Presented to the World Conference of the "International Association for the Study of the Common Property", Bloomington, Indiana, 31 May - 4 June, 2000

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PRINCIPLES OF INSTITUTIONAL DESIGN AND THE MANAGEMENT OF NORWEGIAN NATURE

Abstract:
The paper reviews some of the legislation relevant for the management of Norwegian nature to see if design principles suggested by Goodin[1] can be recognized. Goodin's suggestions for the design of a «good» institution are:

- revisability - institutions ought to be revised as experiences with their working accumulate
- robustness - institutions should be able to adapt easily to «appropriate» social change while resisting «inappropriate»
- sensitivity - institutions should respond to motivational complexity among the relevant actors
- publicity - all institutional «actions» should in principle be publicly known without thereby frustrating their purpose
- variation - the institutions ought to allow or even encourage variation/ adaptation to local conditions

The findings are that Norwegian legislation is fairely easily revisable and it has a lot of variation. The publicity principle has a weak legal standing. Robustness is difficult to gauge, but the intertwining of different acts and the long complex process of any major change of the law may represent some safeguards. The sensitivity of an institution is not only a function of the formal rules but also of their application. More centralised decision making will tend to make the sensitivity to local actors and local conditions more difficult. There seems to be a systematic difference in centralisation of desicon making between the urban industrial concerns with nature and the rural-agricultural concerns.

[1] See page 1-53 in Goodin, Robert E. (ed.) 1996 «The Theory of Institutional Design», Cambridge, Cambridge University Press

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Version 1, 3 April 2000

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«Nature» will in the present context be taken to mean the live renewable eco-systems of Norway as well as the resources they depend on. And the governance of eco-systems is seen as the art of devising rules guiding people to act in a manner consistent with agreed upon goals. Today the most difficult of these are the goals of biological diversity and sustainable harvesting.

Since pre-historic times rules have had to be promulgated and sanctioned by the «thing» (the assembly governing the affairs of a community). Rules fashioned for local conditions by users and owners in collaboration were promulgated at the local «bygdeting» (the local community «thing»). Rules made by the Crown had to be promulgated and sanctioned by the four traditional landscape assemblies (the Frostating, the Gulating, the Eidsivating, and the Borgarting). Today rules designed and imposed by the state are promulgated by the national «Storting». But by no strech of imagination will it be implied that those who in past or present have promulgating rules in any way were guided by «design principles» in the meaning intended here.

Rulemaking is mostly modification of existing rules. Only at infrequent intervals did completely new problems have to be regulated by new types of rules. Arguably, during the last century the frequency of both amendments of rules and fashioning of new rules was increasing. The familiar processes of local and regional rulemaking have gotten a new layer of complexity by the international rule system. Recognition that resource management needed international rules led to states contracting international conventions. To affect the users of nature in each country as intended both amendments of old rules and new rules had to be promulgated.

The complexity of fashioning effective rules is usually underestimated, and ineffective, even counter-intuitive and counter-productive outcomes occur. Can adherence to some principles of good institutional design lessen the chance of ineffective or counter-productive outcomes? My belief is that it can, but that current knowledge about the relationship between specific rule systems and chains of outcomes is too vague to be used for guide in this. Studies of working institutions, of how they are embedded in a culture, tailored to specific substantive problems

and shaped by the professional ethics of their custodians, have to be accumulated to test proposed design principles and interpreted to find new ones.

The present paper will consider statutory institutions enacted by the Norwegian state to govern resource usage on land[2]. The working rules have been fashioned piecemeal throughout the last century. The resultant system cannot by any stretch of imagination be said to have been designed by a master planner. The outcomes varies. For some parts only minor problems are perceived. For other parts the signs of unsustainability are getting clearer by the year. But for many questions we simply do not know enough about outcomes.

One contrast might be interesting to pursue: a comparison of the forests of southern Norway with the management of reindeer herding in northern Norway. The problems for the reindeers, their pasture and the reindeer herders seem to be growing. Forestry, on the other hand, has for some time been seen as both economically and socially sound and is currently seemingly well on the road to adapt to the new requirements of biodiversity. Why do we find this difference in outcomes? Is it possible to find any basic difference in the «design» of the two institutions?

The paper will survey how statutory rights and duties in relation to nature are defined and monitored in Norway and discuss them in relation to the design principles suggested by Goodin.

