

Stakeholder's Perspectives on Consultation Procedures as a Tool for Sustainable Co-existence between Forestry and Reindeer Herding Industry

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Abstract. *The forestry and reindeer herding industries utilize the same land in northern Sweden, and negatively affect each other's productivity. The common pool resource character of this situation has made it difficult to find sustainable solutions for co-existence. The consultation procedure that was introduced in order to reduce conflicts does not appear to be effective, since conflicts between the two actors still occur. One reason for this failure might be found in the power distribution between forestry and reindeer herding. Earlier research has shown that a co-management system in which the power distribution between the stakeholders is uneven is not robust enough to be maintained. However, it is unclear just how uneven the power distribution is between the two actors in this case, and what consequences this might have for the robustness of the management system. By focusing on the power distribution within the consultation procedures, this article explores the opportunities for the two industries to influence the outcome of negotiations, which in turn is assumed to have direct economic implications on both industries.*

Keywords: *co-management, common pool resource theory, forest industry, land use conflict, reindeer husbandry, Sámi*

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1. Introduction

The multiple use situations characterising the forest resource in the northern parts of Sweden is a source of conflict in which both economical and cultural values are at stake. The indigenous people in Sweden, the Sámi, have the exclusive right to herd reindeer (*Rangifer Tarandus Tarandus*) on approximately 40 % of the Swedish land area in order to produce meat. However reindeer herding is not only of economic importance to the Sámi, it also plays an important role in the Sámi culture (Lundmark, 1998). A large amount of the land used for reindeer herding is also productive forestland, producing timber and pulpwood, and contributing significantly to the Swedish economy. The forest resource in northern Sweden¹ is mainly owned by large forest companies and the government, but also to some extent by private owners. Thus, forestry and reindeer husbandry² are, to a large extent, using the same land, although for different purposes.

The common pool resource character of this situation has made it difficult to find sustainable solutions for co-existence. On the one hand, modern forestry has been argued to be one of the major threats to the future of reindeer herding, and thus to the Sámi culture (Danell, 2004). Forestry proponents, on the other hand, contend that the economical implications of adjusting to reindeer herding industry by, for example, saving an area suitable for final fellings to respond to the needs of reindeer husbandry, is not economically defensible (Björklund, 2000). In order to reduce conflicts between the two industries, consultation procedures were introduced by the Swedish parliament in 1979. About a decade later they were extended to a larger geographical area through the certification system Forest Stewardship Council, FSC (Forestry Act 1979:429; Reindeer Husbandry Act 1971:437). Since the purpose with the consultation procedures is to create possibilities for the two industries to co-exist, the procedures have many similarities to a co-management system that involves the major stakeholders into negotiations concerning the use of the resource. However the consultation procedures do not seem to fulfil their purpose given that conflicts between the two actors still occur. One reason for this failure might be found in the power balance between forestry and reindeer herding. Earlier research has shown that co-management systems, where the power distribution between the stakeholders is uneven, are not robust enough to be maintained (Campbell, 1986; Berkes, 1989; Pinkerton, 1989; De Paoli, 1999; Jentoft, 2003; Kooiman, 2003). At the root

¹ In this paper, northern Sweden is defined as the counties of Norrbotten, Västerbotten and Jämtland.

² In this paper, reindeer herding industry and forestry or forest industry is used, the latter synonymously. The meaning of forest industry in this particular paper is the companies responsible for the forest itself, eg. fellings and soil scarification. The use of industry when it comes to reindeer herding is not totally accurate, since it is small-scale businesses in contrast to the forest industry, but it is the best collective term found.

of forestry and reindeer husbandry controversy is the issue of property rights. Although forest companies are the owner of the resource, reindeer herders have equal rights to use the land. However, earlier research has shown that reindeer herders have difficulty claiming their rights. This is because the legal acts regulating the relationships between the two industries do not give sufficient protection to the natural grazing areas needed for reindeer husbandry (Hahn, 2000; Widmark, 2005). This is confirmed in the evaluations of the consultation system, which indicates a widespread dissatisfaction among the reindeer herders and rather satisfied forest companies (National Board of Forestry, 1987; 1992; 2001). It is, however, unclear just how uneven the power distribution is between the two actors, and what consequences this might have for the long-term robustness of the management system. By focusing on the power distribution within the consultation procedures, this article explores the opportunities of the two industries to influence the outcome of negotiations, which in turn is assumed to have direct economic implications on both industries.

A brief review of the theoretical underpinnings of common property management through co-management is presented, followed by a summary of the historic evolution of the consultation system. The article then investigates the evolution of the consultation procedures over time and the present quality of the management system. Finally, factors that might improve the system are presented.

2. Co-management

Power sharing and partnership are essential parts of the definition of co-management. Co-management, however, often refers to a system where the State and local actors are successfully integrated (Berkes, 1994). Since co-management also stresses the need for decentralized governance, the definition has a resemblance to the concept of governance, which takes into consideration the process of interaction between different societal and political actors, and the growing interdependence between them. The concept of governance also implies that it is not necessary that the State is involved in the day-to-day management of a natural resource. As in this case, the State may delegate the management authority to the actors themselves by providing an institutional framework through legal acts (Kooiman, 2003). However, depending on how the institutional framework for management is constructed, the power distribution among the actors may vary significantly.

