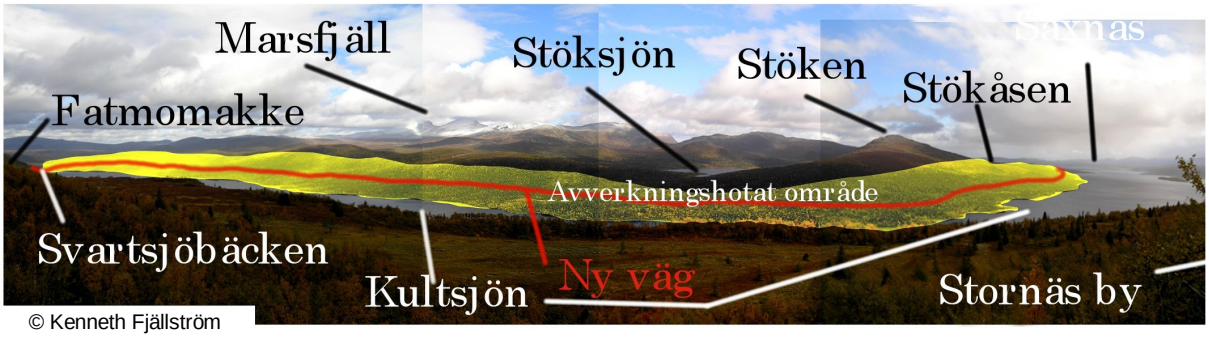
Participatory forest management in conflict situations

A case study in Swedish Lapland

MSc-thesis - Sander Siebrand - October 2006



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CONTENTS

FIGURES AND TABLES

ABBREVIATIONS AND ACRONYMS

BMFN	Barents Model Forest Network
CBD	Convention on Biodiversity
CBFM	Community-based forest management
CFM	Collaborative forest management
CL	Collaborative learning
CPR	Common pool resource
DAD	Decide, Announce, Defend
EIA	Environmental Impact Assessment
FAO	Food and Agriculture Organization of the United Nations
FSC	Forest Stewardship Counsil
IDRC	International Development Research Centre
IAP2	International Association for Public Participation
IFF	The Intergovernmental Forum on Forests
IPF	The Intergovernmental Panel on Forests
ITTO	International Tropical Timber Organization
LRF	Lantbrukarnas Riksförbundets Skogsägarna, Swedish Federation of Forest Owners
LSt	Länsstyrelsen (The county administrative board)
MF	Model forest
NFP	National Forest Programme
NGO	Non-governmental organization
NISP	Naturvårdsinriktad Skogsbruksplan (nature-oriented forestry plan)
NVV	Naturvårdsverket (Swedish Environmental Protection Agency)
SFF	Samfällighetsförening (local landowner association)
SFM	Sustainable forest management
SNF	Svenska Naturskyddsföreningen (The Swedish Society for Nature Conservation)
SS	Skogsstyrelsen (The Swedish Forestry Agency, merge of SVO and SVS since 2006)
SSR	Svenska Samernas Riksförbund (National Association of Swedish Sámi)
SVS	Skogsvårdsstyrelsen (The Swedish National Board of Forestry until 2005, regional office)
SUO	Statens Offentliga Utredningar, State Public Inquiries (The ~)
SVO	Skogsvårdsorganisationen (The Swedish National Board of Forestry until 2005, main office in Jönköping)
UNCED	United Nations Conference on Environment and Development
UNFF	United Nations Forum on Forests
VMF	Vilhelmina Model Forest
VNSB	Vilhelmina Norra Sameby (Vilhelmina North Sámi Community)
VSSB	Vilhelmina Södra Sameby (Vilhelmina South Sámi Community)

SUMMARY

During the last decades natural resource management in general and forest management in particular have changed. In the past forests were managed for a single commodity and for the general public, but lately more and more emphasis has been put on the multi-functionality of forests. Thus it has been recognized that multiple interests are connected to forests and that the general public in fact consists of a variety of stakeholders. The interests connected to forests are often incompatible and sometimes conflicts arise over them. Participation, the involvement of stakeholders into a decision-making process, has been suggested to be a suitable approach to manage multiple interests and to avoid the escalation of conflicts in many cases. The changing of natural resource management has manifested itself in international forest policy in which participation has received considerable attention.

Also in Sweden forest management has changed over the past decades; in the 1980s and 1990s conservation issues became incorporated in forest management and recently also social values have become a part of the objectives of Swedish forest policy. Participation also has gained importance; in 2005 Sweden ratified the Århus Convention in which participation has a central place. Participation may be an approach to deals with the multiple interest and the returning conflicts in the mountainous forest regions. The regions have been inhabited by the Sámi since ancient times. These indigenous people have the ancient right to live on these lands and herd their reindeer. Besides multiple interests there thus also exists a dilemma of overlapping rights.

The objective of this study was to to implement a stakeholder and interest analysis, and on the basis of it acquire knowledge about participation in forest management in the mountainous forest regions of Sweden. A case study was executed around the planning of clear-cuts in a 500 ha mountain forest in Swedish Lapland (Stöken). Multiple rights, interests and stakeholders are connected to the planning in Stöken. Two forests owner associations have the right to harvest timber and the Sámi have the right to graze their reindeer on the same land. Beside that, Stöken is located on the opposite shore of a very important cultural heritage site and has high nature values.

The two main techniques used during this case study are semi-structured interviews and document analyses. Eight representatives were interviewed. On the basis of the interviews the interests that are connected to the planning in Stöken were identified, as well as the stakeholders that should represent these interests. Insight was also gained in how these interests relate to each other and how they are competitive. Together with the analysis of special forestry plans that include nature and social values the interviews gave insight in how participation is currently practiced. Most importantly the respondents were asked on which level of influence the different stakeholders should be able to participate in forestry planning in the future.

Seven interests appeared to play an important role in the planning in Stöken: cultural heritage, local inhabitancy, reindeer husbandry, large-scale forestry, recreation and tourism, ownership of adjacent land, and environmental and nature values. These interests are all to some extent competitive with forestry. Some interests are besides that competitive with each other. Participation currently only consists of consultation with the involved Sámi Community. Such consultations are required by law and have a formal character. They often take place behind closed doors.

The main findings of this study are that stakeholders should be informed about felling plans from the very beginning, but that providing information is not enough and stakeholders should be actually involved in planning processes, preferably on the levels of influence of *advisory body* or *cooperation*.

The conclusion of this study is that in addition to the circumstances in mountainous forest areas (multiple right, interests and stakeholders, and escalation of conflicts) and the stimulation of participation in national and international forest policy, participation is wanted by the stakeholders themselves.

1 INTRODUCTION

1.1 Background

In the last decades natural resource policy and management have undergone fundamental changes; one could speak of a paradigm shift. Governments served the public interest by managing "the *greatest good for the greatest number*". This good was usually a marketable commodity like timber. Nature conservation was practiced in reserves, areas closed for exploitation of natural resources. However, natural resources do have other functions than solely the production of a single commodity or conservation; examples are different types of recreation (hunting, berry and mushroom picking) and land-use by indigenous people. This is more and more recognized, and new approaches are being developed to integrate different interests into policy and management. Involving stakeholders is such an approach (Schelhas 2003). Different interests are being addressed in a decision-making process when the stakeholders that represent them are involved.

Stakeholder involvement is an approach to sustainable forest management. Sustainable forest management is the "*stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems*" (MCPFE 1993). Participation is a way to involve stakeholders in sustainable forest management and to integrate different forms of land-use and interests. Participation is a fairly new concept in natural resource management in that participation in practice often has an experimental character; many experimental participation projects are carried out around the globe (e.g. Higman et al. 2005, Bhatnagar et al. 1996, Schelhas 2003).

The rights and interests involved with natural resource management are often incompatible. The incompatibility of rights and interest is the most important characteristic of conflicts. Dealing with conflicts is thus to some extent basic to natural resource management and to sustainable forest management. The escalation of conflicts is likely to severely hamper sustainable forest management; functions, interests and rights are segregated instead of being integrated. Management of conflicts may prevent them from escalating, or may decrease the negative effects of already escalated conflict (Daniels and Walker 1997). The techniques used in conflict management and participation are often similar (Priscoli 1997). Conflict management and participation are thus strongly related concepts.

The increasing importance of sustainable forest management and stakeholder involvement manifested itself during the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, also known as the "Earth Summit". An action plan, Agenda 21, in which stakeholder involvement is an important issue, was formulated. One of Agenda 21's principles for sustainable forest management, the Forestry Principles, reads: "*The planning and implementation of national forest policies should involve a wide variety of people, including women, forest dwellers, indigenous people, industries, workers and non-government organizations*" (UNCED 1992).

Almost simultaneous with the UNCED 1992 a series of Ministerial Conferences on the Protection of Forests in Europe (MCPFE) was initiated. The conferences took place in Strasbourg (1990), Helsinki (1993), Lisbon (1998) and Vienna (2003). "*The MCPFE is a high level political initiative that has developed as a dynamic process towards the protection and sustainable management of forests. This political commitment involves 44 European countries in the European Community and cooperates with other countries, as well as international organizations that participate as observers* (MCPFE 2005)." The conferences yielded commitments and resolutions which are later incorporated into the working programme and National Forest Programmes. A National Forest Programme is a comprehensive forest policy framework for the achievement of sustainable forest management of a country. Besides the MCPFEs objectives National Forest Programmes are also based on the objections and principles of the UN institutions that were established after the UNCED 1992, the Intergovernmental Panel on Forests and the Intergovernmental Forum on Forests. One of the main principles of the National Forest Programmes is participation (MCPFE 2005; Liss 1999).

1.2 Problem description

Also in Sweden participation in forest management has become more important. According to the goals of the National Board of Forestry "*the forest should be managed so that it produces a range of values over the whole country of Sweden*". "*Landowners and others that work with forestry, reindeer keepers, hunters, hikers, tourism businesses and others that use the forest have an understanding of each other's needs and work together in the usage*" (Enander 2005).

Although Sweden does not have a National Forest Programme it does meet the requirements of the Intergovernmental Panel on Forests. This means that Sweden does practice sustainable forest management, but that sustainable forest management is not implemented according to an official National Forest Programme. The Intergovernmental Panel on Forests' arguments for this are, that Sweden 1. conducted a training project Africa, 2. carried out an international training program, 3. has a bilateral agreement with Russia, 4. has a bilateral "memorandum of understanding" with China, and 5. established a model forest (UNFF 2004). In 2004 the Vilhelmina Model Forest was established. The Vilhelmina Model Forest covers 120 000 ha that include 58 000 ha of forested land, northern ecosystems and a number of indigenous communities. The main objectives of the Vilhelmina Model Forest are sustainable forest management and the conservation of biodiversity. Within the Vilhelmina Model Forest "stakeholders *should have opportunities to participate in developing local solutions to their sustainable forest management and land-use issues*" (UNFF 2004; Svensson et al. 2004).