Institutions and institutional design

For the purposes of the present dicussion institutions will be the conventions, customs, norms, and rules which by implicit or explicit agreement a collective uses to constrain and enable activities among its members. Analytically it is useful in an institution to distinguish

- its substantive area of operation
- the system of legitimate rules (formal as well as informal)
- the group of persons with legitimate interest in the interpretation and application of the rules

Institutions are not given as constants. Most of them have been around for a long time. And all of them have been changing, some rapidly, some slowly. In general, societies, and hence their institutions, change because

- accidents happen (historical conjunctures), or because they
- evolve according to internal dynamics (path dependence), or because of
- intentional activities aimed at changing them (Goodin 1996).

At a less grand scale social change can be conceived as marginal change in the relative frequency of different types of activites and different types of actors. Adaptation to social

[2] This will, if nothing else is indicated, mean the law code as enacted by the end of 1995 (Schei and Zimmer 1996)

change then might mean change in the institution to encourage or accomodate changed rates in activities.

But no matter what the initial cause is, the reformation of old institutions or the formation of new one's is done by agents with goals formed by their factual knowledge, resources, preferences and prejudices. The outcomes of their activites may not be what they intended or wanted, but their activities are all the same the motor of change.

To survive thoughout history an institution needs to fit into its environment. It must in some sence conform to other institutions coexisting with it in time and space. This constrains new institutions in important ways and it constrains the changes likely to have an impact. Thus intentional activities aimed at changing some institution will do better if they work on the margin of existing institutions changing them in ways which are not self-defeating.

That much is obvious. It does not say anything about change going in any particular desireable or undesireable direction. To talk of the design of an institution implies some idea of judging both what an institution does and how it does what it does: its form, function and procedures.

Goodin (1996:39-43) suggests some broad guidelines for the design of a «good» institution[3]:

- revisability - institutions ought to be revised as experiences with their working accumulate
- robustness - institutions should be able to adapt easily to «appropriate» social change while resisting «inappropriate»
- sensitivity - institutions should respond to motivational complexity among the relevant actors
- publicity - all institutional «actions» should in principle be publicly known without thereby frustrating their purpose
- variation - the institutions ought to allow or even encourage variation/ adaptation to local conditions

Some general observations on institutions governing usage of renewable resourses in Norway

In Norway one may distinguish two regime types for management and control of nature (Berge and Solem 1997). During the last decade these regimes have met in an increasingly acerbic conflict over the control of the large predators (particularly bears and wolves, but also to some degree lynx and wolverin). The major conflict incorporates different political actors.

[3] Writing a constitution involves defining rules and norms which will provide the necessary background security to our daily negotiations and activites. The principles suggested for institutions in general are not very different from the 4 he suggests as commonly agreed upon requisites of a good constitution (Goodin 1997):

1. democratic responsiveness
2. checking the abuse of power
3. protecting the minorities
4. social pluralism

These are, on the one hand, the local communities. Their age old goal has been to exterminate the predators threatening their livestock. Their claim to legitimicy is based on customary law. On the other hand, there are the official "managers", i.e. national and local bureaucrats, guardians of the nationally enacted wild-life regimes and international conventions.

In one sense the major conflict line runs between central and local power, or one can say it is about the delegation of authority. So, partly it resembles the known "centre - periphery" problem. But a major factor in the crisis is the considerable differences in ways of thinking about wildlife management among farmers on the one hand and among bureaucrats on the other. This difference is in one sence predictable, but the particular thurst of the current conflict is fed by particular historical conjunctures where long established customary processes of lawmaking meet the modern scientific understandig of the relation between nature and society. It is also fed by the general tendency for conflict situations to develop uniform and monolithic perceptions of the enemy: «Farmers only want to exterminate the predators» or «Bureaucrats are only out to demonstrate their power». Such perceptions can only function to reinforce the main thrust of the conflict.

The management of nature in rural communities is based upon experiences from centuries of trials and errors by farmers and farming communities. The development and continued strength of the system into the 50’ies and 60’ies and its subsequent demise, follows the rise and fall of rural society in Norway and is central to the understanding of the current conflict.

Norwegian bureaucratic management of nature is today based on a comparatively centralised administrative system, developed during the past 40-50 years guided by facts from science interpreted by an urban industrial culture. In the discussion of the Civil Service and their relation to wildlife management we need to distinguish two different kinds of processes. There is on the one hand the ideological construction of the problem areas they have been mandated to govern, and, on the other hand, the more general processes of change in decision making in the Civil Services around the world. The allocation and degree of delegation of authority is here a generic problem. The ideological construction of the problems caused by interactions of nature and society is emerging from an urban-industrial society experiencing the feedback processes in nature precipitated by industrial activity and urban living. But was centralisation of the authority to manage nature inevitable in an urban industrial perspective on nature?