A way to measure the power distribution between involved actors is to use the ladder of co-management adopted from Berkes (1994) and initially from Arnstein (1969). As figure 1 shows, the management arrangements vary from situations where one actor has all the power and only informs the other resource users of decisions already made (rung 1), to a situation where all the involved actors establish a ‘partnership of equals, (rung 7). This also implies that, since “*co-management requires that management functions be delegated to user-organizations that make autonomous decisions*”, not all of the rungs qualify as co-management arrangements (Jentoft, 2003).

7	Partnership	Partnership of equals; joint decision-making institutionalised and formally recognised
6	Management Boards	Local actors are given the opportunity to participate in developing and implementing plans; input plays more than just an advisory role.
5	Co-operation	Local actors starts to have input into management, local knowledge is solicited; community members are involved at a low level as assistants or guides, still limited by management agencies.
4	Advisory Committees	Partnership in decision-making starts; joint action on common objectives, local actors have advisory powers only; decisions are non-binding.
3	Communication	Start of two-way information exchange; local concerns begin to enter management plans; joint management actions may take place without joint jurisdiction over the resource.
2	Dialogue	Start of face-to-face contact, local actors input is heard but not necessarily heeded (usually involved late in the decision-making process); limitation of involvement continues to be set by the government agency.
1	Informing	Local actors are informed about decisions already made, one-way communication between government and the community.

(Adapted from Arnstein, 1969; Berkes, 1994; Pomeroy & Berkes 1997)

Figure 1 Levels of co-management

According to Pinkerton there has been a tendency to apply the term co-management to mere operational rights, i.e. rules that regulate the day-to-day use of the resource. As Pinkerton points out, “*co-management is misnamed unless it involves at least the right to participate in making key decisions*” about how the resource should be used, by whom and to what extent (2003). In other words, it is necessary to grant a degree of influence to those involved in order to be able to define the situation as a co-management arrangement. According to the definitions of Jentoft and Pinkerton, the three lowest rungs of the ladder of co-management can, thus, not be defined as co-management. Rung four, where the weaker actor has an advisory role, might be defined as the lowest form of co-management. These categories are, of course, a simplification of how co-management arrangements work. In practice, a co-management arrangement may include several of the rungs, and the balance of power among the actors may change over time.

The different levels of co-management will be used in order to analyze the power distribution between the two actors participating in the consultation procedure. Since the forestry industry is the

owner of the resource and is considered to be the stronger party in this relationship, it is the influence of the reindeer herding industry that will be analyzed (National Board of Forestry, 1987; 1992; 2001; Widmark, 2005). Since the power over the forest resource has direct economic implications on each of the industries, it is assumed that an increased influence in the consultation process will, in addition to increasing the level of power, also have economic consequences. This is because the possibility to affect the industry's situation increases with each rung in the co-management ladder (Mattsson, 1981). However, the economic implication on each industry needs further research, therefore it is not the subject of this study.

3. Conditions for successful co-management

How the power between the partners in a co-management arrangement is distributed is not the only condition affecting the robustness of the management system. According to Ostrom (2005), actors are more likely to co-manage common resources if the institutional arrangements are characterized by the eight design principles presented in figure 2.

The operation of the principles is, according to Ostrom, "bolstered" by the sixth principle – the need for low-cost conflict resolution mechanisms –, which points to the importance of an arena where conflicts among the resource users might be resolved. The arena in this case is the consultation procedures where negotiations are supposed to take place. Also, principle 3 (collective choice), principle 7 (rights to organize), and principle 8 (multi-level governance) have consequences on the possibilities for the involved actors to make decisions and to resolve conflicts autonomously. However design principles 7 and 8 are, to some extent, already given by the legal framework of the consultations. The analysis of the robustness of the consultation procedures will consequently focus primarily on collective choice and conflict resolution mechanisms (design principles 3 and 6), while the rest of the principles will only briefly be considered in the analysis of the consultation procedures.

<i>Design principle</i>	<i>Description</i>
1. Clear boundaries	The boundaries of resources and user groups with right to withdraw resource units from the common pool resource are clearly defined
2. Correspondence between benefits and costs	Allocation rules are related to local conditions
3. Collective choice	Interested parties are involved in informed discussion of rules and can modify the rules
4. Monitoring	Accountability mechanisms for monitors are devised
5. Graduated sanctions	Graduated sanctions are applied to appropriators that deviate from the regime.
6. Conflict resolution mechanisms	Low cost, local conflict resolution mechanism are used to resolve conflicts among appropriators
7. Rights to organize	Users have the right to organize and to make autonomous decisions.
8. Multi-level governance	Authority is allocated to allow for adaptive governance at multiple levels from local to global level.

(Adapted from Ostrom, 2005)

Figure 2 Design principles for robust co-management regimes

4. Methodology

A case study approach was used to investigate the power distribution between forestry and reindeer husbandry and its implication on the robustness of the consultation procedure system used to solve conflicts between the two industries. Semi-structured telephone interviews were conducted with representatives of 32 out of 33 Reindeer Herding Communities (RHC), covering the whole mountain area, and 14 representatives for forest companies. The 14 representatives for the forest companies were selected on the basis of geography and forest ownership, in order to cover the same area as the interviewed RHC. The interviews were conducted between November 2003 and May 2004.

The semi-structured character of the interviews made it possible to analyze the material quantitatively. The interview questions were related to the result of earlier evaluations of the consultation system in order to get a picture of the evolution of the system over time. A participatory observation was also made in order to gain understanding on the consultation procedure.