Sweden takes part in the international development of sustainable forest management. Participation is an important element of sustainable forest management, and it may thus be expected that participation plays an important role in Swedish forestry. Still participation is not frequently practiced in Sweden. In addition Sweden signed the Århus Convention in 1998 and ratified it in May 2005. Part of the objective of the Århus Convention is to guarantee the right of access to information and participation in environmental decision-making and sustainable development (UNECE 1998).

1.3 Objective and research questions

The objective of this study is to implement a stakeholder and interest analysis, and on the basis of it acquire knowledge about participation within sustainable forest management in Sweden. Sweden is partly inhabited by indigenous people and executing a case study on participation and conflict management in sustainable forest management is thus as relevant in Sweden as it is in any tropical country. Research is being done on this subject, but not many case studies have been executed on participation in Sweden, especially not within forestry or sustainable forest management.

This report presents a study that is executed in and around Stöken. Stöken is a more than 500 ha old-growth forest in Swedish Lapland. The situation of Stöken perfectly illustrates the problems and dilemmas of forest planning dealing with multiple interests, rights and stakeholders. Stöken has high economic and nature values and is furthermore located right next to an important cultural heritage site. The Sámi have the right to graze reindeer in the area and the two owner associations have the right to harvest timber. In the end of 2004 the owner associations started planning a rather extensive series of clear-cuts in Stöken. The planned clear-cuts have a total surface of approximately 250 ha. The last decades some conflicts in the region escalated, and considering the situation around the planning of forestry in Stöken, a serious conflict may arise and escalate.

The central question is:

> *Can participation be a suitable approach to sustainable forest management in the mountainous forest region in Sweden to avoid conflict, and how should participation then be employed?*

The answer to this question is based on a case study. The case study also has a regional significance. It contributes to the knowledge about and experience with participation and sustainable forest management in the regional context. It may give insights in the specific regional situation, for example

which stakeholders are important and should be considered in future situations and studies. The results of the investigation of the central question are recommendations for the implementation of a participatory planning process.

More specifically the research questions are:

1. *Which interests and stakeholders are connected to the planning process in Stöken?*

2. *What are the relations between the different interests and stakeholders?*

3. *How were different stakeholders involved in planning processes, and how are they currently involved in the planning process?*

4. *On what level of influence should participation in the planning of forestry activities take place in the future?*

1.4 Structure of report

In Chapter 2 the place of participation in trends in forest management is first discussed. Then a general introduction to the concepts is given and the aims, disadvantages and levels of participation are discussed, as well as the identification of interests, stakeholders and techniques, and features of a participation process. The chapter touches upon two concepts there are related to participation: stakeholders and conflict management.

In Chapter 3 the methodology is explained and the study area is presented.

In Chapter 4 first developments in Swedish forest policy are discussed and the place of participation in it. Then the case is elaborated.

In Chapter 5 the results of the study are presented. The identification of interests and stakeholders, the relations between them, the current status of participation, and the preferred level of participation for the future are discussed.

The discussion in Chapter 6 comprises reflections on the methodology, the theory and the results.

Chapter 7 consists of the conclusions and recommendations.

2 THEORETICAL FRAMEWORK: FOREST MANAGEMENT AND PUBLIC PARTICIPATION

This chapter starts with an overview of trends in forest management showing the increasing importance of participation in forest policy, planning and management. In the rest of the chapter the concept of participation will be elaborated. First the term *participation* will be discussed. Thereafter the aims of participation will be discussed. Besides advantages participation also has disadvantages. These will be briefly discussed. Participation is not a standardized procedure with fixed rules; its nature depends on the level of influence the involved stakeholders have and it comprises a wide range of approaches and techniques. The levels of participation and the techniques that are associated with the different levels will be discussed in the middle part of this chapter. The last part of this chapter is a discussion of the participation process. The most important parts of a participation process are its initial stages: the identification of stakeholders, interests and techniques. These will be discussed second last and then the chapter will end with a discussion of different aspects of participation processes.

2.1 Trends in forest management

In the last two decades of the 20th century new approaches to forest management emerged. Schelhas (2003) identifies four mayor trends. 1. There is a shift of interest, from one single resource (e.g. timber) to multiple resources including non-commodity values. At the same time there is a shift of scale. Management is more and more focused on larger scales like regions, landscapes or watersheds. 2. With the shift of interests dilemmas and disputes over rights to a resource arise. Landowner do not have the sole and absolute right over a resource, other parties also may have or claim rights to the resource. Previous balances between ownership and other rights are being contested much more frequently. Dilemmas and disputes may cross borders or involve influences from outside the region, what makes problems more complicated. Policy tools to deal with these dilemmas and disputes are still being developed. Among which collaborative decision making is one. 3. Science itself and its relation to other knowledge systems changes. Interdisciplinary approaches are more often used in science and in management, as well as non-scientific knowledge, for example the knowledge of indigenous people. 4. The versatility of the 'public interest' is more and more recognized. In the past resources used to be managed for the 'public interest' and science would determine this interest, but when the 'public' is considered as a compilation of stakeholders, it appears that the 'public interest' historically favored certain interest groups. There exist power relationships between groups "*along class, racial and ethnic lines*", when these are considered, new governance procedures can evolve and stakeholders are then able to articulate their interests themselves. In its new role science can support these new governance procedures.

The growth of participation as a management approach during the last decades may also be explained by a change of circumstances: information is more accessible, the media is more intrusive, protest movements have been arising, and interest and lobby groups revive. The failure of other approaches in the past also gave rise to participation. And because the human population keeps growing and resources degrade the pressure on natural resources and the conflicts over them increase (Buchy and Hooverman 2000).

Table 2.1 illustrates these trends in forest management. It shows the typical characteristics of projects with a single-use objective and of projects with multiple objectives.

Table 2.1 Contrasting Forest and Conservation Management Approaches (Source: Bhatnagar et al. 1996).

	Government Forestry and Conservation Projects	**Participatory Projects**
Objectives	Timber production or other single-use objective (for example, watershed protection and short-rotation fuelwood); protection of biodiversity paramount over other uses.	Usually multiple production and biodiversity conservation objectives involving all stake holders; developing local skills for forest and conservation management.
Scale	Large management units based on natural biophysical or political boundaries.	Micro-management units corresponding to self-selected or residential units.
Local Use Rights	Usually very limited and frequently ambiguous or temporary.	Extensive, clearly defined rights for local users.
Protection	Policing by forest service guards and fencing, often ineffective and expensive.	By local community, frequently using social fencing; higher local costs but low government costs; local accountability.
Typical Plan	Long rotation of even-aged stands for economies of scale in management and industrial supply; centralized management of protected areas and conservation sites.	Short rotation of uneven-aged stands designed to supply diverse products for continuous income and subsistence needs; community management.
Harvesting Contracts	Generally, large government contracts with administrative pricing mechanisms and subsidized supply arrangements.	Generally combine multiple household marketing arrangements with small-scale contracts for high-value products.
Technical Basis	Based on results of scientific research and single product optimization models.	Based on combination of traditional knowledge and use patterns with forest and conservation service guidance.
Planning Process	Centralized management planning process carried out by forest and conservation service staff.	Plans drawn up by community or household participants with guidance and approval from forest and conservation service.
Plan Revisions	Generally, little flexibility in management prescriptions without cumbersome bureaucratic approvals.	Great flexibility in management prescriptions to adapt to changing conditions and needs.

2.2 Participation: general definition

Table 2.2 shows a selection of different definitions of 'participation'. It shows that there is not one sole definition of participation, but that there exist many different definitions. In many articles and on many websites about participation the term is not defined. A reason for that can be that the authors simply refer to the definition of the dictionary; people taking part in something, irrespective of the way they take part and in what they take part. The definitions in Table 2.2 differ because the context in which they are used are different. The definition of the World Bank (Bhatnagar et al. 1996) specifies stakeholders' influence and control, and that people can be affected by decision-making processes and their outcomes. It also puts emphasis on resources, something that clearly relates to the nature of the World Bank. Morf's (2005) definition includes some reasons for participation in the definition, namely to improve the quality of resource management and the acceptance of it. That shows that Morf (2005) focuses on operational efficiency of participation. The definition of FAO/ECE/ILO includes many aspects of participation and is in that way very complete. It stressed that participation should be voluntarily. That implies that power lies not only by the initiator of a participation process. The definition makes a distinction between individual stakeholders and groups. That means that stakeholders do not necessarily need to organize themselves before they can take part in a participation process. The definitions of the World Bank and of FAO/ECE/ILO differ from the other definitions in that they stress that stakeholders should have an influence on decision or outcomes. Because participation can have many forms it is most convenient to use a general definition. That definition can then be used in many different contexts, while more specific definitions can only be used in specific contexts. In this report the term participation refers to the definition from the dictionary "*The act of taking part or sharing something*".

Table 2.2 Definitions of participation.

Source	Definition
Morris 2000 (dictionary)	The act of taking part or sharing in something.
Bhatnagar et al. 1996	A process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them.
Morf 2005	Enhancing the involvement of the public and of local resource users to improve the quality of resource management and its acceptance.
FAO/ECE/ILO 2000	Public participation is a voluntary process whereby people, individually or through organized groups, can exchange information, express opinions and articulate interests, and have the potential to influence decisions or the outcome of the matter at hand.

2.3 Aims of participation

A distinction can be made between participation as an end and participation as a means to an end. When participation is a means to an end its goal is efficiency of a decision-making process, for example to adapt a plan to the preferences of stakeholders, to increase the support for decisions, or to profit from local knowledge or from the creativity of stakeholders. When participation is an end it is an approach in itself, a part of an ideology. It is the antithesis, or complement, of representative democracy in which the power to make decisions is centralized. The question is, if representative democracy offers sufficient possibilities for communities or stakeholders to influence decisions. Through participation people can have a larger influence in decision-making. The distinction between participation as a means to an end and participation as an end is also a matter of scale of a decision-making processes. A distinction can be made between policy, planning and management (Buchy and Hooverman 2000).