These two systems of management and views of nature meet head on in their interpretation of the role of predators in Norwegian nature. But the fight is not so much a fight about the fate of predators as it is a fight about the status and standing of rural society and the way the Civil Service operates. It is on the one hand a fight by the local communities to (re)gain control over what they always has seen as theirs, the local landscape. The farmers want to determine themselves how many bears and wolves they want in their backyard. On the other hand, the bureaucracy fights to establish the superiority of their «scientific» management perspective on nature. However, the values embedded in this perspective are those of the urban-industrial

conception of nature. Their representatives want to (re)create the wilderness and stock it with the appropriate fauna as they imagine it might have been without people. The «purist» values in the management effort show up in this winter's hunt on «genetically contaminated» wolves[4].

The interpretation of the conflict presented here shows two features as important. First we should note the role of norms and ideas about nature. Second we should note the role of the «ideological» background and the professional ethics of the custodians of the legislation. These features are essential ingredients of institutions and can act independently of how the formal rules are enacted. But in a long process of fashioning the formal acts these aspects certainly will have an impact on its content also.

The core legislation embodying the urban-industrial view on nature is the Nature protection act and the Wild life act. The first act on nature protection dates from 1910. There was a major revision in 1954. The current act dates from 1970 (19 June 1970). The act on wildlife grew out of the «Act on Hunting and Trapping» from 1899[5]. In 1951 this was replaced by the «Act on Game Care, Hunting and Trapping». The current act dates from 1981 (29 May) and was, significantly, labeled «Act on wildlife». Without much fuss this act reversed the old principle of hunting and trapping rights to everything which was not protected by law to the principle that all wildlife and their habitats were protected against interference from man unless permitted by law. According to international conventions and with authority from this paragraph the big predators have been protected.

It is difficult to see how some particular design of the institutions could have avoided this conflict. An institution will always have a system of societal values at its core and the shift from a rural-agricultural to an urban-industrial culture does entail a shift in value system. But two features in this shift is interesting: the shift to a more centralised management system and the allocation of responsibility to different bureaucracies and hence different bureaucratic cultures.

[4] After it was determined that a litter of wolfe cubs probably had a dog as father, it was detemined to kill them. The hunt is now abandoned and 2 cubs seem to have survived the hunt.
[5] Before 1899 the legal regulations were essentially the same as those promulgated by King Magnus Lawmenders code from 1274 (the rules on hunting and trapping were included in the law codes of 1604 (Christian IV's Norwegian Law Code» and 1687 (Christian v' Norwegian Law Code» (Austenå 1965)

Table 1 The distribution of management authority according to law as of 1995[6]

Act	Management authorities (the most active authority in **bold face**)
Act of 28 June 1957 on outdoor recreation	The King The Ministry (of Environment) The Directorate for Nature Management The County Governor **The County board** on board on outdoor recreation **The Municipal board** on board on outdoor recreation
Act of 21 May 1965 on forestry and forest protection	The King The Ministry (of Agriculture) The County Governor The County board on agriculture **The Municipality**
Act of 19 June 1970 on nature protection	**The King** The Ministry (of Environment) The County Governor
Act of 6 June 1975 on rights in state commons (the «Mountain Act»)	The King The Ministry (of Agriculture) **The Municipal mountain board**
Act of 9 June 1978 on reindeer herding[7]	The King The Ministry (of Agriculture) **The Reindeer herding board** (national level) The Reindeer herding area board (county level) The Reindeer herding district board
Act of 29 May 1981 on wildlife	The King **The Ministry (**of Environment) **The Directorate for Nature Management** The County Governor The Municipality
Act of 3 June 1983 on salt water fisheries	The King **The Ministry** (of Fisheries) The Directorat of Fisheries The District board for monitoring The District committee for a particular type of gear
Act of 15 May 1992 on salmon and fresh water fisheries	The King **The Ministry** (of Environment) **The Directorate for Nature Management** The County Governor The Municipality
Act 19 June 1992 on forestry in state commons	The King The Ministry (of Agriculture) Statskog SF[8] **The board of the commons** («bygd» level)

Source: Schei and Zimmer (eds.) 1996

[6] Schei and Zimmer 1996

[7] The act covers only the well established areas for Saami reindeer herding in the counties Finnmark, Troms, Nordland, Nord-Trøndelag and parts of Sør-Trøndelag and Hedmark. Saami reindeer herding is legalised outside this area by Act of 21 December 1984 no 101, on reindeer herding in the municipalities, Meldal, Midtre Gauldal, Oppdal, Rennebu, Rindal, Sunndal and Surnadal. Non-Saami reindeer herding have to be located outside these areas and is then based on private contracts and concession from agricultural authorities.

