and local public bodies. If the local developmental and job-creating effects of a hydropower project are not achieved, local initiatives to attempt to redesign the property right arrangements - and the power arrangements - are likely to take place. Provided that political action to deliberalise the European energy market does not succeed in the short run, such local coalitions of industrialists, local authorities and holders of water rights are likely to continuously invent institutional arrangements aimed at counteracting the full effects of the market forces.

A number of hydro-power plants are in addition reaching a considerable age. This means that the fall-rights of water in the case of several private hydro-plants already have been or soon are due to be transferred back to the society (*hjemfall*), which has exclusively been interpreted to be "the state". Old power plants also have a need for new investments in order to keep going and possibly to become more energy-efficient. In principle the state can enter whatever institutional arrangement it wants to regarding these old power plants, although in the past these have often been handed back to their previous owners without much public debate. (St.meld. nr.33 1986-87). However, in a future where the ownership of waterfalls is becoming more significant, this means that there continuously are opportunities for renegotiations of the property rights for water power, with a scope for local government, local industry, multinational industry or the state to change the constitutive rules regarding water power.

DEVELOPMENTAL STRATEGIES.

Our societies are not governed merely by tangible resources, harvest technologies and the more or less appropriate institutions we design to organise the social and economic life in a resource based region. They are also governed by the ideas we nourish about the correct and incorrect path towards a future which in modern age has come to be viewed as an "open future". It is therefore customary that the debates and the formation of "schools" relating to development strategies occur in legislatures, in administrations and in institutions of higher learning and research.

In the brief history of North-Norwegian academic institutions, dating back to the 1960s, there have been numerous schools of thought relating to development

strategies. Especially in relation to rights to natural resources and in relation to ways of organising resource users, these have differed substantially over a short period of time:

The idea was that traditional northern societies contained special qualities of peasant economy and regional self-reliance that made them robust in relation to fluctuating resource basis and to changing markets. The flexibility of northern households with regard to means of livelihood and sources of income was the backbone of this "robustness". These qualities were being eroded by the attempts by the national government to "modernise" the north after World War II (Brox 1966).

The idea was that local resource dependencies to a large extent were overcome by "regional integration". This meant that improved communications, commuting, enlarged labour markets, growth in public sector investments and employment together with improved education to a large extent had modernised the north (Brox 1984). Increased mobility and increased public investments had to some extent facilitated a kind of development that maintained some of the inherent "robustness". The real challenge to this was the internal processes of specialisation and increasing rigidity within the fisheries sector and within the agricultural sector.

The idea that Northern Norway has lost control over its own resources and that the correct development path lies in regaining control over resources and the generation of knowledge. Therefore it is necessary to initiate a total reconstruction of the north, where local solutions to resource control and development strategies are emphasised. A grand scientific programme, "The Project New Northern Norway" (PRONOR) was considered essential to provide Northern Norway with the scientific base for this reconstruction (NAVF 1990).

The idea that the "tragedy of the commons" was the main obstacle to development in the resource-based north and that privatisation was the only way to achieve accelerated economic development and responsible resource maintenance. In fisheries this meant that transferable quotas should be introduced in order to create a favourable "incentive structure" (Hannesson 1990). In reindeer herding areas, fencing and privatising range management techniques were also introduced.

The idea that resources held as "common property" were not doomed to tragedies, but were both traditionally and in the future the most efficient, just and legitimate way to govern resources. The theories of co-management

advocated a reduced role in resource management for the nation state and an increased role for local communities (Jentoft 1991).

The idea was that in the new European post-industrial era there will be industrial regions with a potential for "flexible specialisation" and flexible adaption of households that will do well. This means that the resource endowed North with its traditional cultures of flexible resource users will have a competitive advantage. This would call for a halt to the customary government attempts to modernise the North and destruction of the inherent robustness (Nilsen 1992). It would also need a smallholder greening instead of the gradual withering away of smallholder culture (Netting 1993)

The idea was that greater regions with similarities in resource base and strategic market position can benefit from concerted action in research, production and marketing. Recent European experience has shown that "the industrial regions" of Toscana, Rhone-Alps and Westfalen have achieved a high degree of competitiveness based on certain structural and cultural characteristics of those regions together with active networking among small and mid-sized enterprises. In the north, the creation of a "Barents region" including areas of Norway, Sweden, Finland and Russia, should be seen more as an attempt to create - by political action - such a successful industrial region rather than an attempt to create a "shared resource region".

Neither of these ideas or strategies were "right" or "wrong", but some worked better and some worked more poorly in the discourse of the time when they were formulated. This means that to some extent these various ideas have influenced the course of developments in the north - some to a great extent - some to a lesser extent. Some of the ideas has contributed to an opening of the "public realm" - some have contributed to a narrowing down of the relevant "models of a future society". By discussing development strategies in the universities and administrations of a particular region - and by teaching them to students, this also means that the conceptual heritages are present among those who remember - and can be mobilised for or against any solution at any point, which is amply shown by the debate in the north on whether Norway, Sweden and Finland should join the European Community, or remain outside it.

Downstream from the generation of development ideas lies the professional management of northern societies and the teaching and training of new professionals in universities and colleges. The problem with young academic institutions is that one set of theories has a tendency to take precedence over all others in a certain period. The narrow academic communities do not contain sufficient critical potential to counter and sharpen the analysis. While in fashion,

such theories therefore tend to suppress other theories and offer themselves as the ultimate solution to all development problems. This is also the case when academic communities are more occupied with construction and advocacy rather than analysis. It further adds to the temptation that the role of the scientific architect is more exciting and rewarding than the role of the scientific analyst-critic.