2.3.1 Efficiency: participation as a means to an end

The contrary of integrative policy making is closed policy making. With closed policy making a government authority makes a policy and decides how it will be implemented. The responsible government authority only announces decisions that are already made and then defends them. This is called the DAD model or tactic. DAD stands for Decide, Announce, Defend. Closed policy making brings forth risks, particularly the acceptance of the policy by interested parties. If people suddenly are confronted with a certain policy, resistance against it can arise or a new debate can be started, especially when the policy has negative implications for certain parties. This may seriously hamper the implementation of management decisions.

With an integrative planning process possible obstacles can be recognized in an early stage and, while progressing through the planning process these obstacles can be tackled. When stakeholders are involved in the planning process creative solutions may originate and the creativity of people is thankfully used (Aarts en Maarleveld 1999). Additionally, when stakeholders design a plan or policy themselves and share the costs, benefits and responsibilities they are likely to be motivated to implement the plan or policy and enforce its rules (Bhatnagar et al. 1996).

The problems of closed policy making are aggravated by the separation between the legislative and executing organizations within a government. Often the impact of decisions only becomes clear during their implementation. When people are not involved in the development of policies, they are suddenly confronted with it when it is being implemented by an executive governmental organization (for example the forest agency). It is the executive governmental organization that has to deal with the problems that are caused by a policy that is developed by a legislative governmental organization. Participation can enhance the implementation of a plan or policy. Then the separation between legislative and executive government organizations fades; people are able to influence decisions on both levels (Priscoli 1997).

Natural resources frequently extend across jurisdictional borders, for example borders between regions, states, and countries. The laws and regulation in each jurisdiction often differ; this can lead to

problems with the management of a natural resource. Participation processes are not necessarily limited to a limited area, but they can extend across borders and integrate the laws and regulations of the different jurisdictions into a policy or plan (Priscoli 1997).
Governments often lack resources like personnel and financial means to effectively control and manage all forest areas in a country. This is especially relevant in developing countries. Enlisting the assistance of local communities reduces the need for these resources (Wiersum 2000). In this way participation may be cost efficient.

People may have different rights to forests or to use them. These rights may overlap for one certain area, and must be balanced in some way. That some rights are not recorded in legal documents makes things more complicated. Direct rights include territorial rights, ownership of trees and other resources such as minerals, grazing and wildlife, and rights of access, use and control (for specific purposes and times). Indirect rights are rights to protection of cultural heritage, landscapes and folklore, collective rights (for example a community's rights to self-determination and to represent itself through its own institutions), religious freedom, rights to development, and rights to privacy. When ignoring or violating these rights a forest organization is likely to experience problems in one way or another. Forest organizations have encountered problems when social issues in general were not addressed, for example:

- legal challenges and compensation claims;
- unrealistic demands for infrastructure development;
- uncooperative local and political leaders;
- withdrawal of labor and confrontation with management;
- stalled negotiations with neighboring communities, politicians and employees;
- claims on land after it has been developed for forestry;
- bad press and political backlashes;
- loss of markets and contracts;
- vandalism and sabotage;
- hostility towards forest managers and companies.

Participation is a way to consider social values in forest management and helps to avoid these problems. When there is an incentive, or when there is a benefit for people, they tend to contribute positively to forest management (Higman et al. 2005).

Forests are nowhere exactly the same and local inhabitants probably have the best overview of specific local ecological and socio-economic conditions. When local communities have the right to use and manage forest resources, they are likely to take accountability for the management and control of it. They have a stronger relation to the forest resource, and may be directly dependent on forest products, and therefore have a greater interest to carefully manage forests than government officials (Wiersum 2000). It can also be assumed that the distribution of resources is more equitable when the people who are directly dependent on forest resources are involved in the decision-making process (Wiersum 2000).

Forest productivity can increase through participation. Local knowledge about forest ecosystems, or the knowledge of any other stakeholder, can enhance the management for a forest product and increase its yield. A market for new products may be developed on the basis of local knowledge. When the forest can be used in multiple ways, for different products or by different groups, its total production and thus the benefit for society will be higher than when it is only used for the production of one single product and other uses or user groups are excluded. In case of a conflict on the other hand a forest's productivity may be zero because parties block each other's use (Bhatnagar et al. 1996).

Forestry is the best development option in some areas because they provide goods that can be directly used for livelihood (fuel wood, medicines, wood for building, rope, bush meat, fodder, mushrooms, honey, edible leaves, roots and fruits), goods to trade or sell (goods for livelihood, art and

craft products, timber and other wood products), and indirect benefits (land for other uses, social and spiritual sites, environmental services like watershed protection and biodiversity conservation) Forestry can contribute to sustainable development and it has a great potential but the danger is that too much will be expected from forest organizations. For this reason it is also important to learn about stakeholders' expectations in an early stage of forest planning (Higman et al. 2005, Bhatnagar et al. 1996).

2.3.2 An ideology: participation as an end

Participation can be an ideology, a way to empower people. Through participation people can have more influence in decisions than they would have in a representative democracy. But here lies a dilemma; when a natural resource is managed by its users there is a risk of free-riding and overexploitation. This dilemma has been frequently addressed in literature on common pool resources.

To maximize their benefit common pool resource users tend to follow their short-term interests, which are not in the long-term interest of the common and of other users. This dilemma is caused by two characteristics of common pool resources: excludability and extractability. User can be excluded from a common pool resource but the exclusion through physical or institutional means is especially costly. The resource is extractable, but it is also limited and exploitation thus reduces resource availability for other users (Ostrom et al. 1999). Hardin (1968) called this "*The tragedy of the commons*", because he believed that the eventual destruction of commons was inevitable. Hardin's solutions to the "*The tragedy of the commons*" were privatization or governmental regulation, but Ostrom et al. (1999) point out, that tragedies indeed have occurred but that humans have also successfully managed commons for thousands of years. People have organized themselves to manage commons or created long-term sustainable institutions for the governing of resources. So, there exist more solutions than Hardin suggested. Much of the common pool resource literature has been aimed at showing under what circumstances self-management appears and succeeds. Participation and influence in decision-making processes are necessary components of successful self-management processes (Ostrom et al. 1999).

2.3.3 Conflict management

A reason to use participation can be to avoid conflict. Priscoli (1997) even shows that distinction between public participation and conflict management has become blurred; techniques typically used for either participation or conflict management are more and more universally used (Priscoli 1997; See Figure 2.1). This suggests that it is not really important whether there actually is a conflict or not, as long as the right techniques are used in particular situations.

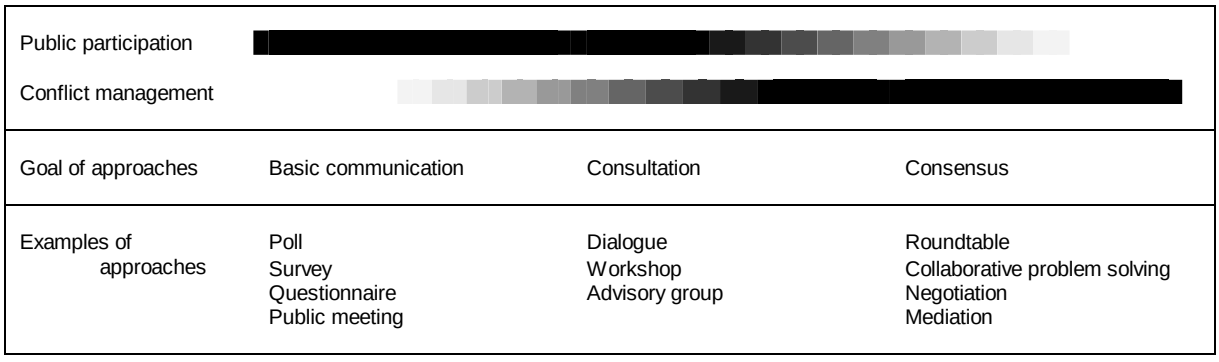


Figure 2.1 The blurring of public participation and conflict resolution roles (Carpenter 1995 in Priscoli 1997).

Walker and Daniels (1997) have investigated different definitions of conflict. They concluded that it is difficult the give one, all-comprising definition of conflict, but that conflicts have a number of features in common. Below follows a discussion of these feature. Conflicts generally involve:

- perceived incompatibility;
- interests, goals, aspirations;
- two or more interdependent parties;
- incentives to cooperate and compete;
- interaction, communication;
- bargaining, negotiation;
- strategy, strategic behavior.

Incompatibility

Incompatibility is the central feature of conflicts. It means that two or more activities or actions cannot go hand in hand; one action prevents, obstructs, interferes or injures another or makes it less effective. Conflict means that parties perceive a divergence of interests, or they believe that the parties' aspirations cannot be achieved at the same time (Walker and Daniels 1997).

Interests, goals, aspirations

Incompatibility has several aspects. First of all it exists between parties' goals, objectives or aspirations concerning some issue. Issues can be substantive, procedural and relational. Substantive issues are observable, definable or measurable. In forest management a substantive issues for example are the actual use of a forest, the way in which it is used, or the actions taken to use it. Procedural issues are about the 'rules of the game', the decision-making procedure, about how the interaction between parties should go. Relational issues are about the relation between parties, for example how much emotional distance they wish to keep between each other or how much influence they allow each other (Walker and Daniels 1997).

Conflict issues can also be characterized according the nature of their incompatibility. Incompatibility can exist about facts, values, interests, jurisdiction, persons, history and culture. Parties may not agree what are facts or not, what is true or accurate. With values are meant the criteria, bases or priorities that determine decisions, relationships or other issues. With interests is meant the distribution of a resource; who gets what? With jurisdiction is meant who has the authority to make decisions? Disagreement can exist about personal factors, determined by the personalities of the people involved, for example how they behave toward each other. The history of the conflict, the relationship between the parties and how the history is perceived by different parties determines how the future of the interaction and the further development of the decision-making process. Parties' different cultural backgrounds, world views and identities may create incomprehension between them (Walker and Daniels 1997).

Parties and interdependence

Major factors related to conflict are systematic errors that parties make when they process information. Parties for example tend to oversimplify; they view the situation as the distribution of a fixed pie. This amplifies the competitive aspects of the situation in stead of focusing on working together for mutual gain; the parties strife for a piece of the pie, while the problem precisely is that not all parties can get their piece (Walker and Daniels 1997).

Parties need to feel interdependence before they interact. If parties only perceive incompatibility and do not believe that they are dependent on other parties to work towards mutual gain, they are unlikely to work together. In other words, parties are likely to work together when they feel that they depend on each other to gain something. Important here is that parties feel that they can influence the

decision-making process, or in other words that other parties recognize them and their dependence on each other (Walker and Daniels 1997).