[8] Statskog SF is a corporation 100% owned by the state and possess among other things title to the ground in all state commons. It is charged with the duty of utilising the resources in the state commons and other state lands profitably. (see <http://www.statskog.no/English.htm>)

In table 1 the levels of authority used by or defined by the various acts are listed. From the table it would appear that the urban-industrial interests in nature primarily are managed by the Ministry of Environment and the rural-agricultural interests primarily by the Minsitry of Agriculture and the Ministry of Fisheries. But it should be noted that the Act on forestry and forest protection in 1976 was amended in title and purpose to accomodate urban industrial values.

The table will also suggest that the primary decision making level is more centralised for the acts managed by the Ministry of Environment. In particular the Act on Nature Protection stands out with The King as the most important decision maker.

Decisions by the King are the collective responsibility of the national government and should, at best, ensure that it is a well considered decision deeply grounded in the values of a majority of the parliament. The decisions taken by the Minister alone in consultation with the bureaucracy should ideally do the same but may, perhaps, be more amenable to influence by subcultures within the bureaucracy or by idiosyncratic value judgements of the minister.

Of the 4 acts authorising the Ministry of Environment to manage some activity three have the government level as the most important. The fourth act has the local community as the most active level. This is the act on outdoor recreation. This act formlises the ancient customary rights called «allemannsretten» (all men's rights) [9] and as such it does not introduce any «new» urban industrial values. Though it can be said that urban industrial society has taken over these values for new purposes.

Of the 4 acts managed by the Ministry of Agriculture three has the local community as the most active level. The fourth one is the Reindeer herding act. But even her the most active level is a special agency, The Reindeer herding board, not the Ministry itself. The ninth act included in table 1 is the act on Salt water fisheries which is manged by the Ministry of Fisheries with the ministry as the most important level.

We see that salt water fisheries and reindeer herding are centralised management systems. Forestry and fresh water fisheries are decentralised in comparison. Why should there be such a difference? Is this difference a significant design element helping to «solve» the collective action problems they concern themselves with? Are the collective action problems of reindeer herding and salt water fisheries fundamentally different from forestry and fresh water fisheries?

[9] Some rights which many assume to be part of the all men's rights are contained in other acts. Picking nuts eaten on the spot, picking wild berries (except cludberries), mushrooms, and flowers or diging roots of wild herbs are said to be free from punishment by §400, Act of 22 May 1902 no 10 on punishment. The Act of 15 May 1992 on salmon and freshwater fisheries, §18, defines a new «all childrens right». In waters which do not have anadrome fish (i.e. slamon and brown trout) children below 16 have the right to fish.

The purpose of this paper is not to look for answers to these questions but rather to investigate the forms, functions and procedures of the formal institutions governing Norwegian resources. Let us therefore look more closely at the 5 general design priciples suggested by Goodin (1996).

1) Revisability

Since the Landscape assemblies accepted the unified legal code of Norway in 1274, legitimate rule systems applicable to Norway have been made and promulgated by the King. But the acts have in principle needed some kind sanctioning by some kind of assembly. However after 1274 these assemblies became less and less «popular» or «representative». Between 1536 and 1660 the most important assembly was the Danish «herredag» which during its occational visits to Norway negotiated and promulgated «recesser» which got legal force. During the absolutist period 1660-1814 this was suspended[10]. Since 1814 legislation has needed sanctioning by the Storting. Since 1884 the King's council (the government) has needed at least a passive support by a majority of the Storting. Legislation goes through a process in the ministeries before it goes to the parliament where it is discussed and revised, possibly returned to the government for further revision, until the parliament either accepts or dismiss it.