However, when such "final solutions" fail, their connected theories not only fall, they are crushed and removed from curricula and professional training programmes. Even the useful elements of such theories are lost to the grindstones of academic history, while they have a tendency to stick to the minds of ordinary members of the society. From this popular base they often raise their head and surprise the well trained, but ignorant young professional. But one thing that all "dead" northern theories of development have in common is the relationship between the northerner and the natural resources of the north as the focal point. Even for resources with very small economic significance, like cloud-berries and birds' eggs, their value as a symbol of a particular northern culture tend to increase in times of insecurity about the exact role of the nation state.

In order to analyse a possible new role for the state and the prospects for private enterprises and collective action in the resource-favoured north, it is therefore necessary to sort out the fundamentals of resource relationships. What are we talking about when we argue for a need to manage or to govern a resource, be it whales or cloudberries, herring or mountain pastures for reindeer?

PROPERTY RIGHTS AND OTHER RIGHTS

Through all times human kind has been plagued with the problems of how to arrange ourselves in relation to natural resources, among these the biologically renewable ones. Adding to these problems have been numerous misconceptions among scholars as to the nature of the relationship between the physical properties of a resource and the way it is governed. The position taken here is that there is no such relationship. It is e.g. impossible to find a common property resource, i.e. a particular resource that is always and typically governed as common property. In the real world we only find resources - and they can be managed or governed in a multitude of ways: as private property, as common property, as state property or as no-ones property (Bromley 1992). The main question is not one person's relation to the physical fish or pasture, but one person's relationship to another person's relation to the resource and the other person's relationship to the first person's relation to the resource. Such relations are the real content of property - a claim to a future stream of benefits. This kind of property relations can be direct and personal as in a face to face encounter.

They can also be indirect and personal as in local resource governing collectives. Finally they can be indirect and impersonal as in the case of an intervening state. The governing of resources is therefore mainly about relations between humans and between humans and collective institutions shaped by humans (Bromley 1991)

Many forms of governing human societies have been tried, with varying success in relation to sustainable resource management:

The *feudal* period was lacking in individual freedom, but had advantages in relation to the governing of natural resources. There were many owners in relatively small populations and a number of redistributive mechanisms. Some authors claim that such factors can explain why rapid accumulation of wealth was not easy and resource depletion was rare (Daly & Cobb 1989). The feudal privileges contained not only property rights, but also duties and obligations towards investment and maintenance of the resource - *noblesse obligé*. A number of "green economists" have argued that these feudal institutions produced more sustainable resource management than the more modern institutions of the 19th and 20th century - that they worked better "for the common good". Some analysts claim that there is at present a "refeudalisation" in the north, with the emergence of a separate class of licence- and quota-holders in fishing and of reindeer-barons among the Sami (Eriksen 1993). These do not, however, have any duties towards the resource and should more correctly be seen as cartellists within a capitalist system.

The *mercantilist* period (around 1550 to 1790) was the important formative period for the north, when a number of the present structural traits were created and became entrenched. Through ownership of the natural resources in the "Northern Colonies", the state aimed at extracting low-priced raw-materials and food that could be transformed into surplus exports and a favourable balance of trade that gave the state a surplus of gold and silver. The usurpation of the Commons as the "King's Commons", the timber privileges, the trade and export privileges in the north and the mining privileges were results of a successful implementation of this doctrine (Sandvik 1993). Many of the fundamental structures of the "state-economy of the Supreme Rule" survived a brief liberalist period and accompanied the northerners into the "Mixed economy of the Social-democratic State."

The *socialist* period was in most former, "pure" socialist countries characterised by property rights vested in the state. Having full control of all natural resources, the state was assumed to implement the collective democratic preferences and apply the ultimate hierarchical rationality with particular concern for the generations to follow. The results, as we know them, were contrafinal to the

stated objectives -with resource depletion, over-industrialisation, pollution and inefficiency in resource use.

The liberal *capitalist* period is still in most countries characterised by the individual freedoms from the French revolution, among these the freedom to own and accumulate wealth irrespective of breed or rank. Introduction of second and third generation human rights have modified the individual freedoms of the capitalist system somewhat, but individual property rights are still one of the foundations. Although this system has shown a high degree of adaptability to environmental challenges, it also has signs of contrafinal consequences such as individual freedoms which in a short time accumulate to become collective straightjackets. Without counteractive measures by collectives, the results of most capitalist systems are over-industrialisation, pollution, resource depletion and unemployment.

To the planner - and to the politician - it is depressing to find that there is no ultimate solution, that all human actions and designs have unintended and unwanted consequences (Weber 1968). The conventional governmental promise "that all will be well once we get this new reform implemented" is therefore basically false and the scientist's task is to voice critics of all "final solutions" and to look for ill effects of all implemented reforms.

In relation to the opening question on the preconditions for the welfare of northerners, suffice here to state that there are elements in all major systems of governing resources that under certain conditions can work towards some stated goals. The real problem is often to agree on such goals. The task of the scientist is to hunt for governing principles that works assemble them and show their preconditions and limitations, and to compute their political and social cost in terms of inequality, misery and loss of individual freedom. Then it is the task of elected politicians to construct the systems of government - to be the architects and the advocates of certain solutions.

