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Democracy and Human Rights as Conditions for Sustainable Resource Utilization.

by

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Abstract:

The game of chicken is seen as a simplified model of the structure of decision making in an open access resource. The discussion starts at the point where its users realize that population pressure or some equivalent external shock has made the utilization obviously unsustainable. To escape this social trap, the appropriators have to "invent" a local state to govern the appropriation process. Rational decision makers then have to consider transaction costs, externalities, distributional consequences and the distribution of social power. Some sequences of decisions may turn the game of chicken into a prisoners dilemma. The discussion is aimed at identifying necessary conditions the local state must satisfy in order to ensure a sustainable resource utilization. Democracy and human rights appears to be necessary.

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Erling Berge: Democracy and Human Rights as Preconditions for Sustainable Resource Utilization.

Introduction

Human rights and democracy¹ are invariably seen as GOOD. Human rights embody the basic necessities for the minimum acceptable welfare of any individual in a society and democracy is seen as the form of government best suited to enforce such human rights. Human rights and democracy is assumed to further the goal of a just and equitable society.

However, the actual policies pursued both by developing countries and by the industrialized countries in relation to developing countries do not seem to encompass human rights and democracy as central themes (Gloppen and Rakner 1991). In the general theory of development the role of justice and equity in the development process seems to have been underestimated².

One argument against making an issue of human rights and democracy by the developed countries is based on the view that both are expressions of a Christian, Western culture (Freeden 1991). To insist on human rights and democracy in relation to other cultures would be unwarranted cultural imperialism (Galtung 1988, Tambs-Lyche 1988). On the other hand, human rights and democracy evolved concomitant with the only example of development and modernization we have observations of. Why is that?

There seem to be two kinds of philosophical justifications for human rights. One type of

¹ Both human rights and democracy are in this essay used in a rather loose way: human rights to denote some minimum set of claim rights, privileges, powers and immunities assigned to each and every member of a society. More precisely this concerns "individual freedom, independent formation of opinion, open and multiple channels of information, pluralist formation of associations, political rights of participation in the formation of policies and their implementation, social security, and access to health services and education for all" (Eide 1991, p.4). Democracy is meant some legitimate and orderly way of changing the people making the laws and wielding the powers of a state. Democracy is also implied by the United Nations Universal Declaration of Human Rights Article 21-1: "Everyone has the right to take part in the Government of his country, directly or through freely chosen representatives.", and Article 21-3 "The will of the people shall be the basis of the authority of government; this shall be expressed in periodic and genuine elections which shall be by universal and equal suffrage and shall be held by secret vote or by equivalent free voting procedures." (Laqueur and Rubin (eds.) 1977, pp.197-201). In many connections, however, it is necessary to discuss democracy as an issue by itself, not least because the enforcer of the other human rights has to be a government of some sort.

² Senghaas (1982) mentions "a moderate rather than gross inequality in the distribution of important resources" (pp. 90) as one institutional prerequisite. But nowhere does he discuss the dynamic implication of an institutional complex one might label "the democratic rule-of-law state". One, in the present context, interesting contribution is Schnaiberg, Watts and Zimmermann (eds., 1986). Their investigations into and concern for the role of distributive problems in environmental resource policy has got its political expression in the Brundtland report (WCED 1987) and its insistence on distributive justice as a necessary goal for a policy intending to achieve sustainable development. In their Tokyo declaration the World Commission on Environment and Development (WCED) says "Poverty is a major source of environmental degradation which not only affects a large number of people in developing countries but also undermines the sustainable development of the entire community of nations - both developing and industrialized." (WCED 1987, pp. 364).

justification is based on moral arguments encompassed in "natural law" thinking, the other is based on contract theory. Utilitarianism, on the other hand, seems to have difficulties arguing for individual human rights.

The present paper will point to one possible way of arguing for the utility of human rights and democracy in a developmental perspective taking sustainable development as its goal. The concept of sustainable development is by the Brundtland report defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (WCED 1987). The discussion will here be based on the problem of maintaining the sustainability of a biologically renewable resource, but generalizations are suggested. The stress on the needs on the one hand and the interests of future generations on the other is essential.