5. Forestry, reindeer husbandry and consultation procedures in northern Sweden

In northern Sweden the forestland consists of approximately 9,4 million hectares, which represents 55% of the total land area. Forestry is an important provider of work in northern Sweden and about

40% of the timber that is cut in northern Sweden is provided by the boreal forests in northern region (National Board of Forestry, 1999). Large corporations are the major owner of the forest resource in northern Sweden (in terms of hectares), owning approximately 49%. This is followed by non-industrial private forest owners, who own about 34%, and the government, which owns about 9% of the forest resource (Statistical Yearbook of Forestry 2004; Widmark, 2005).

There are about 230 000 reindeer in Sweden today, distributed among 4700 reindeer owners. Most of these owners belong to the indigenous group of people in Sweden, the Sámi. The owners are divided into 51 Reindeer Herding Communities, RHC, which are both geographic entities that restrict the grazing area for each RHC, and economical organisations for the members of each RHC. The reindeer has a natural migration path, grazing in the mountain region, or in forests close to the mountain region, in the summer period, and in the forest region (closer to the Baltic Sea) during the winter period. Since the reindeer are moving over large areas, the land needed for reindeer husbandry is extensive. In the northern parts of Sweden, reindeer herders have the legal rights to graze reindeer on both privately owned lands, as well as on forest company or State owned land (Statistics Sweden, 1999). That means that about 75% of the forest area in northern Sweden is used for winter grazing of reindeer (Bostedt, 2005).

The reindeer husbandry is dependent on older forests for the provision of winter grazing areas. Reindeer mostly graze on ground lichen (e.g. *Cladina rangiferina*) but also tree lichen (e.g. *Alectorias sarmentosa* and *Bryoria fuscescens*). Since other food supplies are scarce during the winter, the access of lichen is crucial for the survival of the reindeer.

The total forest resource is affected by both forestry and the reindeer herding industry, which means that each industry is affecting the other. However, forestry is affecting reindeer herding industry to a greater extent than the other way around (Mattsson, 1981). Depending on which felling and soil scarification methods that are used, the lichen resource may be destroyed for up till 30-40 years (e.g. Gustavsson, 1989; Bostedt et al, 2003). The share of lichen-rich land has drastically decreased over the last 50 years throughout the reindeer grazing area due to, amongst other reasons, modern forestry practices. This is one reason to why forestry has been regarded as a threat to the survival of the reindeer herding industry in its present form (Danell, 2004; SOU 2001:101; Widmark 2005). Except for the loss of grazing land, the fragmentation of the grazing land due to clear cutting is, according to the reindeer herders, considered to be another negative effect of modern forestry. Fragmentation of grazing land forces the herders to spread out the reindeer on larger areas in order to find lichen. It is more difficult and work-intensive to control a widespread herd, and much more

difficult and expensive to gather the herd when it is time to move the herd to another grazing spot (interviews, 2004).

In order to get permission from the National Board of Forestry to cut an area, the forest companies have to send in a document showing that they have invited the appropriate RHC to a consultation (Forestry Act, 1979:429, §§ 20-21). Consultations between forest companies and RHC are only compulsory in areas where Sámi rights to land are stronger than in the rest of northern Sweden (e.g. the mountain area). However, all the large forest companies have, as a part of the Forest Stewardship Council (FSC) certification system, voluntarily agreed to introduce the same rules in the whole reindeer grazing area. When the two parties meet in consultations, forest companies, in most cases, include a map indicating various proposed actions, which also is the basis for the consultation meetings. The time-frame of the planned actions varies from immediate actions to plans for a period of three to five years. In a typical consultation meeting, the forest company informs the RHC of what actions are to be taken in a particular forest area. This is followed by discussions and, if possible, negotiations of the suggested actions (Hamilton, 2004).

Within the institutional framework of the consultation procedures, the boundaries between the forest resource and the user groups who have the right to use the forest are relatively clearly defined. Ostrom's design principle 1 is thus fulfilled. In some areas the rights of the RHCs are disputed, but this is mainly with regards to land owned by private owners and not large companies. The private land owners are not yet included in the system of consultation procedures, although a governmental investigation has proposed that they should be included in the future.

6. The significance of consultations over time

Three evaluations of the consultation procedures have been made over time. The first one was made in the middle of the 1980s, the second one in the beginning of the 1990s, and the third one in 1998. As more or less the same questions were posed in the evaluation questionnaires, it is possible to get a picture of how the significance of the consultation procedure has developed over time (National Board of Forestry, 1987; 1992; 2001).

One conclusion that can be made from the evaluations is that the two industries have rather different views of the consultations and their significance for each industry. Starting with the view of the RHCs (illustrated in figure 3), over 50% say that the consultation has little or no significance. However, the rest of the respondents do consider the consultations to have some or rather large

significance. Very few of the respondents think that the consultations have a large significance for the reindeer herding industry. The reindeer herders are, thus, rather reluctant towards the consultation procedures, a view that they have retained over time. However, there is a tendency in the data showing that less of the respondents consider the consultations to have no significance, which might indicate that the consultations have gained in importance over time.