In this perspective this article argues that the concepts - and instruments - of property rights can serve as useful analytical tools in trying to understand why certain institutional arrangements work while others fail. But in such analysis, the inherited legal categories from Roman Law and Natural Law, the *dominium*, *possessions,* and *usum fructum* are unsatisfactory tools. It is necessary to arrive at concepts that allows us to vary the form and degree of control, the degree of exclusion, the distribution of benefit-rights and maintenance-duties connected to a resource. Such a notion of property rights as "design principles" could also make it possible to design incentive structures that with some degree of probability can work towards specific goals. Other "human rights", like the right to food, shelter, education and cultural identity, can also be used to design

incentive structures, but these are still difficult to identify and to analyse at the individual level. Such concepts of property rights would also have the advantage that they can connect the right to a benefit stream from a resource to some specific duty towards that resource. This should work for both individual property rights, corporate property rights and the property rights of collectives. Social, economic and cultural rights have less specific ties between the rights of individuals as members and their duties towards some collective entity like the balance of the state budget or the maintenance of a minority culture.

There is thus nothing "ideologically" suspect tied to property rights, in one form or another you will find them as basic elements in any social and economic system (Weber 1968). Always present in most societies, their importance tend to increase when state control becomes too costly or is relaxed for other reasons, or when markets are deregulated.

When dealing with analysis or design of systems of governing natural resources, one can reasonably put forward the following five modest demands that must be met:

1. Secure the maintenance or ecologically sustainable use of the resource,
2. Avoid social misery among a resource dependent population,
3. Accepted as just in the society at large, also by those excluded from the resource,
4. Have a high legitimacy among resource users themselves, and
5. Have reasonable public costs with relation to monitoring and policing.

The ability to agree on these demands and to meet them in practice is in most cases a hard test on the robustness of the "civil culture" and the "civil society", and in many cases do "civil societies fail the test. If there really was agreement that all of these demands are equally necessary and that they, taken together, are sufficient to guarantee the ecologically sustainable use of a resource, it is possible to proceed with the analysis. If there is disagreement on which demands are most important to pose to a resource governing system, one has to use the political process as far as possible to give relative weights to the demands or to rank them according to importance. For instance will some claim that avoidance of all inequality among resource users is the most important demand, others will claim that economic efficiency (fashionably termed "economic sustainability") must be given priority. In the present framework equality among resource users is not an important criteria as long as social misery is avoided. The costs of monitoring and policing - the transaction costs - are seen as closely connected to the degree of legitimacy, while short term economic efficiency always must be subordinate to the longer term ecological sustainability. The crucial importance of the relative weight of the various

demands on a resource governing system is shown by the current debate on the shortcomings of a multispecies fisheries management regime for the North-Atlantic. This is as much a debate on the missing objectives of the proposed regime as a debate on the shortcomings of the biological modelling (Eikeland 1993/ Multispec-1993).

There are numerous examples indicating that the greatest limitations to workable systems of governing resources lie within the academic communities and in government departments. Imprecise and blunt concepts and frequent abuse of these by fashionable academics and "experts", seriously limit the effects of resource governing systems, constrain the modification of existing systems and precludes the design of new and more workable systems. Some examples will make this clear:

The Brundtland Commission makes a cardinal point of the need to govern "our common resources" - even "our common future" - without specifying to who these are common and who has rights and duties in relation to them. Thus - as was amply demonstrated during the UNCED conference (Rio) - the recommendations of the commission are extremely difficult to implement. Only the uninhabitable Antarctica is managed as a "global commons", and only for the limited period of 50 years "postponement" of the land claims of the sovereign nation states.

Another example is the confusion in the Norwegian resource management debate on the issue of "common resources". The term common has here been used to define fundamentally different kinds of property relations:

Resources owned by no one (*res nullius*) which has completely open access , have often been termed common resources in the public debate (*tjod*/*allemannsrett*).

Resources owned by the state (*res publica*) in Northern Norway, where the state alone has all rights connected with ownership have been termed common resources (*statsgrunn*).

Resources owned by the King (state) and the local community together, but where the members of the local community had clearly defined commons rights - user rights and governance rights at the exclusion of others - have been termed common resources (*statsallmenning*).

Resources owned in common by a local community - a true commons (*res communes*) where all members of the community originally had commons rights - have also been termed common resources (*bygdeallmenning*).

Resources owned in common by owners of private portions of a resource pooling these together in a common pool for operational convenience - have been termed common resources (*realsameige*) (Stortinget 1992)

When the concepts used in science and in public debate become so blunt as these misconceptions indicate, the analysis based on these concepts and the related sciences and political discourse loose its ability to be analytically precise and to work out suitable institutions for specified tasks. Norwegian academics and government economists have thus uncritically imported the term "the tragedy of the commons" and used it indiscriminately on all these different Norwegian forms of property rights systems.

When the logic of the tragedy of open access is sloppy (Brox 1989), it gives the economist the best possible argument against *all forms* of common ownership; and privatisation becomes the only salvation from the "tragedy of the commons". Quotas in fisheries (semi-transferable) were introduced specifically to avoid further tragedy in the "common fish resource". For many coastal communities it is now the introduction of quotas and the "enclosure" of the fishing grounds to young entrants without private property rights that is the real tragedy of the coast. The same kind of "enclosure-thinking" has also led to unnecessary fencing and extensification of resource use in the reindeer grazing areas.