Conflicts are situational

Conflicts are different in different situations, depending on their level, setting and scale. Conflicts occur on different levels, for example between persons, cultures, groups or organizations. Examples of the setting of conflicts are natural resource management, health care, immigration, welfare, foreign relations, etc. Conflicts can cover different scales, they for example may involve regional or international interests. Conflict management should thus take into account that all conflicts are different (Walker and Daniels 1997).

2.4 Disadvantages of participation

Figure 2.2 shows some advantages of participation. Although the advantages are plenty participation does also have disadvantages; there is no such thing as the single best management approach. Davis (1996; in Buchy and Hooverman 2000) lists costs of and risks with participation:

- increased time and administrative costs;
- allowing opposition to develop;
- raising exaggerated expectations;
- limited view points expressed through consultation;
- vocal and organized groups overshadowing viewpoints;
- problems of representation and legitimacy; and
- wrong or biased information.

These concerns are not necessarily the limitations of participation itself, but participation may be used in a wrong way, particularly when agencies are not experienced with it. There is a lack of monitoring and evaluation of participatory planning processes and thus a lack of information to assess the costs and benefits of participation more precisely (Buchy and Hooverman 2000).

Of course the success of participation in planning depends on the actual involvement of people, are people willing to participate in a planning process? A planning process can be very sound but when no or too few stakeholders are willing to participate in it, no interactive or collaborative planning can be implemented (Priscoli 1997).

The use of participation is on the rise. This has two complications. There is not much experience with the approach, which means that there are not many experienced practitioners and yet the demand for them is high. As a result, participation is in some cases badly practiced and faith in participation as an approach may be lost (Interactweb 2005b).

A possible problem with participation is that stakeholders may become tired if they are repeatedly asked about their opinions about the same subjects, or about subjects that are of little relevance or interest for them. This tiredness is especially likely to occur when the planning processes do not yield any action or change, or when the stakeholders do not get feedback about how their opinions are used (Interactweb 2005b).

Participation is often used only in experimental projects. Because of this stakeholders may feel that they do not have influence and their willingness to participate may diminish. This is a vicious circle because, if stakeholders are less willing to participate, participation will not break loose from experimental settings (Interactweb 2005b).

Participation is often not evaluated for its effectiveness. The costs, benefits and results of a participation process are often not evaluated. Evaluations of participation processes give insight in what may be good practice and increase knowledge about and experience with them. In this way the successfulness of participation processes in the future may be increased (Interactweb 2005b).

1. Achieving real, relevant, lasting change. When the people and organizations most intimately connected with projects, policies or programs are involved in understanding, designing and implementing them, they care about outcomes and work to ensure the benefits last.

2. Understanding and ownership. Agreed changes are always likely to last better if they emerge from wider understanding and a genuine sense of 'ownership'. This reduces risks of subsequent conflict, damage or resistance.

3. Better quality projects and programs. Expert advice and local user or stakeholder knowledge incorporated into the design, development and management of policies, programs and projects, can enable initiatives to meet genuine needs values, opportunities and demands.

4. Avoiding conflict. Identifying, anticipating, avoiding or resolving conflicts at an early stage in policies, programs and projects reduces the potential for costly delays at later stages. A dialogue can be established so that issues can be raised and dealt with as necessary.

5. Saving time. Rather than delaying, proper participative processes can speed things forward from ideas to implementation.

6. Reducing costs. Reducing conflicts, creating a sense of ownership and speeding complex decisions reduces costs. Reductions can be dramatic, for example if legal processes can be avoided.

7. Credibility. Wide involvement can create a positive image for the project, program or policy, or its initiator, and build public credibility and support.

8. Learning. There are extensive organizational and individual training and developmental opportunities in participatory processes, not just for participants but for all parties.

9. Responding to public demand. The public are increasingly demanding to be informed of and involved in the decisions which affect their lives. They are more prepared to take direct action when they are dissatisfied with those decisions or the way they are taken.

10. Changed relationships. Well managed processes can begin to mend long-standing divides between sectors and groups, build trust and develop mutual understanding, of benefit in any single project, and of real significance in the medium term.

Figure 2.2 Benefits of participation (Source: Interactweb 2005a).

2.5 Levels of participation

Priscoli (1997) writes that "*one of the worst events in participation is to apply one level of technique, such as public hearing, and expect that another level of behavior, agreeing to, will occur*". Therefore, it is important to formulate which level of participation is the most suitable for a certain situation, so that a fitting technique can be chosen. Figure 2.4 shows the relation between different levels of participation and techniques. In reality the relations between levels of participation and techniques are not so sharp and the way techniques are used influence the effect (Buchy and Hooverman 2000). Still this classification can give useful indications to construct a sound planning process. There are more figures that illustrate the different levels of participation. The International Association for Public Participation spectrum lines the figure of Creighton (1986) that Priscoli (1997) uses. The International Association for Public Participation links levels of participation with typical techniques and in addition to that to what the public can expect of a certain level. See Attachment 2 for the complete spectrum. Another example of a participation levels figure is the ladder by Berkes (1994, in Sandström 2004; See Figure 2.3).

Walker and Daniels (1997) categorize the activities on the lowest level of participation as notification, issues surfacing, and commenting on draft decisions. They call this formal public participation. Notification is the informing of the public that an agency decision process is beginning, and what might be known at that point about the structure of the planning process. Typical notification activities are newsletters, mailings and publications. Issue-surfacing or scoping is the examination of interested parties to determine their interests, goals and ideas about the project. Typical issue-surfacing activities are workshops, field trips, soliciting letters and person-to-person communication. Typical forms of commenting on draft decisions are public meetings and comment letters from the public.

Walker and Daniels (1997) criticize formal public participation as being ineffective. Formal public participation may make planning easier and more adapted to local needs, but people do not feel

ownership over the decision, they feel that their input had little or no impact. The formal character of participation also may form an obstacle for people to share their interests or ideas. Not all people feel comfortable writing a formal letter or speaking in front of an audience at a meeting or hearing. This affects the quality of the information the planning agency receives.

Partnerskap inrättas *Partnership*	Parterna är jämlika och fattar beslut gemensamt. *Partners are equal and make joint decisions.*
Styrelser för gemensam förvaltning av skogen inrättas *Board for joint management*	Gemensamma målsättningar för förvaltningen av skogen upprättas och parterna kan fatta vissa beslut gemensamt. *Joint goals for forest management defined and partners can make joint decisions.*
Samarbete *Cooperation*	Intressenterna kan via förhandlingar nå ett visst inflytande över förvaltningen av skogen. *Stakeholders can influence forest management through negotiations.*
Rådgivande organ inrättas *Advisory body*	Intressenterna ges möjlighet att delta med en rådgivande funktion i utvecklingen av förvaltningsplaner (verksamhetsplaner) för skogen. *Stakeholders are given the possibility to give advice during the development of forest management plans.*
Kommunikation *Communication*	Informationsutbyte sker mellan parterna, intressenternas angelägenheter börjar synas i förvaltningsplanerna. *Parties exchange information, stakeholders' issues become visible in the management plans*
Konsultation *Consultation*	Parterna möts: intressenterna har möjlighet att framföra synpunkter även om skogsägarna inte behöver hörsamma dem. *Parties meet: stakeholders have the possibility to express their views, though the forest owners do not have to accept them.*
Information *Information*	Intressenterna informeras om beslut som redan har fattats. *Stakeholders are informed about decisions that are made.*

Figure 2.3 Possible levels of stakeholders influence in forest planning (Adapted from Sandström 2004).

2.6 Starting a participation process

The first steps of a participation process are the identification of stakeholders and interests; they form the basis of the whole process. When the interests and stakeholders are identified, suitable techniques for the participation process can be searched for, with or without the involvement of stakeholders. These three actions are discussed below.

2.6.1 Identifying stakeholders

Table 2.4 shows a few selected definitions of the term 'stakeholder'. The intention here is not to give an extensive list of definitions or extensive discussion of the term, but rather to show that there exist multiple definitions. According to Ramírez (1999), many definitions are proposed in the natural resource management literature, and it is most important to realize that the word in modern use not only refers to persons and individuals only but also to groups and organizations.

Many definitions are similar and only have a slightly different formulation. They all refer to *people* and their *relation* to an organization and a decision-making process. When used in this report, the term 'stakeholder' refers to the definition of Higman et al. 2005.

Table 2.3 Definitions of stakeholder.

Source	Definition
Morris 2000 (dictionary)	[1. One who holds the bets in a game or contest.] 2. One who has a share or an interest, as in an enterprise.
The World Bank 1996	Those affected by the outcome, negatively or positively, or those who can affect the outcome of a proposed intervention.
Higman et al. 2005	All the people who are interested in, or affected by, forest management and operations.
Freeman 1984 *	Any group or individual who can affect, or is affected by, the achievement of a corporation's purpose.
Röling and Wagemakers 1998 *	Natural resource users and managers.

* in Ramírez 1999

When stakeholders are involved in a planning process, three kinds of parties should be considered: primary, secondary and peripheral parties. Primary parties are aware that their interests are incompatible with other interests and they interact directly with other (primary) parties to achieve their goals, objectives and aspirations. Secondary parties have an interest in a certain planning process or conflict and are directly affected by the outcome of it. Secondary parties are potential primary parties but are for some reason not directly involved (yet). There can be various reasons for a party not to be involved, they may not have sufficient resources or access to the planning process, or the may have the idea that it is not appropriate for them to be involved. All these are problems of representativeness. Peripheral parties have an interest but are NOT directly affected by the outcome of a planning process or conflict. Also these kinds of parties may eventually get involved in the planning process or the conflict. Typical peripheral parties are the media and the public (Walker and Daniels 1997).

Including too many stakeholders makes the planning process more complex, only already for the reason that it is easier to interact with a smaller number of parties. Excluding stakeholders is in sharp contrast with the nature of participation, i.e. involving stakeholders in a planning process. The safest way is to make sure that as many people as possible know about the planning and that everybody is free to participate (Buchy and Hooverman 2000).

There is also a threat that the stakeholders are unintentionally excluded. The design of a process may already exclude people. People may not be able to attend a meeting when they cannot afford or arrange childcare or the transport to a meeting. And writing letters forms a high barrier for some people. (Buchy and Hooverman 2000).

Higman et al. (2005) distinguish two key groups of stakeholders:

1. stakeholders who have useful contributions to make to the success of the forest organizations, and;
2. stakeholders who will be most affected by forest management.