It should be stressed that the present discussion is not based on actual observations, but it alludes to various aspects of resource use which have been observed in some context or other. The conclusions are sometimes logical derivations from the simplified assumption being made. At other times they are reasonable conjectures extending from these. In both cases the conclusions must be taken as tentative. Both more complex models and extensive studies of historical societies are needed to confirm or reformulate them.

Property Rights and Resource Utilization: Introductory Remarks

Achieving ecological and economic ends at the same time is a difficult problem. An important approach to the problem is the (property) rights³ perspective on institutional development (see e.g. Berge 1990, Bromley 1991, Eggertsson 1990, Gibbs and Bromley 1989). An important ecological end is to protect the reproduction of the resource. If an ecosystem or a species is threatened by destruction through the way it is utilized, the problem is to change the institutional structure, i.e. the system of rights and duties governing the utilization of the resource, in a direction making it possible for the resource to renew itself. Renewal of a biological resource is of course closely linked to the more general concept of sustainable utilization. The needs of future generations require that we preserve the productivity of the resource. The institutional structure must somehow incorporate the interests of future generations. The actual resource users must be persuaded to take a long term interest in the resource.

The definition of property rights shape the motivations of people in important ways. But the wide variety and historical fluidity of property rights (see e.g. Blakie and Brookfield (eds.) 1987, Dahlman 1980, Godelier 1984, Hardin and Baden 1977, Netting 1981, North 1990, Sandberg 1991) makes it necessary to be rather specific about what they are. The practical political problem encountered in changing rights and duties is to find a just distribution among the various involved actors of the gains and losses the regulation entails.

Analytically private property can be seen as an ideal type where all rights, privileges, powers and immunities⁴ relevant for some recognized and well defined resource belong to individuals or private juridical persons. There are no government regulations associated with the resource except guaranties for boundaries and security for transfers of property rights. This ideal type can be contrasted with the ideal type of state property where the state, embodying the public

³ By a property rights regime we mean a legitimate and coherent system of formally or informally enforced rules and practices used for the everyday appropriation of the culturally necessary means of subsistence, see Godelier 1984, pp. 71-121.

⁴ The distinctions suggested are those of Hohfeld (1913,1917), see also Thomson 1990.

interest - and nothing else - have the same complete interest in the resource. The actual users of a resource are then only complying with direct regulations issued by the state bureaucracy⁵.

In a modern welfare state the alternative to private property rights is not state property. The debate concerns the division of rights into rights properly belonging to the state and rights properly belonging to private actors. Very much of ideological and political activities are directed at the demarcation and adjustment of the boundary between private and state interests. The results of the struggle are manifested in laws and regulations diminishing the rights and privileges of private actors or securing and strengthening their legitimate and established rights and privileges. At the same time technological and organizational development create new resources, new ways to utilize old resources or new problems for the old utilization of resources. Considerations of which resource utilizations to guarantee, to tolerate or to stop, is a process never finished. The system of property rights in a society has to be redefined and confirmed in a continuous process.

It is an assumption that a state working purposely to minimize transaction costs⁶ and negative externalities⁷, to maximize positive externalities⁸, and to improve the distributional justice⁹,

⁵ Societies with ideal typical private property or ideal typical state property are not known to exist historically. By state will here be meant the system responsible actor all rational resource utilizers would choose to establish. For short periods of time some societies have approached a situation which may be analyzed by the ideal typical concepts. Usually the property rights system of a society will be a mixture of the two ideal types.

⁶ Any use, production, distribution or consumption of resources involving more actors than the end consumer(s) will entail the negotiation of contracts, both formal and informal; control of the fulfillment of contracts, and the prosecution of those defaulting on their contracts. The costs of negotiating and policing contracts are called transaction costs. The rules governing these negotiations affects significantly their size.

⁷ An often cited definition of externalities says that: "An externality is present whenever some individual's (say A's) utility or production relationships include real (that is, nonmonetary) variables, whose values are chosen by others (persons, corporations, governments) without particular attention to the effects on A's welfare." (Baumol and Oates 1988, p. 17).