Around the world there are abundant examples of such self-fulfilling tragedies resulting partly from sloppy analysis, partly from abuse by power holders of blunt academic concepts paraphrased as slogans. Both predatory and benevolent states tend to take over the responsibility from complex, , but transparent and well-functioning local common property governing systems (grazing systems, local fishing systems, forests or irrigation schemes), because they foresee a "tragedy" dynamics. In most cases some mixture of private ownership and a protection of collective rights is the natural response to the challenges posed by modern technology, improved communications, unemployment and exposure to the world markets. But what often happens is that the state - and its advisers - has limited capacity to think of all the necessary institutional arrangements for governing a resource properly. If these are not in place in time, the resource degenerates into an "open access" resource and the tragedy becomes a reality. The state's desire to govern is usually far greater than its ability. In panic the benevolent state then privatises the resource to get rid of the problem, in many cases enclosure and privatisation are offered as solutions to problems that do not even exist. More often than not, this leads only to even larger problems of landlessness, unemployment, social misery and political unrest.

In order to avoid further tragedies like these, it is necessary to develop more precise concepts regarding different kinds of property rights, especially concepts that can better distinguish between what is private or corporate, what is common to a more or less defined group and what is public, state or global. This is because the concepts of property rights seems to be fundamental in any system of governing resources and their design thus decisive for the level and distribution of welfare of large groups in resource-dependent or resource-endowed regions. With lesser state intervention and continued deregulation of markets, also for fish and agricultural products, the property rights will assume new importance. The remaining potential for nation-states or international government organisations (IGOs) to govern the welfare of people in resource dependent regions will then most probably rest in the design of property rights and cultural or legal rights-based structures.

In spite of the initial usage of the concept in this article, property rights are not clear-cut measures of relationships; various schools of thoughts have through centuries loaded such rights with highly different conceptual contents. To simplify matters, let us limit the discussion here to the two major antagonists: John Locke and Immanuel Kant.

John Locke argued that possession and ownership comes first, with man's entry into virgin land, and that such ownership is both a necessary and a sufficient condition for a market to function. The philosophical basis for this is derived from the theories of natural rights; every human has a need to secure his or her basis of existence and a God-given right to enjoy the fruits of his or her own labour. We do find traces of such thinking in some of the attitudes of Norwegian traditional landlords.

Immanuel Kant on the other hand, argued that *de facto* possession of a resource is not sufficient for it to become a *de jure* property right; in addition it must in some way or another become a socially accepted property right. Only socially acceptable property rights are real, i.e. they contain a bundle of rights and correlated duties: For me to enjoy the benefit stream from the resource, for you to respect my property and stay away (Bromley 1991). Even the traditional landlord did at some time have to register his title deed in order to secure its social recognition. In the old Norse society this was even done in public at the regional assemblies (*tinglyst*), and was not real property before its entry into the register of deeds was sanctioned by those present.

According to Kant, man has never lived in "natural conditions" as Hobbes could be believed to take as his point of departure. There has always been some sort of social contract which comes before real property rights. If we follow Kant's

definition of property rights, it therefore follows that all property rights are derived from collectives which again are based on shared communities of understanding and common knowledge associated with the use of language. Even if property rights are often communicated to succeeding generations as cultural heritage, all property rights are basically instrumental variables that are designed or organically evolved to suit particular needs of the collective. They are means to reach certain ends and can be changed if this is considered to be desirable for the collective or those with influence within the collective. Expropriation, nationalisation and privatisation are examples of a collective changing basic property rights in order to reach specific goals. Such changes usually take place at a constitutive level of the society and usually after some crises or as part of a lengthy political or legal process. However, the notion of a collective must be seen independent of the existence of a State.

In this report we have followed a Kantian interpretation of property rights. In pursuance of this, a number of new avenues open up:

Variations in forms of property rights can be analysed comparatively as solutions to different kinds of resource management challenges posed to societies, communities or collectives.

Property rights can be consciously designed in order to achieve specific objectives, i.e. crafted to make up appropriate institutions with built-in incentive systems that will work in more or less predictable ways in deregulated markets. In this respect property rights are useful concepts for various schools of "new institutionalists".

One example to this effect is the original, and now almost forgotten rationale behind the proposal of introducing transferable quotas in fishing: The temporary privatisation combined with the annual auction of the quota should utilise the incentive of self-interest to maintain the resource in the most efficient way (Gordon 1954).

A POSSIBLE FRAMEWORK FOR ANALYSIS

In analysing property rights, or bundles of rights and duties connected to various systems of governing resources in the north, it is not sufficient to distinguish between owners and non-owners. The right/duty correlates must be broken down to units that can be analysed in relation to empirical, real life situations. One way to do this is to define bundles of property rights cumulatively so that only a full set of rights qualify as owner. This analytical framework has been developed by Edella Schlager and Elinor Ostrom, but has only been tested out for analytical power in the Maine lobster fishery (Schlager & Ostrom 1992).

In such a framework it is useful to distinguish between property rights on an *operational level* - where things happen, and property rights on a *collective level* - where things are decided. A deeper *constitutive level*, where designs of property rights are laid down - and intermittently contested, is also a necessary part of the analytical framework, but is not included in Fig.1 or Fig.2.