They add that the two groups may overlap; people who are most affected may also be the people who have the most to contribute. Another distinction can be made between people who have rights to a forest or a forest organization and people with interests in a forest or a forest organization. The first group can also include people who perceive to have a right.

Stakeholders can be identified in many different ways. Which way is most appropriate depends on the situation. All ways have their advantages and disadvantages. The most important point is not to exclude any stakeholders and thus the goal should be to involve all stakeholders. Combining ways reduces the risk for the exclusion of stakeholders (Higman et al. 2005).

Self-selection
The initiator of the planning process spreads information about it and invites people to participate. This approach is open to all, but it may still exclude certain individuals or groups because it expects them to come forward by themselves, while they may perceive obstacles to do so. For example a sense of hostility toward the organization that initiated the planning or a lack of resources. People with good resources, such as local elites, may put themselves forward on the account of other stakeholders. And there is a risk that the information does not reach the stakeholders.

Identification by experts
People in the organization who have worked in the region or area for a long time can identify individuals and groups. The risk is however that they pick the same people over and over again, and that others are thus excluded. People from organizations other than the initiator of the planning process can also select stakeholders. This is suitable when certain stakeholders are hostile towards the organization that initiated the planning process. Examples of other organizations are land and agricultural agencies, local governments, religious and traditional authorities, or other forest agencies or organizations.

Identification using record and population data
Names of people involved in past event like conflicts, complaints, meetings and financial transactions are usually recorded in reports or other documents. The source may be the forestry organization itself or some other organization. Also census or population data may include useful information about stakeholders. However, there is a risk of relying on inaccurate or incomplete information.

Identification and verification by other stakeholders
Early communication with first identified stakeholders will help the planning organization to identify their representatives and other stakeholders. The risk is that a small group of stakeholders name each other, and others will be excluded.

Whatever way is chosen, there are certain questions to consider when identifying stakeholders (Higman et al. 2005):

- Who is or who might be affected, positively or negatively, by the forestry practice?
- Who are the representatives of those who are/might be affected?
- Who is likely to resent any aspect of forest management and mobilize resistance against it?
- Who can make forest management more effective through their participation or less effective when they do not participate or oppose to it?
- Who can contribute resources and information?
- Whose behavior has to change for forest management to succeed?

Representativeness
The representation of a party can be a dilemma. A representative or spokesperson needs sufficient support of the party, otherwise there is a chance that the representative only negotiates personal ideas and opinions, or that the representative. This implies that there should be consensus within a party about goals and aspirations. Communication between a representative and the other members of a party is important. During the planning process the representative receives information and learns from other parties. This information has to be communicated to the other members of the party. When an information gap between the representative and the party is formed, there exists a threat that the representative does not receive sufficient support of the party and the planning process fails (Aerts and Maarleveld 1999).

Power

The power parties have relates to a party's access to resources. Participation has costs, for example travel time and costs that may prevent a party from participating. Compensations for expenses are a good way to resolve this problem (Buchy and Hooverman 2000).

Still some parties may have more power; it is the responsibility of the planning authority to make sure that their interests do not receive more weight and that less powerful parties are also listened to (Buchy and Hooverman 2000). That power differences between stakeholders exist does not mean that forest managers or other stakeholder should necessarily do something about them, but being open about them is important (Higman et al. 2005).

2.6.2 Identifying interests

Identifying interests is an essential step towards agreeing the objectives of forest management; based on the relevant interests the objectives are formulated and future management actions are in their turn based on the objectives. One way to identify interests is to investigate stakeholders rights, responsibilities and returns; the three Rs. Because of the differing rights, responsibilities and returns of stakeholders they have different relationships; the fourth R. Stakeholders may ignore each other or not even be aware of each other, or they may agree or disagree over certain issues related to the forestry planning. The relationships between stakeholders can be represented in a matrix. It is important to consider here that there may also exist differences within stakeholder groups. For example some local people may have an interest to hunt in an area while other local people want to harvest timber (Higman et al. 2005).

Some of the key questions to consider when identifying interests are (Higman et al. 2005):

- What are the stakeholders' experiences and expectations of the forestry planning?
- What benefits or costs have there been for the stakeholders, or are likely to be?
- What stakeholder interests conflict with the goals of the forestry planning organization?
- What resources has the stakeholder mobilized, or is willing to mobilize?

Identifying interest should involve recognizing extremes. Extreme standpoints simply exist and ignoring them will do more harm than good. An important reason for parties to have extreme standpoints is that they want to put weight to it, not necessarily to boycott the planning process. When extremes are openly recognized and the interests are considered during the planning process, parties have no reason to hold on to their extreme standpoints. At least, when parties hold on to extreme standpoints they are not likely to get support from other parties (Priscoli 1997).

2.6.3 Identifying techniques

The importance of the choice of the right technique in a certain situations is frequently strained (e.g. Priscoli 1997, Buchy and Hooverman 2000). Every planning or conflict situation is different and a fitting technique has to be used. The suitability of techniques is dependent on the level of influence the stakeholders have in the participation process. Of course the stakeholders can be involved in the selection of techniques. Figure 2.4 gives an indication of which techniques suit best to different levels. The International Association for Public Participation's Toolbox gives an extensive overview of available techniques (See Attachement 3 A-C). The techniques are divided into three categories: techniques to share information, techniques to compile input and provide feedback, and techniques that bring people together.

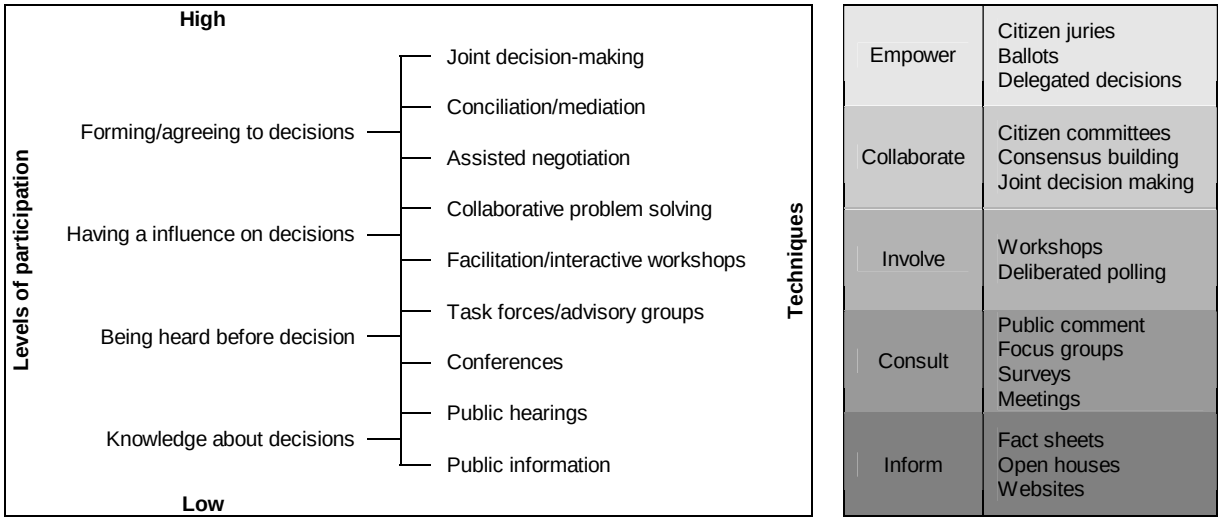


Figure 2.4 Two different 'ladders' showing which techniques are associated with each level of influence. a. Public involvement and conflict management techniques (Creighton 1986 in Priscoli 1997) and b. The participation spectrum (Source: IAP2 2004).

2.7 The participation process

When stakeholders, interests and techniques are identified, the participation process can be continued. There are a number of aspects that should be considered during the process. These aspects are discussed below.

Preparation

In the preparation phase of a participation process Varvasovszky and Brucha (2000) suggest to answer a set of interrelated questions. What is the purpose of the participation process? What is the time span of the process? How much time is available? Which resources are there available? What is the context of the problem? What should be the scale, ranging from local to global, of the process?

Commitment

All the parties participating in a planning project should be committed to the process. There should be an environment wherein people can talk and listen to each other. In such an environment all interest should be identified and clear. The planning process should be transparent and parties should agree upon the objectives of the process itself, so that people will not be disappointed in their expectations. Parties will be more committed when the procedure is transparent (Buchy and Hooverman 2000).

The commitment of the agency personnel to the participation planning process depends on multiple factors. When the personnel are trained or specialized for participatory planning activities the results will be better. Additional training may be necessary. The status of the personnel within the agency may influence their commitment, as does a (financial) compensation for possible irregular working hours. Furthermore the personnel should have adequate resources (Buchy and Hooverman 2000).

People will feel committed to a participation process when they have a sense of ownership over the planning process and the decisions made. A sense of ownership is created when people are listened to, the very basis of a participation process. That is why the interests and process needs of all participants should be communicated, the participants should define themselves how they participate, the participation process should communicate to participants how their input was, or was not, utilized, and the public participation process should provide participants with the information they need to participate in a meaningful way (See Figure 2.5).

People should have a say in decisions about actions that affect their lives.

The public participation process communicates the interests and meets the process needs of all participants.

Public participation includes the promise that the public's contribution will influence the decision.

The public participation process seeks out and facilitates the involvement of those potentially affected.

The public participation process involves participants in defining how they participate.

The public participation process communicates to participants how their input was, or was not, utilized.

The public participation process provides participants with the information they need to participate in a meaningful way.

Figure 2.5 International Association for Public Participation core values (Source: Priscoli 1997).

Transparency

From the beginning of the planning process onwards its goals should be clear so that the stakeholder do not have false expectations and do not feel misled (Buchy and Hooverman 2000).

Resources: time, timing and continuity

Time is an important aspect of the planning process. A planning process may take a lot of time, depending on the personalities of the people involved and the complexity of the issues. It becomes a problem when there is not enough time available or the timing of activities is not appropriate (Buchy and Hooverman 2000).

During a planning process the people involved generally go through certain stages of group dynamics: the forming stage, the storming stage, the normative stage and the performing stage. During the storming stage the personal values and principles determine the roles and responsibilities taken and if the group will proceed or collapse. During the normative stage the group has settled down and is ready to focus on the task. During the performing stage the group is discussing, designing and completing the task (Pretty et al. 1995; in Buchy and Hooverman 2000). Recognizing the stages in group dynamics involves recognizing that each stage takes a certain amount of time. Activities need to be planned at the right time, so that the planning process does not hamper or stop in a stage.