⁸ Positive externalities are the "wanted" unintended consequences of purposive action (in the sense of conferring an appreciable, non-monetary benefit on some of the uninvolved bystanders) while negative externalities are the "unwanted" unintended consequences of purposive action (in the sense of causing an appreciable, non-monetary damage to the welfare of some of the uninvolved bystanders).

⁹ Within the population of actors claiming rights of access to a resource, the distribution of benefits from the resource becomes important through the prevailing views within the population of what a fair and just distribution should be and how this view affects the legitimacy of the state. The view of what a just distribution is, changes throughout history. Only some general guidelines for evaluating distributional consequences of institutional structures exist (see e.g. Rawls 1971 or Walzer 1983). The legitimacy of a state is a question of the trust a citizen may put in the state. On the one hand, this is a question of human rights and due process of law, on the other hand, it is a question of which rights and duties a state, as a system responsible actor, ought to have in relation to its citizens.

will become a more powerful state both economically and politically¹⁰. However, a state making it possible for its citizens to fulfil their short term goal of achieving an acceptable level of living, is only a first requirement for a sustainable resource utilization. To achieve a sustainable resource utilization, the activities of the citizens of the state - or more generally: the processes involved in the making of the powerful state - have to be consciously shaped with sustainability as a goal¹¹. In this task the short term maximization of economic goals must be subject to the long term ecological goal of sustainability.

The present paper will look particularly at the role of the governing institutions in the utilization of biologically renewable resources. The point of departure is a very simple logical model of competitive utilization of biologically renewable open access resources. Utilization of such resources is sustainable if the drain on the resource from natural as well as social processes in the long run is balanced by the regrowth.

One conclusion will be that only some "statelike" institution supported by the actual resource users, will be able to secure a sustainable utilization. In the task of governing the resource utilization, the governor must in particular be sensitive to those aspects of the resource utilization which affects transaction costs, positive externalities, negative externalities, distributional justice and the legitimacy of the governing institution itself (see appendix for definition of these terms). Distributional justice and trust¹² in the government seems best served by a democratically constructed government. One difficulty, particularly for democratically constructed governments, is to avoid that majority coalitions do not abuse the powers of the state to the detriment of the sustainability of any resource. Human rights, seen as standing above and outside the scope of decisions any state may make, is one necessary limitation of the powers of a state. Another difficult problem is to promote and guarantee a long term interest in a resource. This problem translates into questions about rules of inheritance and how to endow new members of a society with a minimum portfolio of resources. The more people without rights to resources, the more people will be without interest in their management and the more fragile the state will be.

Ostrom (1990) argues that for some resource systems the best way of approaching a sensible

¹⁰ It might be possible to interpret the historical development of Western Europe as an "unconscious" shaping of the states according to these principles. The shaping is then the result of competitive processes of systems of states (like the European in the time since the Roman Empire). In this system of states, the competitive edge will go to those states which more or less accidentally change in directions suggested. Thus a system of states can, through small unplanned innovations in one or a few states and adoptions from and imitations of the more successful ones among the rest of the states, move rapidly (relative to monolithic empires) towards prosperity and freedom for the many rather than the few. Compare e.g. Mann's (1986) discussion of what he calls "the caging effect" of the development of the first civilizations. The development of state bureaucracies and the various goods of civilization "caged" the people. Even though people complained about taxes and misuse of power by the state, most people found no better alternative outside the jurisdiction of the state. At least they did not vote with their feet, which, presumably, might have been an alternative in the first civilizations.

¹¹ While the goal of a state and its activities stipulated here seems rather uncontroversial, the the more specific theories of how governments ought to regulate the activities of its citizens do not agree on very much except that some minimum is necessary: see e.g. Stiegler(ed.) 1988, Vickers 1991, Sagoff 1988, and Heertje (ed.) 1989.