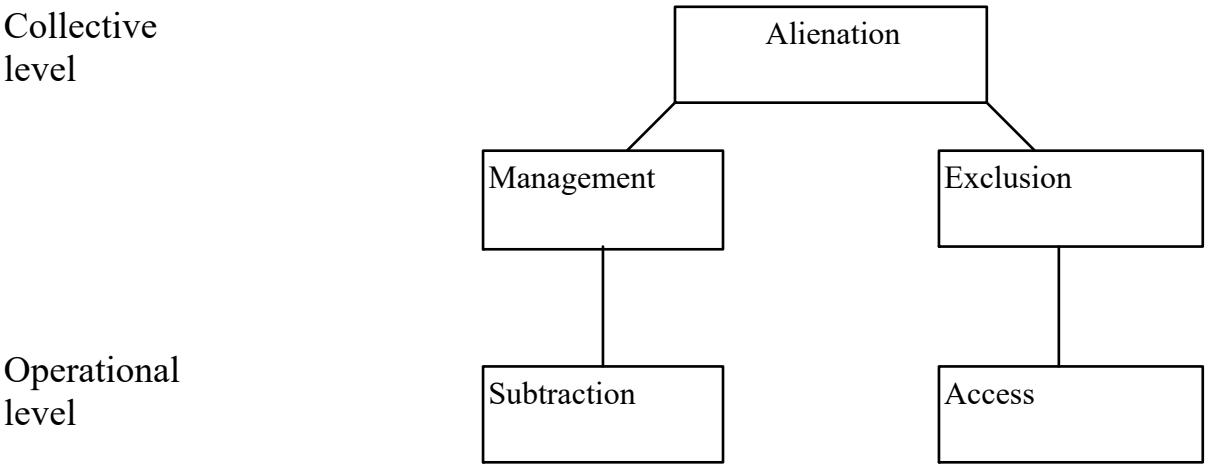
On the operational level we can distinguish between the *right of access*, to enter a defined, physical area, and the *right to subtract,* to take away or harvest the products of a particular resource.

Between these kinds of operational property rights, which for instance Norwegian fishers exercise in the waters of the Norwegian state, and the rights on the higher level, there is a fundamental difference. It is this power to participate in the shaping of future possibilities, to craft future property rights on the operational level that makes property rights on the collective level so strong.

On the collective level we can distinguish between the *right to manage,* to regulate internal patterns of use and to transform the resource through improvements or negligence; the *right to exclude*, to decide who shall have rights of access and how these rights can be obtained, lost or transferred; and the *right to alienate*, to decide to sell or hire out one or both of the other property rights on the collective level.

These five property rights then make up a hierarchy of rights so that some rights are of a higher order and some rights are derived from these. As the termination of all relations to the resource is the most dramatic, the right to alienate is placed at the top of the hierarchy. Fig.1 gives a brief sketch of how these different property rights are connected:

Figure 1 Hierarchy of rights



Source: Schlager & Ostrom 1992

From this can easily be seen that the user's right to harvest on the operational level is derived from the owner's right to manage the resource on the collective level. Similarly is the right to access derived from the exclusion rights at the collective level.

These five different property rights also make up various bundles of rights that make it possible to distinguish analytically between different ownership positions. A full owner has all 5 rights, a mere user has only access and subtraction rights. In between these positions we can find all the known forms of property relations to resources. Compared to the analytical framework suggested by Schlager and Ostrom (Schlager and Ostrom 1992), this has here been expanded with one position, the unauthorised user with only a right of access, because this is a category that is analytically useful in northern areas:

Fig.2 Bundles of rights associated with ownership positions.

	Owner	Propriet	Claimant	Authorised user	Unauthorised user
Access	X	X	X	X	X
Subtraction	X	X	X	X	
Managemen	X	X	X		
Exclusion	X	X			
Alienation	X				

Source: Schlager & Ostrom 1992

This kind of subdivision of property rights has great analytical advantages. At the same time as it keeps the concepts of various property relations away from being muddled up, it also enables the classification of specific resource management systems according to the empirical distribution of these 5 different kinds of property rights.

Also in real life these five different categories of ownership positions can easily be recognised in relation to northern resources:

The **unauthorised user** is in Northern Norway and Northern Sweden given access to most wilderness resources under the legal categories of "everyone's rights" ("*allemannsretten*"), which has a correlated set of duties concerning proper conduct in protected nature or in landowners' forests or mountain areas (Ørebech 1991). Especially for the northern part of these countries, where the state is the main landowner, the freedom of access for all nationals is deep-rooted. This kind of right of access gives the public a general protection from charges of trespassing, although for the protection of nesting birds and breeding animals, temporary limitations to the right of access can be introduced. If an unauthorised user starts to harvest from the resource other products than those granted in the "tourist laws" (mainly non-commercial species of wild berries), he or she is a thief. There are, however, numerous border cases, like cloudberries, where there is legal confusion (Nesheim & Rystad 1990). The implicit "harvest" contained in this kind of modest property right is the recreational values, the improved health and the mental balance of the public resulting from experiencing untouched nature. So far this has been viewed as a genuine public good where one person's "harvest" does not represent a real subtraction from the resource.

The **authorised user** has both right of access to the resource and is granted the right to subtract from the resource - a right given by the owner or by the holder of management rights over the resource. For instance have North-Norwegian coastal fishers no more than this kind of user rights to the state's fishing grounds, the state's position on this is recently confirmed in the political track, although not in the legal track of the ongoing constitutive process. This fundamental character of the property rights of North-Norwegian fishers explains to a large extent the amount of energy spent on obtaining - and keeping for themselves - the state authorisation as bona fide fishers.