	<i>RHC opinion 1985</i>	<i>RHC opinion 1990</i>	<i>RHC opinion 1998</i>
	%	%	%
No significance	28,6	40,0	14,3
Little significance	19,0	16,0	38,1
Some significance	42,9	16,0	23,8
Rather large significance	9,5	24,0	23,8
Large significance	-	8,0	-
	n = 21	n = 25	n = 21

Comment: RHC = Reindeer Herding Community, the answer 'large significance' was not included in the surveys 1985 and 1998

(National Board of Forestry, 1987; 1992; 2001)

Figure 3 The significance of consultations over time, the view of the Reindeer Herding Communities

In the 2004 interviews with the representatives for the RHCs, the respondents answered the same questions as in the evaluation questionnaire, as well as commenting on whether they thought that the consultations had improved in significance over time. The result clearly shows that the experiences from the consultations vary amongst the different RHCs. Even though most of the respondents state that consultations have improved over time, most of them also believe that the consultations continue to be a forum of information, where reindeer herders have very few opportunities to influence forestry and forest actions. One RHC stated, *“it is wrong to call them consultations. It is no consultation if both stakeholders don't participate on equal terms. They present a completed plan that we use in our discussions. We can sometimes make changes, but then we have to offer something else. We can call them information meetings”* (interview 28, author's translation)³. According to another RHC, the outcome is dependent on which forest company, or even which representative from the forest companies, invites the RHCs to consultations. However what is common to most of the consultations is that the RHC becomes involved rather late in the planning process of the forest companies, which many of the respondents point out as a problem. *“It would be desirable to be able to influence forest action on an earlier stage and have longer*

³ In Swedish: ”det är fel att kalla dem samråd. Det är inget samråd om inte bägge parter kan delta på lika villkor. De lägger fram färdiga förslag som vi måste utgå från. Visst kan vi få igenom ändringar med då måste vi byta bort något annat. Vi kan kalla dem informationsmöten.”

planning periods, like five to seven years. In some cases we have also managed to do that” (interview 21, author’s translation)⁴.

Although many representatives of the RHCs still are rather pessimistic toward consultations, the interviews show that a majority of the RHCs (56%) think that the importance of the consultations has increased over time. There are, according to the respondents, several reasons behind this change. Increased knowledge about reindeer herding, changes in environmental policies, and also changes in attitudes towards reindeer herding industry among forest companies, are the most commonly mentioned reasons. Still, one third (34%) of the RHC state that the significance of consultations has not changed over time, and 3 RHCs state that the situation has even become worse over time.

If we turn to forestry, the attitudes towards consultation procedures are almost the opposite of the RHCs. In the evaluations made, almost every forest company claims that consultations have a ‘rather large’ or ‘large’ impact on the planning of forest actions. One forest company states that *“[O]ne condition for reindeer husbandry is that we, as two land-use industries, have to co-exist. The only way to do that is to conduct consultations where we can establish a common view of the situation”* (interview 40, author’s translation.)⁵. Most of the interviewed forest companies state that they try to find solutions that both industries can accept and that the consultations, in that sense, have a large impact. There are however some variations in the answers which are related to variations in the forest resource. These are mostly dependent on the presence of lichen or not and the attitudes toward reindeer husbandry. Many forest companies also point to the fact that it is becoming more difficult to consider the needs of reindeer husbandry since the amount of forest mature enough to fell is becoming more and more limited, which in turn means that the lichen resource also is becoming more and more scarce. This situation was also mentioned by many of the RHCs.

⁴ In Swedish: ”Det vore önskvärt att kunna påverka i ett tidigare skede och med längre planer typ fem till sju år.”

⁵ In Swedish: ”En förutsättning för renskötseln är att vi som två areella näringar måste samsas. Enda sättet att nå dit är samråd där vi kan lägga grunden till samsyn[...].”

In conclusion, both reindeer herders and forestry personnel think that the significance of the consultation process has increased over time. Both industries point to changing attitudes, extended knowledge of the other industry, and increased environmental considerations as important factors behind the change. The FSC process is also considered an important factor, although the view among the respondents is not unanimous.

7. Power distribution and consultations

Although both actors think that the importance of the consultation procedure has become more important over time, the RHCs are still rather discontent with the present type of forest management. As discussed earlier, we assumed that one reason for the dissatisfaction could be the uneven power distribution within the management system, which affects the possibilities to influence the forest management. One way of measuring the power distribution in a co-management arrangement is to use the ladder of co-management developed by different researchers from Arnsteins classical ladder of influence (1969). To be able to measure the influence of the weaker part in this case, the respondents were asked to define the level of influence of the RHCs during consultations by pointing out a specific rung in figure 1.

Despite the fact that the consultation system was introduced on a larger scale in the early 1980s, with the intent of the two actors finding suitable solutions for co-existence, one fifth of the RHCs still do not think that they have any influence at all during the consultations (figure 4), but that the consultations can only be defined as information meetings i.e. rung 1 in figure 1. About half of the respondents consider their influence to be characterised by some sort of dialogue or communication where the two stakeholders exchange information but where the influence of the RHCs is very limited. Although there is some variation, most of the RHCs agree on the fact that their influence over forest management is very limited. According to the mean value, they define their influence under the present management system as only a form of dialogue, where the two actors start to exchange information and where joint management actions may take place but without joint jurisdiction over the resource. Judging from the opinion of the RHCs, the present consultation procedure cannot be defined as a co-management system, due to the uneven power distribution between the actors.