The problems which Norwegian forests experienced in the first half of the 19th century were debated on and off at least since the parliament in 1821 and until 1863 when the first Act on forest land was promulgated. Major revisions came in 1932 and 1965. The last major revision of the forest legislation from 1965 started in 1951 by appointing a government commission to prpare it. They finished their work in 1958. Then the ministry worked on the proposal for 5 years and finally the parliament worked on it for 2 years. At that time some 20 other acts had an impact on forestry, the oldest dating from Christian V's Norwegian Lawbook from 1687 (Vevstad 1992). That was the institutional environment which the new act should fit. But revisions and amendments did not stop. They have come with increasing frequency.

The first major act on reindeer herding was an addition to the Danish-Norwegian and Swedish-Finnish border convention of 1751: The Lapp Codicill. But legislation regulating reindeer herding as an industry started in earnest in 1854. An additional act was promulgated in 1888, and major new acts were introduced in 1933 and 1978 (Prestbakmo 1994). The last major amendment to this tradition is from 1996 (Act of 23 February 1996 no 7, Ot.prp.nr.28 1994-95, the very last amendment is from Act of 13 June 1997 no 44). Also for reindeer herding revisions and amendments seems to have come with inceasing frequency. Table 2 gives some more dates for major revision of other acts.

[10] Fladeby, Rolf, Steinar Imsen, and Harald Winge eds. 1974 «Norsk historisk leksikon» (Norwegian Historical encyclopedia), Oslo, Cappelen

Table 2 Frequency of major revisions of some acts on nature management

Act	Dates of previous acts[11]
Act of 28 June 1957 on outdoor recreation	Act of 25 June 1937 no 16
Act of 21 May 1965 on forestry and forest protection[12]	Act of 12 Februar 1932
Act of 19 June 1970 on nature protection	Act of 1 December 1954 no 2 Act of 25 July 1910 no 3
Act of 6 June 1975 on rights in state commons (the «Mountain Act»)	Act of 12 March 1920 no 5
Act of 9 June 1978 on reindeer herding[13]	Act of 29 May 1953 no 6 Act of 12 May 1933
Act of 29 May 1981 on wildlife[14]	Act of 14 December 1951 on Game Care, Hunting and Trapping Act of 20 May 1899 on Hunting and Trapping
Act of 3 June 1983 on salt water fisheries	Act of 17 June 1955 Act of 25 June 1937 no 20
Act of 15 May 1992 on salmon and fresh water fisheries	Act of 6 March 1964 Act of 30 June 1950 Act of 2 June 1933 Act of 31 March 1933 Act of 27 February 1930 Christian V' Norwegian Law Code 1687
Act 19 June 1992 on forestry in state commons[15]	This is a new act which expands and replaces rules from Act of 6 June 1975 no 31 (on rights in state commons) Act of 17 June 1937 no 9 Act of 10 June 1936 no 4 Act of 23 July 1894 Act of 22 june 1863 Act of 12 October 1857 Act of 9 July 1851 Christian V' Norwegian Law Code 1687

Source: Schei and Zimmer (eds.) 1996

The reasons for revisions are usually unsatisfactory experiences and/or changes in the institutional environment requiring adjustments. This is not to say that all experiences are judged on an impartial basis in the revisions. The custodians of the legislation and the various interest groups suffering or profitting from the existing rules do not have acces to the Ministry and/or the parliament on an equal basis. This unequal weight of opinions and experiences is

[11] If nothing else is noted the source is Schei and Zimmer 1996
[12] The title of the act was changed to include forest protection by Act of 11 June 1976 no 77
[13] The act had a major amendment in Act of 23 February 1996 no 7. It was last time amended in Act of 13 June 1997 no 44
[14] Before 1899 the legislation had been more or less unchanging. The paragraphs from the Landscape Law codes enacted in King Magnus Lawmenders code from 1274 were repeated in Christian IV's Norwegian Law Code of 1604 and in Christian V' Norwegian Law Code of 1687, see Austenå 1965
[15] Source Ot.prp.nr.37 1991-92

one source of possible bias. On the other hand, this situation also ensures that a majority power coalition always will see itself served by the law and hence find it in their interest to support the rule-of-law.

One may thus in general conclude that the formal rules of Norwegian institutions are revisable even if it sometimes takes decades of debate.

2) Robustness to «inappropriate» revisions

The ease with which legislation is changed raises the question of robustness. How resistant is this process to «inappropriate» change? The distinction between «appropriate» and «inappropriate» is not obvious. The more or less continuous process of revision does not lend itself to the kind of amendments which would be «obviously» revolutionary to the contemporary citizen. Rather the many small changes lend themselves to the accumulation of unintended consequences which one in hindsight might see no one really wanted. But that process may be more in the line of path dependence. Is there any evidence of such processes?