The **claimant** does in addition to rights at the operational level also have rights in relation to management of the resource. These kind of rights at the collective level enables the claimant real participation in the formulation of rules for harvesting or subtracting from the resource, but not in exclusion decisions.

Norwegian fishers have for a long time wanted to have such rights, and are given imitated management rights through participation in the Fisheries Regulatory Council. This does, however, not make the final decisions on management questions. The best Norwegian example of genuine claimant management rights for fishers is the old Lofoten management system (Jentoft & Kristoffersen 1989).

Proprietors have *de facto* property rights and participate fully in management and exclusion decisions. Most members of genuine "Common Property Regimes" should be classified as Proprietors as they cannot sell out the resource, neither individually nor collectively. Analytically they have all the property rights except the right to alienate the resource. This means that they in most cases are protected against themselves through legal binding as in the case of the Laws for the traditional South-Norwegian commons (*bygdeallmenning*) (cf. Innst. O. nr. 67). It is in many empirical cases an open question whether these rights are *de jure* rights as well, whether the surrounding society accepts the four proprietor rights of the members of the common property regime. In the case of aboriginal rights, for instance fishing rights for coastal Sami in some of the fjords of Finnmark, it is not feasible to expect the nation state to give the Sami the full set of rights, including the right to alienate - to sell out - the aboriginal rights. In this framework aboriginal rights are therefore an equal legal category as a "Common Property Regime". The right to exclude others give the commoners the necessary tools to avoid "the tragedy of the commons" and usually the proprietors property rights are socially accepted as long as the resource is managed in an ecologically sustainable way.

A full **owner** has a full set of all five property rights and is *de jure* owner - usually justified by a title-deed. He or she is the only one who can alienate the resource and the only one who can become landless. For instance "The State Office for Selling State Ground in Finnmark" thus becomes more landless for every piece of land it sells to individual landowners. But in the final analysis also the five owner's rights are socially derived rights, granted by and sanctioned by the collective and they can thus be nullified if the resource is severely mismanaged or neglected. In principle this should also apply when the state is the holder of a full set of property rights. Interesting forms of ownership are created when owners pool their portions together and agree to submit to binding rules for operation and maintenance (*sameige*). However, as such portions in principle can be alienated, although in most cases (the exception is waterfalls !) only together with the private farmstead, the holders of pooled portions are owners in this framework. In Roman terms: "No one can be held in co-proprietorship against his will". (Grossi 1981)

Equipped with this kind of analytical framework, it would now be possible to look more closely at some of the crucial resources in the North in a way that connects the questions raised above. The central question here is what new insights analysis of these kinds of varying composition of property rights to resources give in relation to self-governing capacities, to the role of the state and to the level of welfare among northerners. Important resources in this respect are the above mentioned resources: birds' eggs, wild sea-fish, wild salmon, forests and grazing land, water-power and coastal marine environments for aquaculture, protection and recreation. As the state is such an important agent in most northern areas, both as a welfare guarantor and as resource owner/coloniser, such an analysis will necessarily also have to occupy itself with the changing role of the modern state in the Northern areas. Through this kind of analysis it should therefore also be possible to come somewhat closer to an answer to some of the fundamental questions of the long debate on development strategies for the North.

An analysis of six different resource types, using five different kinds of property rights relations that can produce five different ownership positions, is a major research undertaking which is not the scope of this report. To demonstrate the analytical importance of these kinds of bundles of rights, we shall, however, give some examples of how these categories can be applied in analysis of resource governing institutions that occupies a central place in the public debate among northerners.

PROPERTY RIGHTS OF EGGS, FISH, FORESTS AND COASTAL WATERS

The egg-collecting institutions of Northern Norway present a multitude of institutional variety, in most cases tailored to the local ecology and the demographic processes of the birds, but in some cases also tailored to the demographic processes of the households involved. In most cases the nesting islands or rocks *(eggvaer or dunvaer*) are owned by two or more of the households that make up a fishing hamlet. But they own these only as residents or household members or heirs related to community members - they are proprietor rights. Usually the egg collecting rights are constructed in such a way that they belong to the plot in the hamlet and cannot be sold out or separated from this. The right to graze sheep on the islands and around the homestead is sometimes the link between property rights in the fishing community and the egg-collecting rights. Still, the limitations on alienation of these kind of rights do not make them "common property rights" to the whole hamlet, on a certain island they are usually only to two or three or more specific families of co-owners. But with a multitude of islands around a hamlet, most households used to have egg-collecting rights in several of these islands, thereby increasing the chances of some eggs in a poor year.

The egg-collecting institutions are very different from one community to another - as there has been no government effort to standardise them. By comparing different institutional designs in different ecological settings and different social dynamics, it is possible to reach some conclusions regarding the tendency for self-evolved governing systems to combine the different kinds of property rights in particular ways. This involves the practicalities of taking turns in collecting eggs, the techniques for fencing off neighbours and distant relatives by generous distribution of egg-gifts, the generation of tacit agreements on quantity restrictions and the monitoring of environmental changes that invoke a need for change in management decisions. All these rules for exercising egg-rights do together make up an array of different egg-collecting institutions in Northern Norway. The analytical importance lies in the way the different property rights combine to make up different institutions. The practical importance of this is that these institutions taken together make up a "palette" of institutional solutions to general resource governing problems. Thus studies of seemingly insignificant birds'-eggs can be very valuable in the future crafting of governing regimes for economically significant resources like wild sea fish or water power.