Influence ladder	Reindeer Herding Communities' present influence, in %, according to	
	Reindeer Herding Communities	Forest Companies
7 Partnership	-	-
6 Management boards	-	-
5 Co-operation	-	7
4,5	-	7
4 Advisory committees	-	-
3,5	3	21
3 Communication	19	50
2,5	31	14
2 Dialogue	22	-
1,5	6	-
1 Information	19	-
n	32	14
Mean	2,2	3,3
Standard deviation	0,7	0,7

Comment: Many respondents had difficulties to point out a specific rung but placed themselves between two rungs.

Figure 4 Reindeer Herding Communities influence on consultations according to reindeer husbandry and forestry

In contrast to the opinion of the RHCs, the forest companies have, with some exceptions, a united view on how much influence the RHCs have during consultations. For the most part, the forest companies think that the influence of the RHC correspond to rung 3, where information between the actors is exchanged and where the needs of reindeer husbandry is reflected in forest planning. Although the forest companies place the consultations on rung 3 instead of rung 2, like the RHCs, neither the forestry industry nor the RHCs consider the RHCs to have any real influence in the consultation process. There are some of the respondents which state that the influence of the RHC has reached rung 5, where local actors starts to have input into management and where local knowledge is solicited. However, for the most part the two actors involved in the procedures agree that the present consultation procedures cannot be defined as a co-management system.

Despite this, the RHCs have a rather optimistic view about the possibilities to increase their influence at consultations in the future, as illustrated in figure 5. The majority of the respondents believe that it would be possible to reach rung 4, i.e. to at least get an advisory role and, through this role, take part in forestry planning. However, many of the respondents would like to increase their influence in the management even further and take a more active part in forest planning as well as how the forest is managed, although there were some variations in the answers. Some of the respondents are what they defined as more “realistic”, pointing out a lower rung, while some of them are more “optimistic”, pointing out a higher rung. A few of the respondents also expressed

political claims that equal partnership should be introduced or even that the land that the Swedish State has stolen from the Sámi should be returned (interview 22).

Influence ladder		Reindeer Herding Communities' possible influence in the future, in %, according to	
		Reindeer Herding Communities	Forest companies
8	Self management	3	-
7	Partnership	10	-
6	Border joint management	3	7
5	Co-operation	26	36
4,5		3	-
4	Advisory system installed	39	21
3,5		3	-
3	Communication	-	-
2,5		-	-
2	Dialogue	2	-
1,5		-	-
1	Information	-	-
No		-	29
Do not know		-	7
n		31	14
Mean		4,2	3,1
Standard deviation		1,9	2,4

Comment: Many respondents have had difficulties to fit their influence into the ladder, and placed themselves between two steps. Step 8 on the influence ladder mean that one stakeholder has autonomy and the other stakeholder has no influence over the resource. One case is missing.

Figure 5 Reindeer Herding Communities possible influence in the future on consultations according to reindeer husbandry and forestry

Although the forest companies had a fairly consistent view about the degree of influence of the RHCs under the present consultation system, the opinions about future situation rendered a rather large variation of answers. Almost one third, 29%, of the forest companies do not consider it possible or even desirable to increase the influence of the RHCs in the management of the resources that both actors are dependent on. However about 20% of the companies state that the RHCs should have an advisory role, and 36% state that there should be co-operation, i.e. where reindeer herding industry has an input in forest management. One respondent even advocated a joint management board in which the forest resource is managed commonly by the two industries.

In sum, the two actors agree on the fact that the RHCs have a relatively low degree of influence during consultations. Yet there are clear subjective reasons to claim that that the forest industry enjoys the majority of the benefits from the system, while the RHCs suffer, in terms of losing reindeer grazing land. It would be hard to claim that Ostrom's design principle 2, which says that there should be a proportional equivalence between benefits and cost, is fulfilled. Due to the

uneven power distribution, the ability of the RHCs to influence the outcome of the negotiations is very limited. Therefore, it is also possible to conclude that the consultation procedure does not offer the necessary low cost conflict resolution mechanism (design principle 6) or that the RHCs have any opportunity to modify the rules to any extent (design principle 3). Criticisms were also raised during interviews, towards the monitoring (design principle 4) and sanction system (design principle 5). According to the RHCs, the lack of supervision of forest industry actions by responsible State agencies, as well as the lack of an adequate sanction system, undermine the efforts to reach a compromise between the two actors. In conclusion, several of the design principles that do account for successful institutional arrangements are not fulfilled, or at least disputed, and therefore the consultation procedures cannot be defined as a robust system that guarantees a sustainable co-existence between the two industries.

However, as mentioned earlier, the respondents did not only express pessimistic opinions about the consultation procedures. A majority of the respondents believe that it will be possible to increase the influence of the RHCs in the future. Although some of the representatives of the forest industry stated that RHCs should not be involved in forest management to any great extent, the forest industry did not completely reject the idea that RHCs should be more involved in forest planning. On a more specific point, most of the representatives from forestry thought that an extended planning process, where reindeer husbandry is included in the initial phase, could create better prerequisites for co-management and also lead to a more efficient use of grazing areas (see also Nordh, 2000).

8. Standards for improved consultations

The institutional arrangements of the present system of consultations between the forestry and reindeer herding industries is characterized by only a few of the design principles necessary for guaranteeing long term success in sustaining the forest resource and, thus, the co-existence of forestry and reindeer herding. Under these circumstances it is relevant to ask whether it is possible to improve the present system and by which means.