¹² Trust as a social science concept is not well understood, but see Gambetta (ed.) 1988 and Coleman 1990.

resource utilization is to encourage and enable institutions of self-government. Neither state regulation, nor private ownership of the resource will suffice to secure the sustainable use of it. In a profit maximizing market society a democratically constructed local government will usually do a better job at managing a resource than both persons enjoying individual ownership of the resource operating and a distant state not responsive to local condition. The problem of long term interest in a resource is in resource economics discussed under the term "discount rate". The lower the discount rate, the higher the distant future use of a resource is valued. Ostrom (1990) identifies several factors affecting the discount rate. Among the more important are inheritance rules, the security of tenure, the relative importance of a resource in relation to opportunities elsewhere, and absolute levels of poverty. Several of these factors are tied to human rights in one way or another. Both human rights and democracy are thus an integral part of her conclusion. The review of the problem presented here can only reinforce these.

PROPERTY RIGHTS AND RESOURCE UTILIZATION: A STYLIZED EXAMPLE

As a baseline for the discussion we shall present a stylized illustration of how variations in property rights institutions may affect resource utilization. The example is stylized because it assumes that population pressure and history (or cultural practices) do not affect the decisions on land use. It is also assumed that no outside forces are interested in the outcomes of the decisions of the participating actors except to stop war and homicide. The example is a variant of the self-financed contract enforcement game¹³ discussed by Ostrom (1990, pp. 15-18).

The tragedy of the commons¹⁴

Suppose a clearly delimited tract of land is owned in common by two tribes of traditional pastoralists. There is no one who can force either of them to limit their number of cattle. From old on feuds and diseases have kept the number of cattle (as well as people) about constant. For the sake of argument, say that for both of the tribes the herds have been fluctuating about 4000.

But times are changing. A distant state administration (perhaps colonial) has prohibited the old feuds. Development aid has eradicated diseases among both people and cattle. Now the traditional competition about which is to become the more powerful tribe can unfold¹⁵. The tribes start to add cattle to their herds. The development expert looks on the process in despair and tells the tribes they have to reduce the number of cattle, otherwise the cattle will starve and they will both be poorer. Now, neither of the chiefs are stupid. They can see the merit of reducing the number of cattle. Each of them understands that by adding an animal to his herd he can reap the whole benefit of that animal while the cost in terms of diminished grazing is

¹³ The literature on such simple games and the possible implications for cooperation and supply of public goods is extensive, see e.g. Axelrod 1984, Taylor 1987, and de Jasay 1989.

¹⁴ The expression was coined by Hardin (1968) and has since been at the core of an extensive literature, see e.g. Hardin and Baden 1977, Martin 1989.

¹⁵ Instead of competition for wealth and power symbolized by a large herd, a historically more credible cause of the same development may be attributed to population growth. Then, however, the process will take more than one generation to be completed. Today technological change together with the profit motive supply the same dynamic.

shared by the other tribe. But each of them also sees that if he reduces his herd, or abstains from increasing it, the competitor can get away with a larger herd and his fellow tribesmen can accurately accuse him of having given away the grazing rightfully theirs. And even worse, if he keeps his herd unchanged and the competitor increases his, he effectively concedes victory to the other. True, he will have more cattle than if he continue to contribute to the over-exploitation. But the other chief will have many times more. What shall he do? Turn "chicken" and concede victory to avoid the catastrophe threatening both or go on adding cattle to his own herd hoping the other will turn "chicken"?

Most people in such situations will choose to go on adding cattle to their herds, either hoping the forecasts of ecological catastrophe are exaggerated or hoping it will take a long time. However, sooner or later the tragedy will be manifest. Cattle starve. Men starve. In the absence of restraints (war, disease, cultural practices), "freedom in a commons brings ruin to all" (Hardin 1968).

TABLE 1 The structure in decisions on using an open access resource. The payoff matrix has the same structure as the game of chicken (see Taylor 1987).

		FAMILY B	
		MORE CATTLE	SAME NUMBER OF CATTLE
FAMILY A	MORE CATTLE	2	4
	SAME NUMBER OF CATTLE	4	4

The family A can choose between increasing the herd by 2 cattle or not increasing the herd. The family B has the same choices. The pasture suffice for just 8 fat cattle. If one of them increase his herd by two cattle he will end up with 6 meager cattle while the other will have 4 meager cattle. If both increase the herd by 2 cattle, the increase will be too much for the pasture. 8 of the cattle will die and they will both be left with 2 very meager cattle.