The property rights of wild sea fish are almost opposite to those of birds' eggs. The real owner of wild ocean fish in Norway, has since year 872 A.D. been the king. As part of the formation of the first Norwegian kingdom, king Harald ("the Hairy-fairy") took as his property "all lands, all seas and all lakes". This "theft" is still reflected in the laws and 1100 years of contestation, colonisation, uprisings, wars etc. has not changed this basic property right of the "king's estate" - in this way state property rights have a tendency to be very "sticky". Still only the state can alienate wild fish in the sea, as it does in negotiations with other states. The state also take all vital management decisions relating to wild fish and decides who shall have access to the fishing grounds. This sovereign ownership position of the state has been constantly contested by fishers and by coastal communities, claiming "ancient commons rights" to their nearby fishing grounds - dating back to the era before the formation of the kingdom. Apart from a few Supreme Court decisions granting aboriginal common property rights to Sami fjord-fishers, the state has been successful in maintaining its ownership rights (Salten herredsrett 1994). However, it would be erroneous to consider the state as a purposive actor making only rational choices to maximise its assets. More often the state is an arena where competing groups of powerful actors bargain over the future direction of public policy (Young 1982). This implies that powerful groups of ocean fishers and fish exporters have a strong interest in the continuation of the state ownership position, provided that private ownership of the fish (individual transferable quotas) are politically impossible to achieve. Recently marine biologists have shown that

coastal cods in the fjords of Northern Norway are separate stocks of cods - and not part of the shared resource of Norwegian/Russian (Arctic) cod. This kind of finding results in new discussions over management and exclusion rights to these "local" cod stocks. Fjord fishers and coastal fishers have already claimed local management rights to these stocks, ocean fishers and mobile off-shore fishers will argue strongly for a continuation of state managed quotas for coastal cod.

The amount of self-government on the part of the collective of fishers and fishing communities has actually decreased in later years, as the management decisions of the state with regard to quotas, fishing periods, gear use etc. have become increasingly specified and as formal control efforts are stepped up. This weakening of traditional claimants' management rights has resulted in the gradual breakdown of informal control mechanisms among fishers with regard to overfishing, high-grading, false reporting and black market sales. Local actions to gain more control by having certain fjord basins closed for scrimp-trawlers or for herring purse-seiners have often been overruled by an insensitive state.

The coastal fisher has now only the right to access and the right to subtract a specified amount of fish, he or she is during the later years moved from a position of a "claimant" to a position of a mere "authorised user". Fishers must therefore spend considerable effort towards the state in order to maintain their authorisation, but is simultaneously tempted to spend as much time and energy on cheating the owner and the owner's increased formal control efforts. In addition there is no excitement in fishing anymore, you can no longer strike luck with a big catch; you are merely a "contract harvester for the state sea-lord". In this respect, the increasing control problems in Norwegian fisheries can be explained by recent changes in property rights and subsequent changes in incentive structures.

Property rights in coastal ecosystems have had little attention during the 25 years of aquaculture development in Northern Norway. The development of legal and practical property rights categories are therefore lagging behind the rapid developments in aquaculture and related sea-cultivating activities. Private shore- owners had traditionally management rights only as far as the maximum extent of the tidal zone - outside there it is "the King's sea". Although most fishing communities can point to certain fishing grounds or certain sounds as "traditionally theirs", the state ownership has implied that the fishing hamlet, the larger coastal community or even the local government (municipality) have no legal management rights in these "public waters". Legally the coastal population is merely "authorised users" of the state coast. But everyone can "subtract" from the healthy coastal ecosystem without any duties towards it.

Several local governments have felt the need to manage fjord basins, archipelagos and sounds, and have tried "Coastal Zone planning" in order to bring together all the different right-holders, user groups and interest groups in a coastal area. These have on the whole failed because certain groups - notably mobile fishers - have central government authorisation and the legal right in the "Salt Water Fishing Act" to move freely and thus disregard local attempts to regulate the use of the coastal zone (Nilsen & Emmelin 1992).

A legal commission is presently analysing the existing rights structures on the coast in preparation for commercial sea-ranching (Fiskeridept 1992). For this to be viable it is not sufficient to have a satisfactory natural homing rate , it is also necessary to establish property rights to the ranched salmon that distinguish these from wild salmon or runaway farmed salmon and thus protect them from unauthorised human predators. Whatever solution is found here, it will have a deep impact on the development of management rights and exclusion rights within coastal communities. The prospects for coastal communities to farm larger areas of the coast and to enhance environments for wild sea-fish will also have influence on the development of property rights within traditional sea fisheries. It is thus not surprising that the prospects of sea ranching are strongly contested, e.g. by the Directorate of Fisheries. What all this boils down to is that there is a deep reconstitutive process going on regarding property rights in coastal environments and that the outcome of this might well be that the state will be forced to give up its management rights and its right to make decisions about access and exclusion - and hand these over to local government.

The property rights connected to wild, migrating salmon also offer numerous interesting avenues for analysis. The river owners usually hold proprietor rights to the salmon on their stretch of the river. This means that this kind of rights are tied to the farmstead and cannot be alienated from this - although long-term - and very lucrative leases - are quite common. Because the salmon move along the entire river, river owners usually pool their management and exclusion rights into an "Association of river owners" that agree on licence policies and enhancement efforts. These associations cooperate with government natural resource managers through "Freshwater Fish Management Boards" - which are one of few examples of "co-management" in Norway.