In the evaluations of the consultation procedures, the respondents were asked to propose measures that would improve the consultations (National Board of Forestry, 1987; 1992; 2001). However, due to a low respondent rate, it is impossible to draw any conclusions from the evaluations concerning this issue. For the purpose of this study, the few answers obtained were compiled into a list of standards that might be used in order to improve the consultations. The question was then

raised in the interviews. The respondents were asked to consider and rank the three most important standards listed in figure 6.

<i>Criterion</i>	<i>Description</i>
Knowledge	The two stakeholders have mutual and equivalent knowledge of each others' industries, understanding of economic influence on long as well as short terms included.
Level	Both stakeholders have the mandate to negotiate and make decisions on behalf of their respective industry.
Material	Overall maps as well as detailed maps and plans are needed for both industries as well as the help of modern techniques (e.g. GIS) and field visits.
National Board of Forestry's role	A negotiator is taking part in the consultations, e.g. the National Board of Forestry.
Object	The stakeholders agree on which object and what is discussed in consultations; e.g. final fellings, soil scarification methods, fertilisation, forest roads et cetera.
Objective	The two stakeholders have the same objective on how the forest resource should be managed.
Result	The result of the consultations should be acceptable to both stakeholders as well as possible to live by.
Trust	To build trust between the stakeholders, a personal relationship has to be built up and meeting have to be conducted with continuity.

Figure 6 Standards for improved consultations

As shown in figure 7, both industries agreed on the two most important standards that might improve the consultations: knowledge and trust. Regarding knowledge, one forest company stated that: *“knowledge is creating a solid ground for co-operation. [...] We wish we had better knowledge of reindeer husbandry and there is probably a lack of knowledge about forestry among reindeer herders as well – both biologically and economically”* (interview 4, author's translation)⁶. A RHC expressed similar ideas, saying, *“[i]f we understand each others' industries, we can find solutions”* (interview 30, authors translation)⁷. Education and transfer of knowledge should thus be prioritised tasks for both industries.

⁶ In Swedish: ”kunskap skapar grunden för ett bra samarbete. [...] Vi önskar att vi hade bättre kunskaper och det finns säkert brister hos rennärningen också – såväl biologiska som ekonomiska.”

⁷ in Swedish: ”[k]änner man till varandras näringar kan man också finna lösningar.”

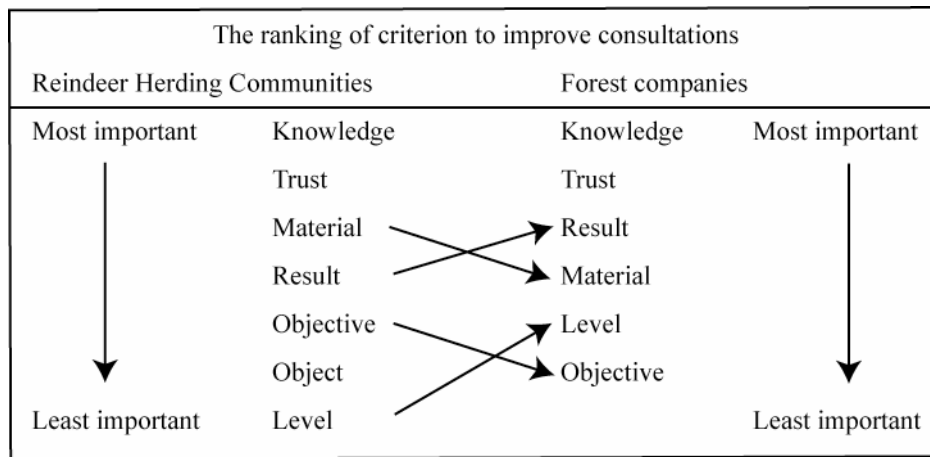


Figure 7 The ranking of criterion important to improve consultations

According to both actors, the importance of growing personal relationship and creating trust is the second most important standard. This is in line with co-management theory, which emphasises trust as an important factor for robust co-management arrangements (Ostrom, 1990). Trust among representatives from the two industries is, however, probably more difficult to create than a sufficient knowledge base. In situations where there is a lack of trust, some respondents wished that it would be possible to appoint a mediator in order to solve conflicts between the actors. This could, for example, be a task for the National Board of Forestry.

The RHCs ranked 'material' and 'result' as the third and fourth most important standards, while forestry ranked the two issues the opposite way. One reason to this difference is probably that it is the forest industry that provides the materials (i.e. maps, plans, etc.) on which the consultations are based. Although some of the RHCs, with the help of the National Board of Forestry, are now creating similar plans and maps as the ones used by forestry, most RHCs still lack written material that can be used to show the total impact on grazing areas, not only from forest actions but from other land users as well. The aim of the Land Use Plan for Reindeer Husbandry, that some of the RHCs are working with, is to gain a complete picture of the whole land area at the disposal of each RHC. The application of the plan has only recently started, so there are still no results regarding its effectiveness available. However, expectations about the usefulness of the plan during consultations with the forest industry are high (Sandström, et al. 2003).

The lack of available material during negotiations is considered to be a problem, not only by the reindeer herding industry but also by the forest industry. The lack of information makes it difficult to take into consideration the needs of reindeer herding industry, and according to some of the representatives of the forest industry the RHCs would probably also be able to use the land more

efficiently if they had access to better material (interview 36; 44). Thus, another high priority task should be to produce material that the reindeer herding industry would be able to use during consultations.