Social learning

Worldviews or fundamental views of the relationships between people and the environment can be based on many different values: life-support, economic, recreational, scientific, aesthetic, historic, cultural-symbolic, character-building, diversity-unity, and religious values. When stakeholders have differences in opinion about worldviews or fundamental views of the relationship between people and the environment, disputes may be perceived as intractable. Stakeholders will not negotiate agreements in conflict with their worldviews, and the participation process may progress little if the stakeholders do not understand and accept each other's worldviews. This means that a participation process should include social learning: parties communicate and learn about each others views (Daniels and Walker 1997).

Social learning is twofold; it is an interaction between the facilitator, the expert, and the stakeholders. On the one hand experts can learn from the stakeholders. Stakeholders bring information into the planning process; indigenous or local knowledge. Local knowledge is information that experts otherwise have not access to, for example because they are not part of a local community. It is a detailed understanding of on-the-ground social and economic impacts of agency policies and procedures, including the synergistic effects of activities of multiple agencies on the same

group of people (Buchy and Hooverman 2000). On the other hand experts do hold knowledge. That is what they are for; experts use and provide knowledge.

Some situation may require social change. When external experts alone acquire, analyze and process information and then present this information in reports, social change is unlikely to take place. Whereas a process that involves social learning, and stakeholders themselves generate, share and analyze information, does enable social change (Bhatnagar et al. 1996).

Negotiations: rather on interests than on positions

A participation process involves negotiations between parties. There are a few conditions that have to be met before parties will negotiate. Parties will only negotiate when they recognize that they are dependent on each other to get a solution. When a solution has to be found there also needs to be a problem, the parties should have conflicting interests, otherwise they would have nothing to negotiate over. A third condition is that parties have to communicate; they have to meet each other (Aarts and Maarleveld 1999).

Negotiations can be distributive or integrative. Distributive negotiations is similar to dividing a pie, everybody gets a piece. Integrative negotiations involve 'reframing', the parties put the problem in another perspective (Aarts and Maarleveld 1999). Integrative negotiations are joint problem solving processes. With joint problem solving parties work together to meet each other's needs and interests and to satisfy mutual interests, in stead of sticking up for their own. During the negotiations the interests are identified first and a joint problem is formulated. Only after that the parties collaboratively search for alternatives that may satisfy all interests. Throughout the process the main focus is on the interests, rather than on the positions of the parties. The parties are constantly informing each other about their interests, and in this sense the process is seen as social learning process. It is a creative process, parties generate alternatives and solutions, not a struggle between opponents (Priscoli 1997).

The result of negotiations is a compromise. It can be a reactive or a creative compromise. A reactive compromise is the result of distributing a pie. A creative compromise is the temporary result of reactions of the parties on each others proposals; one party suggests a solution to a problem, that solutions is a problem for another party, that party then suggests another solutions, etc. Gradually more and more problems will be solved, until all parties can accept the temporary compromise (Aarts and Maarleveld 1999).

Management versus resolution

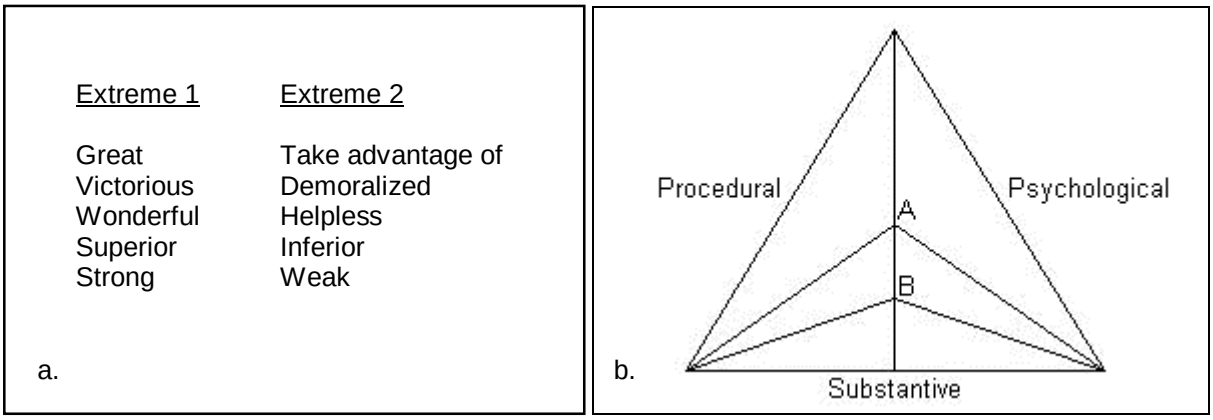
The goal of a participation process does not necessarily have to be resolution. Many situations in which multiple interests are involved are complex and enduring. It may take a long time to reach the 'perfect' solution, if that solution is ever reached at all. The participation process should rather be viewed as the management of a situation. By conducting a participation process the situation can be improved: disputes may be calmed down and the escalation of conflicts prevented, and solutions may be reached in small steps (Walker and Daniels 1997).

Monitoring/evaluating the planning process

It is difficult to say when a participation process has been successful. This judgement depends on the definition of success and that definition is linked to the purpose of the participation process. Success can be measured on products, politics, interests, responsibilities and relationships. With products and politics the focus is on getting a concrete result: an action plan which will be politically viable. With interests the focus is still on a product but also on the process that led to this product. With responsibilities and relationships the focus is mainly on the process. This categorization resembles the difference between participation as a means to an end and participation as an end, or in other words participation with focus on a product and participation with focus on the process (Buchy and Hooverman 2000).

When measuring success efficiency, effectiveness and equity have to be considered. Efficiency is the ratio of inputs and outputs. Effectiveness is the measurement of outputs against the targets set. Equity is to make sure that all people are treated the same, that actions do not affect some people more than others, be it intentional or unintentional (Buchy and Hooverman 2000).

Priscoli (1997) simply measures success from the stakeholders feeling of satisfaction. The outcome of a planning process or the resolution of a conflict is durable when all parties are satisfied. There are three kinds of interests and three related types of satisfaction: substantive, procedural, and psychological. Substantive interests are the interests over which the incompatibility exists. Incompatibility exists over resources, for example land, money and goods. Substantive satisfaction of a party is reached when the goal or aspirations of a party for the use of a resource are met. Procedural interests are the needs of a party for the way a planning process is conducted. Procedural satisfaction is reached when the parties would use a planning process again. Psychological interests refer to how people in a party feel about how they are treated or about the relationships with other parties. Figure 2.6 a shows the extremes of how people may feel after a planning process or conflict. It is very important that parties feel more like the left extreme (1) than like the right extreme (2). This is illustrated by moving from point B to point A in Figure 2.6 b (Priscoli 1997).



Figuur 2.6 a. Psychological satisfaction: two extremes of how parties may feel after a planning process (Source: Priscoli 1997). b. Parties may feel substantive, procedural, or psychological satisfaction after a planning process. It is important that parties feel psychological besides substantive and procedural satisfaction, moving from B to A (Source: Priscoli 1997).

3 METHODOLOGY

The approach to this study is a case study. Case study is a somewhat undefined method; researchers have different ideas what a case studies are (e.g. Yin 1984, Van Velsen 1967, and Mitchell 1983). That is why this chapter starts with a discussion of what in this report is meant with case study and some characteristics of case study. Then the unit of analysis is defined. Case studies can include many techniques. For this study interviewing, document analysis and historical analysis are used. The chapter includes a description of what is meant with them and how they are used. Last follows a description of the location and general features of the study area.

3.1 Case study

Case study is rather an approach to research than a form of research. There is no single defined approach, but there are many theories about case study. All approaches have one thing in common; they study something in-depth. The techniques used for case study depend on the perception and interpretation of the researcher. Here hides a problem: are the observations objective and is the researcher objective in his/her report? What is central is the perception of the participants, the view of the people within a certain situation, or case. Can the researcher communicate this perception? "*Thus case study seeks to engage with and report the complexity of social activity in order to represent the meanings that individual social actors bring to those settings and manufacture in them* (Stark and Torrance 2004).

Case study adds to sociology theory by studying social interaction in particular contexts or histories. It can only do so by identifying and describing first, before trying to analyze and theorize. The underlying assumption is that things may not be what they seem. Understanding a particular case is superior to a generalization to a population as a whole (Stark and Torrance 2004).

The strength of case study is that multiple methods and data sources are used to explore and thoroughly describe a phenomenon, for example a new policy, from the reality of the participants. Case studies take the complex reality of the implementation of a policy and its unintended consequences into account, and aims to raise the understanding of it. The weakness of case study is that it is not possible to statistically generalize a case or a number of cases to a population as a whole. Generalizations can still be made, as a judgment of the quality of the evidence presented. A case study may call upon the reader's capacity for 'natural generalization'; the readers make a link between their own experience and the case and intuitively generalize (Stark and Torrance 2004). In addition to intuition generalizations can be made from a case study based on logical inference, generalizations made about logical relations between variables in a certain situation. This is an assumption, but so is the notion that a random sample represents a population, despite the statistical argumentation (Mitchell 1983).

Generalization of a single case is sometimes seen as problematic, because a case study can not be replicated. Scientific facts are usually based on replicated experiments that study a phenomenon in different conditions. A case study can be compared to one experiment that contributes to the development of theory, and theory can only be based on multiple (case) studies. A case study never stands on its own it is always related to theory and in that sense is part of a series of studies. That is why a case study generalizes to a theory, rather than to a population (Yin 1984).

There exists no blueprint of how case studies should be conducted. There are, however, three methods that are most commonly used: observation, document analysis and interviewing. The risk with all three methods, but in particular interviewing, is that only the perception of the respondent at the very moment is 'observed', while the respondent's perception may change over time or be different in another situation. Longer lasting observations may give insight in deeper meanings behind respondents' perceptions, and from documents a change over time can be recorded. Interviews give an insight in people's memories and explanations of how a situation came to be, as well as insights in the current situation and people's aspirations (Stark and Torrance 2004).

The case study of Stöken is used to investigate if participation could be an approach to forest planning and conflict management. Case study fits well to the explorative character of such an investigation, the emphasis lies on background information and an understanding of social processes. Participation is not a new concept, but it is 'reinvented' in Swedish forest planning. It is thus new to most people involved. Participation is most suitable for use on rather small scale, in contrast to for example elections of representatives on a national scale. The situations in which it is used are likely to be very diverse, and because of that it makes no sense to generalize from one specific situation, the findings are unlikely to apply to other situations. Consequentially there is no need for a random sample that statistically represents a population.