The sensible thing to do is, of course, to do something else entirely. The two tribes should come together to negotiate an administration of the tract of land which can determine how many cattle each tribe can have and with power enough to enforce the agreement. The common property management systems found in various cultures do exactly this (see Dahlman 1980, Netting 1981, Ostrom 1990, Eggersson 1992). They manage the common land with a view to keeping up its productivity. But the management institutions are never the result of negotiations. They have evolved as part of a culture. The sustainable solution may, however, be based on both war and illness. The end of war and the introduction of modern medicine may therefore easily result in a population pressure which alone renders the traditional utilization unsustainable.

The rapid social changes in the current world and the large negative consequences of unsustainable utilization of resources, means that one can no longer trust the development of sustainable institutions to the historical process. Neither are most people willing to accept the starvation and suffering of people subject to the traditional historical processes regulating resource utilization. Instead of the slow trial and error process of history, we have to think through the problem to consciously design those institutions which now will give a sustainable utilization of the resources.

The first problem to face in this endeavor is to understand the forces shaping the traditional management institutions. A first step is to note that negotiation, administration and enforcement of contracts are not costless activities regardless of how a contract was established in the first place.

Transaction costs

Costs connected with the negotiating of an agreement and the policing of its execution are called transaction costs. In particular the monitoring and policing costs may be high in long term agreements on resource management. It is a point to try to minimize these.

For the pastoralists the point of a new institution must be to induce them to stop adding cattle to their herds. This can be done by direct regulation of the number. This, however, requires comparable control data: counts of the herds at regular intervals. If, for example, the herds mingle, they have to be separated first. The cost of securing data for direct regulation may be considerable.

But there is also an indirect approach to the problem of regulation based on the causal mechanism making regulation necessary in the first place. One basic reason for continued growth of the herds in the situation described, is that he who adds to his herd can reap the benefit of the added cattle while he does not have to pay the full price in terms of the resources used. The price is shared by the other tribe. The unregulated increment in use of the land entails costs also for those not consenting to the use decision. This is the gist of what is meant by externalities.

External (dis)economies

The chief who decides to add cattle to his herd affects negatively the grazing possibilities of the other tribe as well as his own. The action represents an external dis-economy for the other tribe¹⁶.

¹⁶ If one compare externalities and transaction costs they may from one perspective seem equivalent. The total social cost of those suffering polluting activities may be both less and more than the total social cost of enforcing a ban on this particular activity. From a purely economic efficiency point of view one might perhaps conclude that if the total social cost of those suffering the activity is less than the cost of removing the activity, then the activity should be allowed to go on. This conclusion is wrong even if one disregards the problems of measurement. The big difference between negative externalities and transaction costs is the possibility of distributing the transaction costs equitably.

An alternative to direct regulation of the number of cattle is to concentrate on "internalizing" the externality. If there is any way of securing that the cost of adding cattle to the herd will affect only the tribe which adds the cattle, one might hope that they, in enlightened selfinterest, would choose to limit the number of cattle. Then one would save the costs of the bureaucracy involved in direct regulation.

For the case discussed above, introduction of boundaries would be one such solution. If both land and water and any other valuable resource in the area can be equitably divided by a boundary, a fence maintained by the two tribes would seem to provide the solution with lowest transaction costs to the problem of giving incentives for an ecologically sustainable resource management. But there is no reason to believe that ecologically sustainable resource management follows automatically from the introduction of private property rights. The privatization is only an indirect solution to the problem of regulation. It removes one motive for overgrazing. But there may be other motives like overpopulation or greed. What happens if one of the chiefs goes on to take out a maximum from the resource in the shortest possible time to put the profit into a Swiss bank account hoping that the other more responsible chief and the representative of the development aid agency will take care of rest of the tribe as the consequences of the bad management manifest themselves? If private property rights, as historically developed, shall encourage sustainable resource utilization, the promise of short term (and sometimes large) gains has to be balanced by a suitable threat. What kind of threat is suitable? Who is going to give it? How can it be given credibility?