Returning to the list of standards, neither of the two groups considers joint objectives to be an important standard in improving consultations. However, in CPR theory, objectives are an important criterion. Joint objectives do not mean only having a joint practical goal, but also having joint objectives on how to manage the resource as well as effectively co-manage the resource. This problem was reflected in the analysis of the power distribution among the actors, where the RHCs wanted to gain more influence over forestry decisions, while some of the representatives from the forest industry had the opposite opinion. The different views about the objects and joint objectives might explain why the consultation procedure still is only about dialogue or communication and not about co-operation and partnership.

In conclusion, most respondents agree upon which standards must be improved in order to develop the present consultation system. Some measures have already been taken, for instance educational ones, but most of the respondents maintain that much remains to be done in order to avoid conflicts over the forest resources.

10. Prerequisites for successful co-management in the forests of northern Sweden

The consultation procedures are influenced by the Swedish forest policy, which in turn is permeated by the principle of freedom under responsibility (Forestry Act 1979:429; Reindeer Husbandry Act 1971:437; Widmark, 2005). Therefore, the forestry and reindeer herding industries are, for the most part, supposed to solve conflicts over the forest resources on their own. But according to evaluations of the procedures, this system has not been working properly. Nevertheless, as we have seen in this study, both industries agree that the significance of the consultation procedure has increased over time. Both industries are also in agreement as to how the present consultation procedures might be improved. Enhanced knowledge, trust and better basic data are standards that, according to the actors, will affect the result of the consultation procedures in a positive way. However, even if the system now is working better and the proposed improvements will be brought about, it is uncertain if they will affect the uneven power distribution between the actors; and the uneven power distribution seems to be the major problem within the present management system.

Despite the fact that forestry and reindeer herding industry formally have equivalent rights to use the forest resource for different purposes, this study clearly confirms that the present system with consultations does not give sufficient protection for the rights of the reindeer herding industry. In addition, the consultation procedures do not live up to the institutional design principles that characterize robust common property institutions. Interesting as well is the fact that the economic aspects of the conflict, which were also included in the interview material, seem to either be left out of the equation or perhaps taken for granted and, thus, not considered. From the outside, the economic aspects of a relationship would seem to be one of the most important factors when running a business, but in this case the uneven power distribution and influence over the forest resource seems to be more important. Thus, economic issues are not the first to come to mind when discussing problems and solutions to this particular land use conflict. One possible reason for this might be the problem of estimating the total values of the forest resources, that is timber value as well as the value of natural grazing areas combined. In addition there is the problem of estimating the benefits and costs that come out of collaborative management.

Since the conflict over forest resources is escalating, it is necessary to adjust the present management system in order to take into consideration the needs of both actors if the two industries are to continue to co-exist in the future.

When asked how an increased influence in consultations could be reached, most RHCs agreed that, even though most forest companies show a good will to consider the interest of reindeer husbandry, the only way to change the power relations is through legislation where the Sámi's right to land is fully recognised. Many also place their hope in a future Swedish ratification of the ILO-convention 169 concerning the rights of indigenous peoples and that it will improve the RHCs access to grazing areas. However some of the RHCs are of an opposite opinion. According to the respondents, a stronger legislation would only lead to deeper conflicts between the two industries. The only way to create a deeper understanding and mutual respect between the two stakeholders is to keep the consultations more or less voluntarily, like today.

Most of the representatives from the forest industry that participated in this study are of the same opinion, i.e. possibilities to co-existence should be created within the present management system. However, at the moment, there seems to be no incentives to undertake such changes. Most of the respondents in this study do seem to think, however, that it would be possible to involve the RHCs earlier in the forest planning process and, thereby, give the RHCs at least an advisory role, i.e. the achieve lowest degree of co-management.

Although some improvements have been made within the present consultation system, it seems rather difficult for the involved actors to change the procedures by themselves. A combination of deliberate actions within the FSC standards and enabling legislation, including clarified Sámi land use rights, is probably needed in order to create a robust co-management system of forest resources in the north of Sweden.