Presumably also all kinds of rent seeking or predatory activites as well as behaviour encouraging such activites would fall into the category of activites to be resisted by our institutions. Institutions should not change to accommodate such behavior. But in a system where revisions are easy and where public support of the legislation is required, it is difficult to see how rentseeking and predatory behavior based on legal technicalities can be sustained.

3) Sensitivity to motivational complexity

The frequent amendments and revisions of the legislation is one way to adapt to new experiences and changes in the environment. Another way of adapting to new circumstances would be to allow institutions to be sensitivity to differences among local users, local rules, local information, and local values. Institutional elements allowing local rule or modification of central commands will allow differences in motivations and ecological conditions to have an impact.

If there develops a market in some plant which can be harvested but which so far has been considered worthless, the collective-choice arrangements should be able to fashion new rules for the harvest of this plant on short notice.

The standard element introducing sensitivity to motivational complexity is local rule. The legislation on forestry vests the primary legal authority to monitor the forest owners at the municipal level. The legislation on reindeer herding vests it at the level of the Ministry.

Forestry in state commons and reindeer herding has at least formally quite a few similarities. In both cases the state claimes owenership of the ground and remainder. In both cases the rights of qualified citizens to the resources are based on ancient use rights. In both cases there are management units working beside the Ministry analogously to a directorate but organised

differently. For forestry the unit is the company Statskog SF organised according to Act of 30 August 1991 no 71 on state enterprises. State enterprises are wholly owned by the state, but are otherwise assumed to function in ways similar to share holding companies. For reindeer herding the subsidiary unit is the Reindeer herding board. This is a body of 7 persons four of which are elected by the Ministry and the rest by the Saami parliament[16].

In both cases do the legislation mandate a local body (called the board of the commons for a forest commons and the board of the district in a reindeer herding district[17] But parallell to the levels of the boards the Ministry has a branch of its administration, the Reindeer Herding Adminsitration, with a central office in Alta and branch offices in each reindeer herding area. If this administration is compared to the forestry administration it is seen that the forest bureaucrats are employed by the municipalities rather than being formally a brach of the Ministry. Also the cooperation between the public management and the private associations of the owners of the industries are similar.

The mandating of local level organisations should encourage sensitivity to motivational differences among the actors by allowing them to follow different strategies in the context of the general regulations. However, this does not seem to be the goal of the legislation. Both acts contain a remarkable degree of detail about planning, and forest care or reindeer husbandry. Both acts mandate stern measures if the forest owner or reindeer herder does not comply with the legislation.

The parallells between the two acts are rather remarkable. One may speculate that the differences in employment conditions for the bureaucrats subtly shifts the focus from central values to local values if these are different. The most obvious differences of design are the different roles of the Reindeer herding board compared to Statskog SF.

On balance the reindeer herding management appears a few degrees more centralised than the forestry management. The resource situation for the two industries judged in terms of sustainability is however remarkably different. In forestry the biomass is growing and the quality situation is deemed satisfactory. In the reindeer herding industry, particularly in the major areas in Finnmark the industry is judged to be on the brink of ecological collaps.

If the legislation is basically similar except for its degree of centralisation, can this be a cause for the different outcomes?

[16] Created by Act of 12 June 1987 no 56 on «Sametinget» and other Saami legal rights (the Saami act).

[17] The area where Saami reindeer herding rights are extant is divided into 6 reindeer herding areas. These are further subdivided into 87 reindeer herding districts comprising 551 reindeer herding units organsing the care of some 182 000 reindeers. Figures are from 1996, see <http://www.landbruk.dep.no/landbruksdepartementet/reindrift/index.html>

Before we leave this a couple of differences should be noted. In contrast to reindeer herding forestry has a known history of ecological collaps. The legislation of 1863 was basically a result of this. Later increased productivity of the industry became the goal and in the 70'ies protection of other forest qualities were added. The legislation on reindeer herding was for the most part initiated by the need of the agricultural communities to protect themselves against encroachment of the reindeer herders. Later a concern with reindeer herding as a profitable industry was added, and since the 80'ies a projected ecological disaster has loomed high on the agenda.