3.2 Unit of analysis

Participation can be an approach to conflict management, and in its turn participation involves stakeholders. That makes the concept of stakeholder most central in this study. To be able to discuss 'stakeholder' in different contexts a simple definition of stakeholder is used in the theoretical framework of this study: All the people who are interested in, or affected by, forest management and operations. On the operational level this conceptual definition of stakeholder is not sufficient. Here follow the criteria a person or party has to meet to be considered a stakeholder. In this study a party needs to have an interest in the forest planning in Stöken to be considered as a stakeholder. In addition to that it has to be recognized by other parties that it has an interest, because for a participation process to be possible parties in the first place need to recognize each others' interest. An interest can be economical, for example timber profit, profit from reindeer products, and profit from tourist enterprises. It can be personal, for example the ability to hunt, and the ability to live in a peaceful and unspoiled natural environment. It can be ideal, for example the preservation of biodiversity and of historical monuments.

However this definition of stakeholder includes individuals, the unit of analysis is stakeholder group. A stakeholder group is a group of individuals that has a certain interest. The reason for this is to correct for a high variation of interests between individuals. Individual opinions always vary and in that way the number of interests may be very large and a discussion of them would be very complicated, let be that it would be possible to include them in a participation process. One environmentalist for example may have special attention for butterflies, another for birds and yet another for reptiles, still their shared interest is nature values. Considering groups instead of individuals results in a smaller set of interests to be covered.

3.3 Techniques

Bernard (1995) says that nothing is more important in research than validity. Validity is the accuracy and trustworthiness of instruments, data, and findings in a research. To be able to check to validity of a study in is essential that multiple techniques are used; the different techniques should produce the same findings. The different techniques used for this study are interviewing, document analysis and a historical analysis. These are discussed below.

The case study has a contemporary and a historical dimension. The historical dimension includes a description of past conflicts over forests in the region. It is based on records of these conflicts and information from respondents. The intention is to gain insight in how conflicts arose in the past, which parties were involved and how conflicts were handled by the parties and the government. Based on this information an assessment can be made of possible future conflicts. The assessment gives a basis for answers to questions like "Is conflict likely to arise?", "When conflicts arise, are they likely to escalate?", and "How can certain parties best be approached?".

Interviews

The core of the case study is semi-structured interviewing. Here semi-structured interviewing means that the interview mainly consists of a list of topics to discuss. The questions were open so that the

respondents could use their own words. The interviewer was not fixed to a predefined set of questions, thus has more freedom to follow up leads that arise during an interview. The data is still comparable because the same topics have been discussed with each respondent. Because the interviews were held in a to the researcher/interviewer nonnative language, questions were formulated ahead of the interviews. That did not mean the interviewer had to stick to these questions, because that would be in contrast with the nature of a semi-structured interview.

The interviews were held in person with the help of a sheet with questions. The questions were grouped into two categories. The first category consisted of questions about stakeholders and their interests. The respondents for example were asked which interests they think play a role in the planning in Stöken, which parties can best represent these interests, and how much influence they should have. The second category consisted of questions about the initial felling plan. Answers to these questions gave insight in people's ideas about the planning; they gave insight in the positions people take and whether conflict is likely to occur.

All but a few questions were in the first place open questions, but sometimes additional information was given with a question. In this way the data was enriched: the open question was already answered, and after that more information was acquired. An open question, for example, could be asked about which parties a respondent would like to see included in the planning process. After that his/her opinion could be asked about parties that were identified before the interviews. Both missed-out parties and irrelevant parties were in this way considered.

A few questions had a "closed response", the answers were already given and the respondent could pick a suitable answer. For example, to answer a question about how much influence parties should have, the respondents were asked to put the parties on a scale.

Maps were used as interview tools. For example maps of the location, the initial felling plans, nature values and timber values. Answers were written down on prefabricated answer sheets and recorded on an MP3-recorder. Using these two ways of recording made it possible to check the answers during the processing of the results. The answer sheets were structured by topic and contained a lot of space for answers, notes, coding, etc.

The respondents had to be connected to the planning in Stöken; they had to be stakeholders. The selection of respondents was therefore preceded by an investigation of the interests that are connected to the planning in Stöken. When the interests were identified, the stakeholders could more easily be identified. And from the stakeholders the respondents could be selected. Stakeholders can be selected in one of the following ways (Higman et al. 2005):

- Self-selection
- Identification by experts
- Identification using record and population data
- Identification and verification by other stakeholders

Combining these ways reduces the risk that stakeholders are excluded. The respondents should be stakeholders and therefore these four ways of selection were used in this study.

The last way took place during the interviews, respondents were asked to point out (other) stakeholders. In this way a respondent pointed out new stakeholders, or recognized the importance of already selected stakeholders.

With self-selection a party wishes to include itself in the participatory planning process. This party then needs to know that a participatory planning process will be done and also who to approach. Since the nature of this study is somewhat explorative and no actual participation process was implemented, this way of selection was not very likely to happen. It could happen though that the respondents directed to another or that people would approach the researcher/interviewer after hearing about the interviews. So was there one respondent that heard about the interviews and

provided some information about projects in the region (another municipality than Vilhelmina) and documents with information related to (participatory) planning, policy, etc. in the region.

The staff of the regional Board of Forestry had a lot of local knowledge about forestry in the region and these 'experts' were able to point out possible stakeholders, at least the obvious ones like the forest owner associations. They also had the contact data of some stakeholders.

Some stakeholders/respondents could be selected using internet search engines. Environmental organizations, for example, usually put quite some effort in raising awareness, about issues as well as about their existence. Many organizations have Websites and contact data could be obtained from them. Much contact data was also available on www.eniro.se, a Swedish national phone number and address database on the internet. The whole country can be searched on name, phone number, address and zip code.

The respondents were approached in two steps. First they received a letter that introduces them to the subject. Second they were contacted by phone for an interview appointment. Because most of the respondents live in a fairly remote area, the appointments needed to take place in an as short as possible time period of a few days, to minimize the costs for over-night stay and car rental.

Eight people were interviewed: a representative of the village interest association (Grundfors), a local inhabitant and shopkeeper (Grundfors), a representative of the local community and small businesses(Grundfors), one person representing tourism in the municipality of Vilhelmina as well as the church town of Fatmomakke, a representative of a reindeer herding association (VNSS), a representative of the County Board of Västerbotten, a representative of the The Swedish Society for Nature Conservation in Vilhelmina (SNF), and a representative of one of the owner associations. The interests covered thus were: forestry, reindeer herding, tourism, cultural heritage, nature values, local bussinesses and local people. The two latter were represented by two people. Nature values were considered from the perspective of the County Board of Västerbotten and of SNF, the local environmental NGO.

The interview results were enumerated, summarized and categorized in a descriptive way. Where possible the data was visualized. No computer programs or statistical tests were used.

An important tool for the interviews was the participation ladder (See Figure 2.3). There are many participation ladders presented in the literature. For this study the participation ladder of Sandström (2004) was used. This ladder is easy to read, and moreover is each level explained in Swedish. To get an idea of what would be a proper level of participation from the stakeholders' perspective, the respondents were asked on which level they find that other stakeholders should participate in current and future forestry planning in forestry in the region. In a copy of the ladder the right side –the part with the explanations- was left empty. The respondents could write the names of different stakeholders in the empty spaces. From the ladder could then be read how much influence each stakeholder should have according to other stakeholders (the respondents).

Document analysis

In the last two decades attempts are made to implement some kind of participation process in forest planning in the region. These are documented in so-called NISPs (Naturvårdsinriktad Skogsbruksplan or forestry plan with nature considerations) and "in-depth activity plans". An analysis of these plans will provide information on which stakeholders and which interests were found to be important in forest planning in the region in the past. These documents report on past participation processes, and from their accomplishments and mistakes can be learned.

Since the 1990s it is require by Swedish law to consult reindeer herders with forestry planning in certain regions. The experience with it is evaluated and a report on it has been written. This report will give some insight in how participation is perceived and experienced by two of the main stakeholder groups, forest owners and reindeer herders, and how the state forestry service deals with it.

The contents of these documents were summarized and discussed. No computer programs or statistical tests were used.

3.4 General information about the study area

The subject of the case study is Stöken. Stöken is an area of 500 hectares of mountainous forest in Swedish Lapland. Near the villages some single trees may have been cut in the margins of the area, but no large scale timber harvesting has ever taken place in Stöken. It consists of old-growth spruce forest. The forest's structure is very rich; there is a lot of variation in tree age, height and diameter. Because it's age and developing stage the forest is fairly open. The forest is alternated with mires on wet places. Spruce is mixed with some broadleaf tree species such as birch and aspen, and here and there grows a single pine. There was a fire on some hectares of forest in the south-end of Stöken in the beginning of the twentieth century. The burned area was planted with spruce afterwards.

Stöken is located in the county of Västerbotten. Västerbotten is the second northernmost county of Sweden (See Figure 3.1). It stretches from the coast of the Gulf of Bothnia (Baltic Sea) in the east to the country border with Norway, and it is enclosed by the county of Norrbotten in the north and by the counties of Jämtland and Västernorrland in the south. The government is represented by the County Administrative Board (Länsstyrelsen) of Västerbotten, which has its residence in Umeå. Västerbotten is the second largest county of Sweden and covers 55 401 km^2, more than one eighth of the land area of Sweden. Västerbotten has nearly 260 000 inhabitants (4.6 inhabitants per km^2; LSt Västerbotten 2006).

Västerbotten is divided in 15 municipalities of which Vilhelmina is one (See Figure 3.2). Vilhelmina is the seventh largest municipality in Sweden, it covers 8 120 km^2. Vilhelmina has almost 7 500 inhabitants, less than 1 inhabitant per km^2. About half of Vilhelmina's inhabitants live in the main town (Vilhelmina; Vilhelmina 2006). A Swedish Forest Agency regional office is situated in the town of Vilhelmina.

The square in Figure 3.2 marks the location of Stöken in Vilhelmina municipality, and refers to the map in Figure 3.3. Stöken lies about 100 km from the town of Vilhelmina.

Figure 3.1 A map showing the outlines of the counties in Sweden, the county of Västerbotten is marked shaded.

Figure 3.2 A map showing the outlines of municipalities within Västerbotten, Vilhelmina municipality is marked not-shaded, the square marks the location of Stöken as shown in Figure 3.3.