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References

- Arnstein, S.R., 1969. A Ladder of Citizen Participation. *American Institute of Planners Journal*, 35, pp. 216-224.
- Berkes, F., ed., 1989. *Common Property Resources. Ecology and Community-Based Sustainable Development*, London, Belhaven Press.
- Berkes, F., 1994. Co-management: Bridging the Two Solitudes. *Northern Perspectives*, 22(2-3), pp. 17-21.
- Berkes, F., C. (eds.), 1998, *Linking Social and Ecological Systems. Management Practices and Social Mechanisms for Building Resilience*, Cambridge University Press, Cambridge.
- Björklund, 2000. Consideration toward Reindeer Husbandry in Long-term Timber Planning (in Swedish: Hänsyn till renskötsel vid långsiktig planering av virkesproduktion.), Delprojekt Vindeln, Umeå, SLU & Skogsvårdsstyrelsen.
- Bostedt, G., Parks, P. J., Boman, M., 2003. Integrated Natural Resource Management in Northern Sweden: An Application to Forestry and Reindeer Husbandry. *Land Economics*. 79(2), pp. 149-159.
- Bostedt, G., 2005. Pastoralist Economic Behaviour: Empirical Results from Reindeer Herders in Northern Sweden, *Journal of Agricultural and Resource Economics* 30(2), pp. 381-396
- Campbell, T., 1996. Co-management of Aboriginal Resource. *Information North*, 22(1), <http://arcticcircle.uconn.edu/NatResources/co-management.html>.
- Danell, Ö., 2004. Hur allvarlig är situationen för rennäringen? In Esselin, A. (ed). *Fjällen i Fokus. En konferens om fjällens möjligheter och begränsningar. Fjällmistra report 7*, pp. 6-7
- DePaoli, M. L., 1999. Beyond tokenism: Aboriginal involvement in archaeological resource management in British Columbia. Graduate thesis, University of British Columbia, <http://www.scarp.ubc.ca/thesis/depaoli/>.
- Forestry Act (in Swedish: Skogsvårdslagen). 1979:429.
- Gustavsson, K., 1989. Reindeer Husbandry – a Presentation to Foresters (in Swedish: Rennäringen – en presentation för skogsfolk). Jönköping, National Board of Forestry.
- Hahn, T., 2000. Property Rights, Ethics and Conflict Resolution. *Foundations of the Sami Economy in Sweden*, Swedish University of Agricultural Sciences, Uppsala.
- Hamilton, A., 2003. More effective consultations between reindeer herding and forestry : improved dialog by a developed consultation process, Paper 2003:3, Jönköping, National Board of Forestry
- Jentoft, S., 2003. Co-management, the Way Forward. in Wilson, D. C., Nielsen, J. R. & Degnbol, P. (eds.), *The Fisheries Co-management Experience, Accomplishments, Challenges and Prospects* Kluwer Academics, Boston.

- Kooiman, J., 2003. *Governing as Governance*. London, Sage.
- Lundmark, L., 1998. *Så länge vi har marker*. Stockholm, Prisma.
- Mattson, L., 1981. *The Relation between Forestry-Reindeer Husbandry* (in Swedish: *Relationen Skogsbruk-Renskötsel*). Report nr 2, Umeå, Department of Geography, Umeå University.
- National Board of Forestry (in Swedish: *Skogsstyrelsen*). 1987. *Evaluation of Consultations 1984-1985 Forestry and Reindeer Husbandry* (in Swedish: *Utvärdering av samråden 1984-1985 Skogsbruk och rennäring*). Paper 1987:3 (in Swedish: *Meddelande 1987:3*), Jönköping: National Board of Forestry.
- National Board of Forestry (in Swedish: *Skogsstyrelsen*). 1992. *Evaluation of Consultation Forestry and Reindeer Husbandry* (in Swedish: *Utvärdering av samråden Skogsbruk och rennäring*). Paper 1992:3 (in Swedish: *Meddelande 1992:3*). 1992, Jönköping: National Board of Forestry.
- National Board of Forestry (in Swedish: *Skogsstyrelsen*). 1999. *Statistical Yearbook of Forestry 2000* (in Swedish: *Skogsstatistisk årsbok 2000*). Jönköping: National Board of Forestry.
- National Board of Forestry, (in Swedish: *Skogsstyrelsen*). 2001. *Evaluation of Consultations 1998 Forestry-Reindeer Husbandry* (in Swedish: *Utvärdering av samråden 1998 Skogsbruk-rennäring*). Paper 2001:6, Jönköping: National Board of Forestry.
- Nordh, M., 2000. *A Model Study of the Potential Reindeer Grazing Adjusted to Future Final Fellings* (in Swedish: *Modellstudie av potentialen för renbete anpassat till kommande slutavverkningar*). Working paper 77. Umeå: Department of Forest Resource Management and Geomatics, Swedish University of Agricultural Sciences.
- Ostrom, E., 1990. *Governing the Commons*. Cambridge, Cambridge University Press.
- Ostrom, Elinor, 2005. *Understanding Institutional Diversity*, Princeton University Press, Princeton and Oxford
- Pinkerton, E., ed. 1989. *Co-Operative Management of Local Fisheries*. University of British Columbia Press, Vancouver.
- Reindeer Husbandry Act (in Swedish: *Rennäringslagen*). 1971:437.
- Sandström, P.et.al., 2003. *Conflict Resolution by Participatory Management: Remote Sensing and GIS as Tools for Communicating Land-use Needs for Reindeer Herding in Northern Sweden*. *Ambio*, 32(8), pp. 557-567.
- Seabright, P. 1993. *Managing Local Commons: Theoretical Issues in Incentive Design*, *Journal of Economic Perspectives*, 7 (4), pp. 113-134.
- Statistical Yearbook of Forestry (in Swedish: *Skogsstatistisk årsbok*). 2004.
- Statistics Sweden., 1999. *Swedish Reindeer Husbandry* (in Swedish: *Svensk rennäring*). Gulls Tryckeri, Halmstad.
- SOU 2001:101. 2001. *A new reindeer herding policy* (in Swedish: *En ny rennäringspolitik*). Betänkande av rennäringsspolitiska kommittén, Stockholm, Ministry of Agriculture, Food and Consumer Affairs (in Swedish: *Jordbruksdepartementet*).
- Widmark, C., 2005. *Forestry and Reindeer Husbandry in Northern Sweden. The Development of a Land Use Conflict*, Department of Forest Economics, Swedish University of Agricultural Sciences, Working paper