Ecological collaps in the forest sector was a result of unrestrained logging. The projected collaps in the reindeer herding industry is tied to the growth of biomass. The reindeer herding act has through recent changes tried to confront the problem of growing biomass. But neither the definition of the problem nor the proposed solutions are agrred to by the individual reindeer herders. Also in forestry there is an unplanned growth in biomass, but this is not seen as a problem. Eventually rotting timber and insects may become a problem, but so far it is seen as more beneficial than problematic. It gives us more of what the urban-industrial visitors see as old growth forest.

Theoretically one may say that both in reindeer herding and in forestry decision units refraining from stinting growth of biomass may cause severe externalities for their neighbors. In one case this is seen as threatening the industry in the other as largely beneficial.

4) Publicity of institutional action[18]

Monitoring of activities and establishing their legal standing requires visibility not only of the law but of the actions legitimised by the law. How can these become known?
Openness in public breaucracies is a difficult subject cutting across all branches of central as well as local government. Three acts are relevant.
Act of 10 February 1967 on management procedures gives rules and standard operating procedures for the public bureaucracies in Norway. §17 informs us about the duty to research and inform. This paragraph expressly exempts the organisation from this duty if the information do not have significant impact on the decision. Who decides what may have significant impact on a decision? In the light of the discussion of how a good institution should look like this seems like a strange rule. Why include such an exemption? Informing about inconsequential things cannot do any harm?

In the Act of 19 June 1970 on access to documents in public bureaucracies there likewise are sweeping powers to exempt documents. Internal documents and documents produced by subservient organisations, by lateral organisations or by external advisors can be exempted

[18] David Luban (1996) refoumlates the Kantian publicity principle to read «All actions relating to the right of other human beings are wrong if publicizing their maxim would lead to self-frustration by undercutting the legitimacy of the public institutions authorizing those actions.»

from public access. In addition this act only gives the public a right to information. It says nothing about any duty for the public servants to inform.

The Act of 4 March 1983 on public servants has rules about sanctioning public servants for either not duing their duty or for overstepping the bounds of their powers. It says nothing about what these duties and powers are.

The publicity principle seems to have a weak status in Norwegian public service. One might speculate if this makes the service less sensitive to local demands and improves the conditions for survival and impact from a deviant subculture in the bureacracy.

5) Variability of institutional forms

The Norwegian legislation on resources always targets specific resources. In table 3 details about the rules governing specific classes of resources found in bygd commons as defined by Act of 19 June 1992 on bygd commons, Act of 29 May 1981 on wildlife, and Act of 9 June 1978 on reindeer herding.

Table 3 Resource specific property rights regimes in Norwegian bygd commons

	ground and remainder	pasture[19], timber, and fuel wood	fishing and hunting of small game except beaver	hunting of big game and beaver	pasture and wood for reindeer herding
Rights of common	no	yes	yes	yes	yes
Co-ownership	in common	joint	joint	joint	joint
Unit holding rights	cadastral unit («the farm»)	cadastral unit («the farm»)	registered persons	registered persons	reindeer herding unit registered in the local reindeer herding district
Use and quantity regulation	internal ("owner decision")	internal ("needs of the farm")	internal ("owner decision")	public regulation	internal ("needs of the industry")
Alienability	inalienable	inalienable	inalienable	inalienable	inalienable
Power of local choice	yes	yes	yes	yes	yes

Source: Schei and Zimmer (eds.) 1996

Table 4 shows that on private forest land the specificity of the legislation is much less. Only the rights of the Saami reindeer herders stand out with specific rules in the same way as in the commons.

[19] The right to gather fodder (cutting grass, collecting moss and leaves etc.) have been important, but are not explicitly dealt with in the acts on commons. However, such rights are important in Act of 29 November 1968 on servitudes and it is also mentioned in the Act of December 21 1979 on land consolidation (§36).

Table 4 Resource specific property rights in privately owned forests.

	ground & all attached resources (includig wildlife and water)[20]		pasture and wood for reindeer herding
Ownership	individual or in common		jointly
Unit holding rights	legal person cadastral unit[21]		reindeer herding unit registered in the local reindeer herding district
Use and quantity regulation	internal within limits set by public regulation		internal ("needs of the industry")
Alienability	alienable		inalienable
Power of local choice	yes		yes

Source: Schei and Zimmer (eds.) 1996

In table 5 the rights affecting all kinds of land are detailed.