Complications: the free rider and the game of holdout

Two tribes in a clearly delimited area is of course the simplest possible situation one can imagine. In any real life situations there will be more actors involved and the area will not be very precisely delimited.

If an area is truly common property (as commonly understood) for those who use it, any kind of institutional change will require unanimous support of the involved actors. In this situation one often will find some actor more or less openly playing the game of holdout. The more profitable the institutional change is seen to be, the more likely it is that someone will find it to their advantage to play difficult to secure an advantage for themselves. This is not the same as resisting adverse consequences for oneself of proposed changes. But if fair compensation is offered and the person still resists, the game of holdout is being played. The one holding out on the agreement to execute the change will, by being difficult, often be able to secure for himself a larger than fair share of the profit of the change, or, at least, by postponing the venture, put it in jeopardy of not being executed.

If one of the advantages granted to the holdout is to be exempted partly or wholly from the costs, but not the benefits involved in the institutional change, the holdout is also a free rider. Free-riding can, however, also occur in situations without institutional change. If some actor is able to avoid paying or contributing to the activities necessary to keep up an institutional structure, the actor is called a free rider and the contributions of all others wanting to maintain the institution must be increased.

Taxes and the prisoner's dilemma

Consider, for example, a village which has been keeping the grazing land as common property, with direct regulation of the number of cattle for each member of the society and a police force to monitor the compliance of the regulation. For various reasons some of the villagers have fallen on hard times and the village council votes to exempt them from paying their taxes. The taxes for the rest increase, of course. However, it is hard to do much about poverty by exempting the poor from taxes. Somehow times do not improve. The image of reality in the council deciding on the issue is now that tax exemptions are necessary also for the entrepreneurs to further the industrial development of the village. Even more people are exempted from taxes and the few who still pay, begin to calculate what they gain by cooperating.

At some point in this process those who pay taxes are faced with the prisoner's dilemma: shall I continue to pay taxes or shall I defect to reap as many benefits as possible while the system lasts?

Those who cooperate by paying the transaction costs of the institutional regulations may soon find that the cost of providing for the free riders and the holdouts exceed the gain of the regulations. If they turn egoists they may still take out some profit before the system collapses and leaves everyone poorer. They may even find that they now have less left than they will have if everyone turns egoists. The tragedy of the commons returns¹⁷. The tragedy lies in the fact that they all will have only a fraction of what they might have had if all were cooperating to uphold the institutional structure.

TABLE 2 The structure in decisions on using an open access resource after taxes and free riders have been accounted for. The payoff matrix has the same structure as the prisoners dilemma game (see Taylor 1987).

		<u>INDIVIDUAL B</u>	
		<u>EGOISM</u>	<u>COOPERATION</u>
<u>INDIVIDUAL A</u>	<u>EGOISM</u>	2 6	1 3
	<u>COOPERATION</u>	1 3	2 6

Only those who choose cooperation in relation to the state pays taxes. Egoists will both disregard state regulations of number of cattle and a duty to pay taxes. The more egoists there are, the more taxes those who cooperate will have to pay. When individuals of type B turn egoists, those who cooperate have to pay 3 meager cattle to the state. They will have one meager cattle left. This is less than the 2 meager cattle they will have if they turn egoists.

¹⁷ And with a vengeance, the prisoners dilemma leaves considerably less possibility for a happy ending than the game of chicken. One should perhaps call this result the tragedy of a faulty state. Not quite as catching a phrase as the tragedy of the commons, but it points to the important problem of distributional justice. From the description of the management of the common property of the village there is but a short step to consider the modern democratic welfare state with its interest group politics. In some instances it might be illuminating to describe the state and its tax base as an open access resource. The implications are obvious.

DISCUSSION

The preceding brief and stylized example suggests two important conclusions:

- 1) The introduction of properly defined property rights relative to a suitable social environment, can encourage ecologically sustainable resource management.
- 2) It is necessary to consider carefully the distribution of the costs of maintaining the institutional system defining and maintaining the property rights.