However, when salmon migrate to the fjords and to the ocean - and then returns along the same runway, they are outside "the management room" of the river owners and the Freshwater Management Boards. As activities here over the years increasingly have affected the migration of the salmon, the owners feel a

desperate need - in order to save the remaining salmon stocks, to extend the management type property rights beyond the rivers and into the coastal zone. Contrary to most other interests in the coastal environments, the salmon river owners have had some success in this - a ban on coastal fishers' drift-nets was accomplished mainly through lobbying. And in the ongoing constitutive battle of property rights in coastal areas, the river owners are clearly "contracting for property rights" of the management type to fjords and streams - at the expense of the aqua-culturalists.

The development of property rights to forests, berries and pastures also offer interesting insights into the ways in which composition of property rights determine the governing of a resource. Parallel to a number of fishing communities in Northern Norway, the Sami and the farming communities in Northern Norway want to have property rights also on the collective level in relation to the forests and mountain areas they have been using for hundreds of years. This question is made even more acute by the questions raised in the negotiations over entry to the European Community and the practical arrangements necessary to accommodate the freedom of movement and freedom of enterprise without disrupting the fragile northern environments.

At one level of analysis this can be seen as part of the circumpolar process of "devolution" or decolonisation of the north (Young 1992). As such it is of basically the same character as the granting of "home rule" to Greenland and resource governing rights to Nunavut in Northern Canada. In Scandinavia this kind of deep process involves both very complicated and long standing legal questions and very sensitive political questions. It therefore moves on rather slowly. But for the trained policy analyst, the positions taken by the various organisations and political parties, the timing, the argumentation and use of symbols, the coalition-building and legal initiatives; all these slow actions offer a rich ground for studies of a very deep constitutive process that eventually will affect the property rights on the collective level (e.g. management and exclusion rights) in a fundamental way.

But part of this process is also the feasibility of crafting workable resource governing institutions based on such "decentralised ownership" of northern resources. If the sustainability of alternative resource management systems is not convincingly argued, this is most likely to slow down the devolution process, maybe even reverse it, thus strengthening the role of the nation states or the European Union in the governing of northern resources. Therefore the nesting of institutions works both ways, the available options at the collective and operational levels influence the deeper processes at the constitutive level.

In claiming reindeer-pasture management rights for the Sami Parliament, the actual management institutions were not worked out in great detail. They could be thought of as the traditional familial/territorial unit of the *siida* type or they could be other types of institutions that provide the incentives necessary to remedy the immediate overgrazing of the Finnmark Mountain Plateau. The national parliament did not want to give the Sami Parliament such resource governing powers and the claim was thus temporarily shelved by the state - awaiting "legal clarification of the Sami right to graze reindeer on non-owned lands" (St.meld. nr. 52 - 1992-93). On the legal track of the constitutive process, however, the property rights of the Sami to the material base for maintaining their culture, i.e. lands and waters, have a strong standing both in the Norwegian Constitution and in International Law. The process along the political track will therefore resume in 1994 when the Commission on Sami Rights has submitted its work on property rights to lands and waters (NOU 1993:34).

By claiming the introduction of institutions close to the old commons (*statsallmenning*), farmers in Northern Norway are in reality claiming property rights on the collective level (management and exclusion rights). The claim is politically justified by arguing that this would give farmers in the North the same kind of property rights as farmers in the southern part of the country. Compared to the Sami, the North-Norwegian farmers have, however, strengthened their position by pointing to institutional designs that can be utilised - the "Mountain Governing Council" (*fjellstyre*) in the existing "Mountain law" can be introduced without modifications. This law also provides for the inclusion of members on the Council from reindeer herding communities in mixed farming/reindeer mountain areas. Although opposed by both Sami and state forest interests, these claims have a substantial support on the legal track of the constitutive process and a growing support on the political track. The pace of this process has accelerated in response to both the apparent success of the Sami claims and to the prospects of a changed role for the Nation State as a result of EC membership. This has caught the national government by surprise, as this had hoped to settle the Sami land claims first, before dealing with the North-Norwegian farmers' claims. This shows that a deep constitutive process cannot be planned from the top, actions will usually spur reactions until the matter is resolved by all parties agreeing to lay down new fundamental rules for the distribution of property rights. These are then new constitutive rules, which again are likely to be changed by a new turn of the ongoing process. In systems based on a dual track mechanism for constitutional change, this is - and is supposed to be - a very slow process.

CONCLUSION

There are various ways to analyse these developments in the governing of major - and minor - northern resources. The cases from Northern Norway have aspects

that are common to most northern resource governing systems, and should therefore be of interest for comparative studies throughout the circumpolar region.

The crucial point in the cases briefly presented here has been the analytical importance of the concepts of property rights and the relationship of these to the collectives we call community, local government or state. This implies that a certain distribution of property rights is not given for "all times". As analytical concepts, property rights can also be institutional instruments, design principles that can be utilised to make institutions work better - for instance work for a more sustainable governing of northern resources. It is therefore not so much a question of "having the rights", but of what distribution of the rights that will work towards a stated goal.

It is the use of such analytical concepts that can enable us to carry out studies with an analytical depth that is greater than achieved through the inherited jurisprudential concepts of *possessiones*, *dominium,* and *usum fructum* or through a plain comparison of official state policies or state adherence to international treaties. The way the different circumpolar states handle their internal fights between state, local government and northern communities over various kinds of property rights to northern resources would then be a fertile ground for such comparative studies of the "Northern Problem". It is to such a greater northern research objective that the current study is a contribution.

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