The resource regimes in bygd commons and state commons are different in some respects, but not substantially. Regimes on private lands are substantially different. Forestry considered as an industry is regulated differently from reindeer herding and both are different from salt water fisheries. This could be the variability Goodin is suggesting we need in a «learning-by-doing» system of governance. But learning by doing entails evaluations with a comparative view. As far as I know no such comparison has been tried. The learning by doing occurs within each regime as experiences are accumulted and legislation amended.

[20] Except servitudes of all kinds, see Act of 29 November 1968 on servitudes

[21] A farm or a reindeer herding unit can be seen as a cadastral unit. In some cases rights can «run with the land» (Lawson and Rudden 1982), and these are not only servitudes but sometimes «full ownership» of some resource. But to label the farm as a type of «owner» is not conforming to current legal terminology in Norway or elsewhere as far as I know. As long as the rights are inalienably attached to the farm they are considered to be part of the estate held by the farmer. However, for the analytical purposes here it has seemed useful to introduce the distinction between the farmer and the farm since the distinction in the legislation is used systematically for different types of resources.

Table 5 Rights deriving from public regulations affecting all lands[22]

	right to stake claim on minerals	all mens rights
Rights of common	no	yes
Co-ownership	in common	joint
Unit holding rights	legal person	individual
Use and quantity regulation	public regulation	custom, public regulation
Alienability	alienable	inalienable
Power of local choice	yes	

Source: Schei and Zimmer (eds.) 1996

Some concluding remarks

There are systematic differences in degree of centralised decision making between the urban industrial and the rural agricultural interests in nature.

The revisability principle taken together with the sensitivity and variation principles imply that there ought to be more than one level of decision making. Presumably the lowest level should be defined by a cross-section of the motivational complexity and the local conditions to which the institution have to adapt. This is far from consistently found. Particularly the collective choice mechanisms at local levels are variable, ranging from well developed in forestry to weak in reindeer herding, symbolic in fisheries, and nonexistent in predator management. We also see different levels of ecological problems, largely along the same dimension as the variation in local level collective choice.

The contrast between predator management and forest managment is striking.
Ostrom (1990:90) finds in her study of long enduring institutions governing common renewable resources that they tend to be characterized by having

1. clearly defined boundaries,
2. congruence between appropriation and provision rules,
3. collective-choice arrangements,
4. monitoring,
5. graduated sanctions,
6. conflict resolution mechanisms,
7. minimal recognition of rights to organize,
   and, where appropriate, they are
8. organised as nested enterprises

[22] See Act of 3 July 1914 no 5, on chalk; Act of 14 December 1917 no 16, on waterfalls, and mining; Act of 17 June 1949, on quartz; Act of 21 March 1952, on minerals which cannot be claimed according to Act of 30 June 1972 no 70, on mining; Act of 28 June 1957 no 16, on outdoor recreation; Act of 30 June 1972 no 70, on mining

If we contrasts predators and forests along these elements (see table below) the prospects for a long life for the current managment regime of predators would seem bleak.

	Management of predators	**Management of forest commons**
1	debate is going on	yes
2	unclear	reasonable
3	the parliament	yes
4	yes	yes
5	yes, public persecution needed	yes
6	only the general court system	yes
7	not in relation to predators	yes
8	..	yes

Two interpretations can be offered. 1) The management regime accomodating the urban industrial interests in predators are comparatively new and still early in its development process, therefore the urban industrial interest groups have not yet found the form of the institutions which will solve the problems they perceive (viable populations of the large predators). 2) Also one may speculate that the problem definition (predicted extinction of predators) and solutions attempted (centralised commands, severe monitoring and punishment) may create the outcome they now try to avoid.

Judged according to the current suggestion for good design of institutions there are several margins for improvement of Norwegian institutions for managment of nature. Hopefully the learning-by-doing process can be speeded up by more consciously using elements from those resource regimes which currently are working well.

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Act of 17 June 1949, on quartz
Act of 21 March 1952, on minerals which cannot be claimed according to Act of 30 June 1972 no 70, on mining
Act of 28 June 1957 no 16, on outdoor recreation
Act of 21 May 1965, on forest usage and forest protection
Act of 10 February 1967, on management procedures
Act of 29 November 1968, on servitudes
Act of 10 April 1969, on «incidental ownership»
Act of 19 June 1970 no. 63, on nature protection
Act of 19 June 1970 no 69, on access to documents in public bureaucracies
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Act of 30 June 1972 no 70, on mining
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