In relation to the first point it must be of particular interest to investigate the characteristics of property rights systems which can secure sustainable resource utilization and the second point raises the question of how to endow new members of a society with access to the minimum amount of resources needed to secure an acceptable standard of living, and how redistribution relates to the long term interests of resource users. A key term both for the design of a property rights regimes and for distributional systems is trust: trust in the government and trust in the justice and equity of the regime. The best tool known to further the average citizen's trust in the government, is a democracy committed to human rights.

CHARACTERISTICS OF PROPERTY RIGHTS SYSTEMS

Long term interests, security of tenure and consequences of bad management

Sustainable use of a resource system means, among other things, concern for the long term survival of it. This suggests two necessary characteristics of any property rights systems: a) the interests of the users/ owners of resource system have to be long term. Long term interests implies that b) the users/ owners of the resource system are secure in their tenure, and c) consequences of bad user/ owner decisions affects most severely those making the bad decisions.

For the owners to take a long term interest in the management of their property, a first requirement is security of tenure. Security of tenure is always a question of belief in a guarantee given by a state (or its equivalent). The trust in this guarantee is liable to how the state performs its tasks. In particular it would seem a good test to watch the security of tenure in situations of conflicting interests between the state and any of its citizens. But security of tenure is not enough to secure sustainable utilization. The temptation of short term gains will always be around.

One way to induce a long term view of the utilization, might be to convince people that if they exploit the resources for a maximum short term gain, they will suffer some kind of negative consequence. A necessary requirement of the state would seem to include, either non-interference if some owner comes to suffer negative consequences of bad resource management, or directly to administer a measured quantity of negative consequences itself.

Historically non-interference seems to have been the norm. A policy of non-interference would seem more feasible if the land (and in general all property) is divided among many rather than among few owners. With many holders of property the consequences of bad management will on average be less per decision maker and the learning potential, in terms of what is good management, larger. Usually the penalty of not taking the long term view have been starvation and/ or loss of property. Starvation does not seem to be a suitable penalty in contemporary society. What is a suitable penalty, is a difficult question.

If most people are unwilling to contemplate consequences like poverty and starvation (or equivalent harsh measures) as the necessary outcome of bad decisions, if the state on humanitarian grounds finds that it must bail out those coming to suffer the consequences of unsustainable resource management, or if the property rights system allows the owners to transform the extracted resources into profits, regardless of whether they are extracted sustainable or not, and invest them in other profitable activities, then the ecological argument

for the private property rights ("the internalization of externalities") disappear and direct intervention, or at least strong regulation of the resource utilization, must be preferred even if the transaction costs then are considerably higher.

But how the distribution of rights between the state and private actors ought to be, is not independent of the organization of the state. A democracy will for example need a very sophisticated government if it wants to pursue a consequent longterm strategy for resource utilization by direct regulation. The hazard of buying votes and short term peace from the various interest groups, will always be threatening to develop into something similar to the "tragedy of the commons" situation described above, where an increasing number of loyal supporters begin to question the equity of the system and their own interest in contributing to it. This is one argument for relying on private property rights rather than state property rights. But even more it points to the importance of distributing in a way acceptable to a large majority of the population, the costs and benefits of the institutional structure defining the property rights.

Taxes, profits from resource utilization, and penalties from breaking the regulations must all be seen to be distributed equitably. If non-compliance with the rules designed to ensure sustainable development, entails significant losses of welfare, it becomes important how the laws are enforced and experienced by those subject to them. If the laws or the enforcement of them come to be seen as unfair, large scale hedging by those subject to the regulations, may put the regulatory framework in jeopardy through non-compliance or increased policing costs as effectively as the free rider problem discussed. One way of keeping a check on how the enforcement of the rules is conducted, is to make the government accountable to those subject to its regulations. To further the trust in the property rights regime, the people depending on it need to have the power to change it. That is democracy.

DISTRIBUTIONAL CONSIDERATIONS

Minimum resource endowments and trust

One important assumption in the discussion of the problems faced by resource users in securing long term viability of their resource base, has all the time been that the actors involved will have enough resources to survive even after the resource use is adjusted to secure the long term survival. However, we all know that this is not true for a large and growing proportion of the population in the world. For very many persons the situation is that the only resource they have a fairly secure access to, is their own labor power and that of their families. The distribution of other resources is very unequal in many, if not most, societies (see e.g. Schnaiberg et. al. 1986). The World Commission on Environment and Development clearly states that the problem of poverty is perhaps the single most important problem to solve to achieve a sustainable development (WCED 1987, p.364).

But this is no simple problem to solve. Just saying: "let us divide the resources equitably", will not solve any problems even if one could do it. The principles guiding the construction of the state: the encouraging of long term interests in a resource, the security of tenure of benefits from a resource, the equitable distribution of the costs of regulation, and the just penalties for breaking the rules of the resource regime. suggest that there will be many processes contributing to inequality. Persons endowed with the same resources at birth will end up very unequal at death. Equality of distribution at any one moment in time is therefore not enough and probably the wrong measure to use in judging the consequences of the distribution for the sustainability of a resource use. But on the other hand, one cannot expect that people without resources to manage will do much to support a goal of sustainable resource management. Rather one should expect that the costs of policing and protecting the resources of the resource owners could become impossibly high. A democratic government will not be able to find support for the necessary taxes, and the trust in the government will begin to erode.

It is difficult to see how sustainable resource management can be achieved by a state unless its

citizens have rights to the resources needed for an acceptable level of living. Since bad decisions on resource management ought to entail loss of at least some of the resources, the critical question must be the allocation of resources to new members of the society. If there is no mechanism allocating a necessary minimum of resources to new citizens, the brilliant resource management of the old dying members will do nothing to secure the long term survival of the society. Since the amount of natural resource is finite, and since the state in any case have to be very hesitant about changing established property rights, the solution must be sought in other rights than the rights to use directly some natural resource. For example: the state cannot in each generation redistribute the rights to a renewable natural resource without affecting the time perspective of the actors in their decisions on its use. The long term interests in the resource will tend to disappear. Thus rights to other types of resources, like the human rights to education and work¹⁸, would seem to be better candidates than land for securing the necessary minimum to everybody. But resources like education and work are not tangible like land. The utility of an education and the availability of work depends on the total organization of a society. Here we again return to the problem of trust. People must believe in the security of their futures. The resources they command must be something worth also in the future.

The more general problem facing the governor of a resource system then is to maintain trust in the governor: the legitimization of its rule. The actual resource users must feel that the regulations of the resource use are fair and they must feel secure in their tenures. They must see that the distribution of the costs of maintaining the system are distributed equitably and they must see that non-compliance with the necessary regulations is punished justly. But how is it possible for people to trust that the commitment of the state to any particular policy really is long term and sincere? How can they monitor the equity of the taxes and the justice in the prosecution of the various types of free riders? How can it be possible to ensure that politicians and bureaucracy do not either misuse their power (military forces, police, corrupt use of tax funds, etc.) or that the political processes do not produce some kind of "tragedy of the open access state"?¹⁹

In so far as a formal institutional framework shall be relied upon to supply the motivations for a sustainable resource utilization, questions like these have to be posed and answered.

Any definitive answer to such questions are not likely. But to me it seems that the many possibilities for powerful rulers to go wrong and loose the trust which a people needs to have in their government, suggests the a possibility for changing the government is necessary. Democracy would seem to be the most orderly way of doing just that: changing the government without disrupting the daily life.

But democracy alone is not enough to guarantee neither sustainable resource utilization nor trust in the state. If a state shall be able to contribute to sustainable resource utilization by its citizens, it needs fences and guards against the democratic decision making process. Some basic rights and rules of conduct, whether we call them commandments of God or human rights, must be above and outside the scope of the democratic decision-making process. Some decisions must be "unlawful" no matter how big a majority votes for them. Therefore human rights are important.

¹⁸ United Nations Universal Declaration of Human Rights Article 23 and Article 26, Laqueur and Rubin (eds.) 1977, pp.197-201.

¹⁹ One is tempted to speculate that maybe the importance of the protestant ethic (Weber 1930) may lie in the admonition of people to perform faithfully their duties both to king and God, and that this commitment was believed to be sincere. People came to trust the fairness of their bureaucrats as they from old on (at least in Scandinavia) had trusted the justice of their king.

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