The thick black line on the east bank of Lake Kultsjön in Figure 3.3 marks Stöken. The northern part is owned by the local landowner association of Klimpfjäll and the southern part by the local landowner association of Lövberg. The villages of Lövberg and Klimpfjäll lie about 15 and 20 km west of Stöken. Stöken consists lies on the slope between Lake Kultsjön and Marsfjällets Nature Reserve. The two lines that make up the border with Marsfjällets Nature Reserve approximate the tree line. Marsfjällets Nature Reserve is established in 1988. It comprises 86 000 ha of mountain massif and mountainous forest. It is part of Natura 2000, the EU network of protected nature areas (LSt Västerbotten 2006). Stöken is a valuable part of the natural transition from the mountains to the lake.

Near Stöken's southeast end lies the Village of Marsliden and near its northwest end the Village of Grundfors. Opposite of Stöken's northwest end lies Fatmomakke. Fatmomakke is an ancient Sámi meeting place, which later became a church town. The first church was built in the 18th century and in the 19th century settlers came to live in the area and started farms. The church town was a natural meeting place between the settlers and the Sámi and the timber houses of the settlers stood next to the traditional Sámi huts (kåta). This created an unique environment (Fatmomakke 2006).

At Stöken's south end, and across lake Kultsjön, lies Saxnäs. Saxnäs is relatively the largest village is the surroundings of Stöken and has several tourism businesses. Saxnäs and Klimpfjäll are located along the Wilderness Road (Vildmarksvägen), an important tourist attraction in the region.

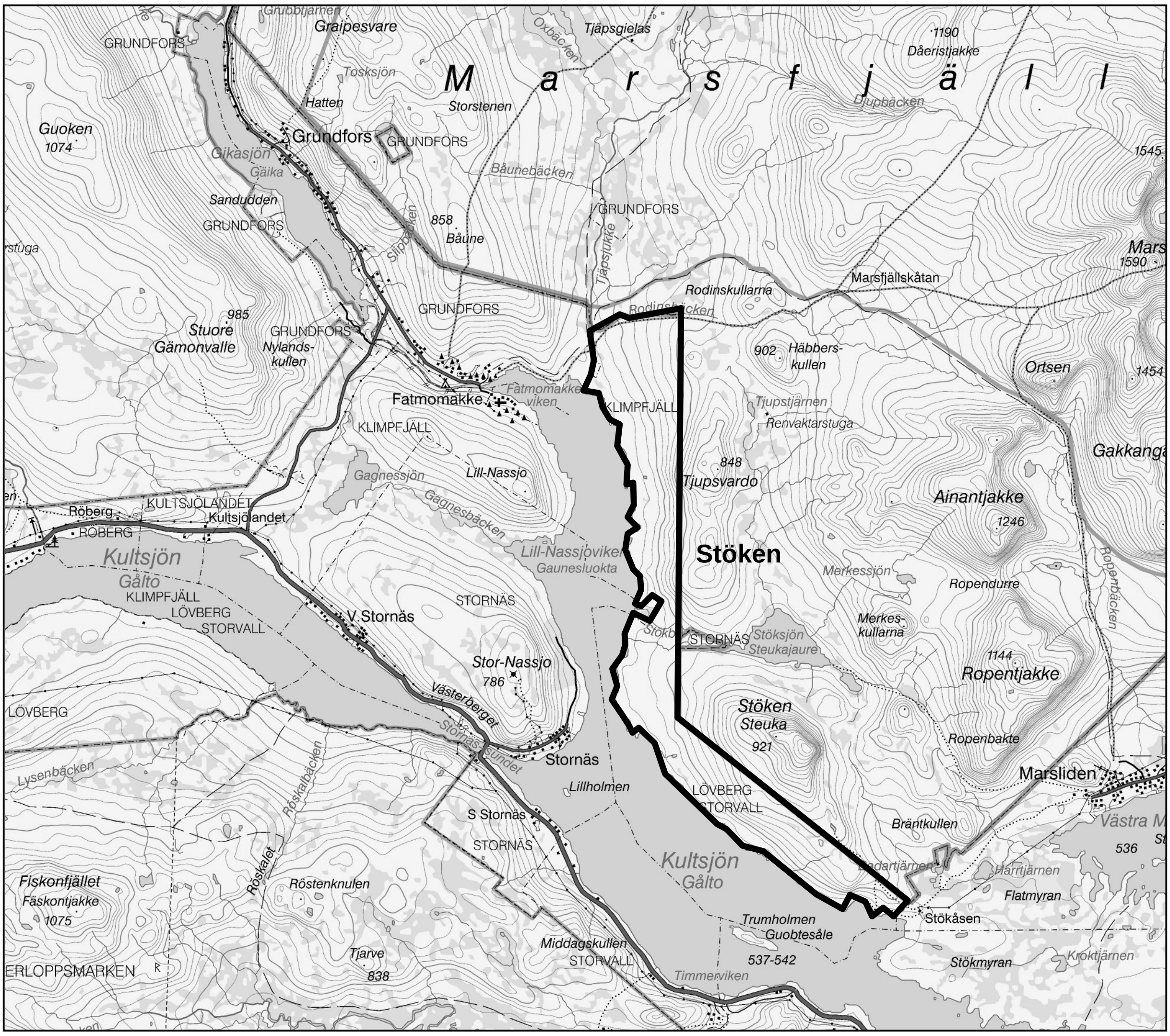


Figure 3.3 The location of Stöken in its direct surroundings.

Lake Kultsjön forms the border between North Vilhelmina Sámi Community (Vilhelmina Norra Sameby; NVSB) and South Vilhelmina Sámi Community (Vilhelmina Södra Sameby; NSSB). Sámi Communities are appointed by the reindeer husbandry law of 1971 (rennäringslagen). They are administrative unities with a historical background, and a kind of economic association of private reindeer husbandry companies. Sámi Communities are also geographic areas that run from the mountains in the west to the coast in the east. They are divided into summer, autumn, winter and spring grazing lands. Some of these lands are used for year-round grazing, others for seasonal grazing. The year-round grazing lands lie near the mountains, the winter grazing lands nearest to the coast, and the autumn and spring grazing lands in between (See Figure 3.4; Borchert and Fields 2001, SSR 2006). VNSB had 20 different reindeer husbandry companies in 2004. They differ in size and family composition, but have a total of 63 members. VNSB is divided into two groups: the Marsfjäll and the Vardofjäll group. The Marsfjäll group grazed its reindeers in the winter mainly along the river Gideälven, and the Vardofjäll group mainly along the river Lögdeälven (VNSB 2006).

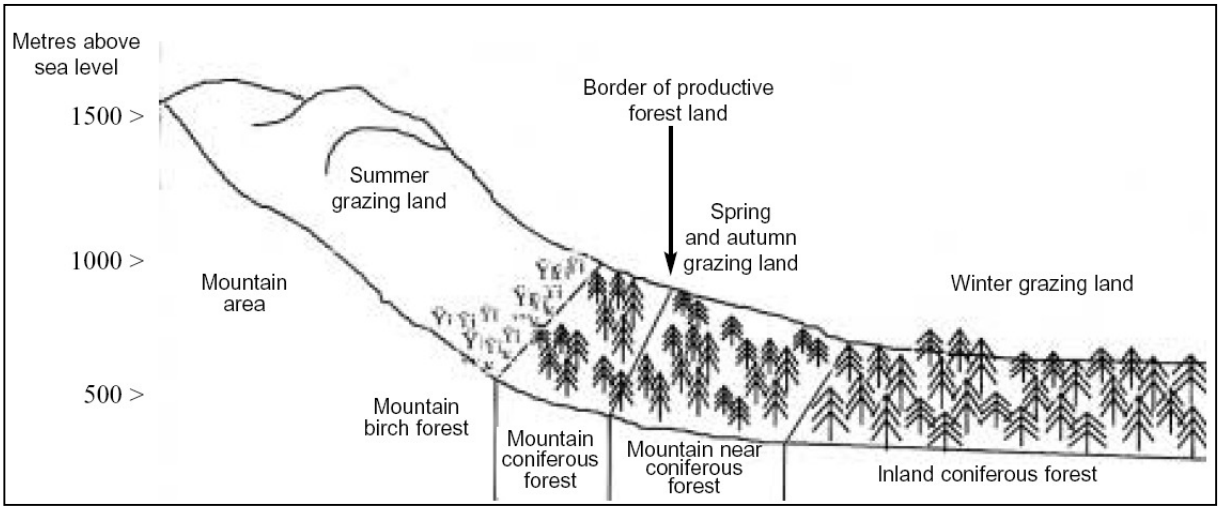


Figure 3.4 The distribution of year-round and seasonal reindeer grazing lands (Source: Borchert and Fields 2001).

4 CASE STUDY

This chapter starts with an introduction of Swedish forest policy, the actors involved in it and its developments over the last decennia. From this introduction can be seen that there has been a growing interest in the involvement of stakeholders into forest management over the last decennium. Ways to implement participation in practice are now being searched for. Since the controversies around felling in old-growth mountainous forests in the 1980s and 1990s the 1994 Forestry Act requires the Sámi to be consulted when timber harvesting is being planned. Such a consultation process is a form of participation. Analyzing it may give insights in how future participation processes may be conducted.

4.1 Swedish forest policy

The Swedish forest policy system has a corporatist structure; the state is interwoven with all kinds of organized interest groups. Traditionally three major actors dominated: associations of the forest industry and forest owners, and the state. The relation between the forest industry and the forest owners was close. The state provided a basic policy framework, if necessary helped to settle differences, monitored forests and provided training to forest owners. Currently NGOs, the Sámi and labor unions also are key actors (Elliott and Schlaepfer 2001).

Most of the forest land is owned by private individuals; 51% of forest land or 350,000 individuals (See Figure 4.1; Enander and Loman 2005). One quarter of the private forest owners are member of one of the four regional forest owner associations (Södra, Mellanskog, Norrskog and Norra Skogsägarna). These associated cooperate nationally in the Swedish Federation of Forest Owners (LRF Skogsägarna). LRF Skogsägarna is part of the Swedish Federation of Farmers (LRF). The LRF tries to influence governmental policy and public opinion, encourages young people to choose studies that leed to a career in the farmer sector, and provides services to members.

The biggest forest companies are in the order of land area owned: Sveaskog AB, SCA Skog AB, Bergvik Skog AB, Holmen Skog AB. The largest share of the state forest land is managed by Sveaskog. Sveaskog is a private forest company that operates under strict instructions of the government (Cashore 2005). The forest companies nationally and internationally are represented by the Swedish Forest Industry Association (Elliott and Schleapfer 2001, Skogsindustrierna 2006).

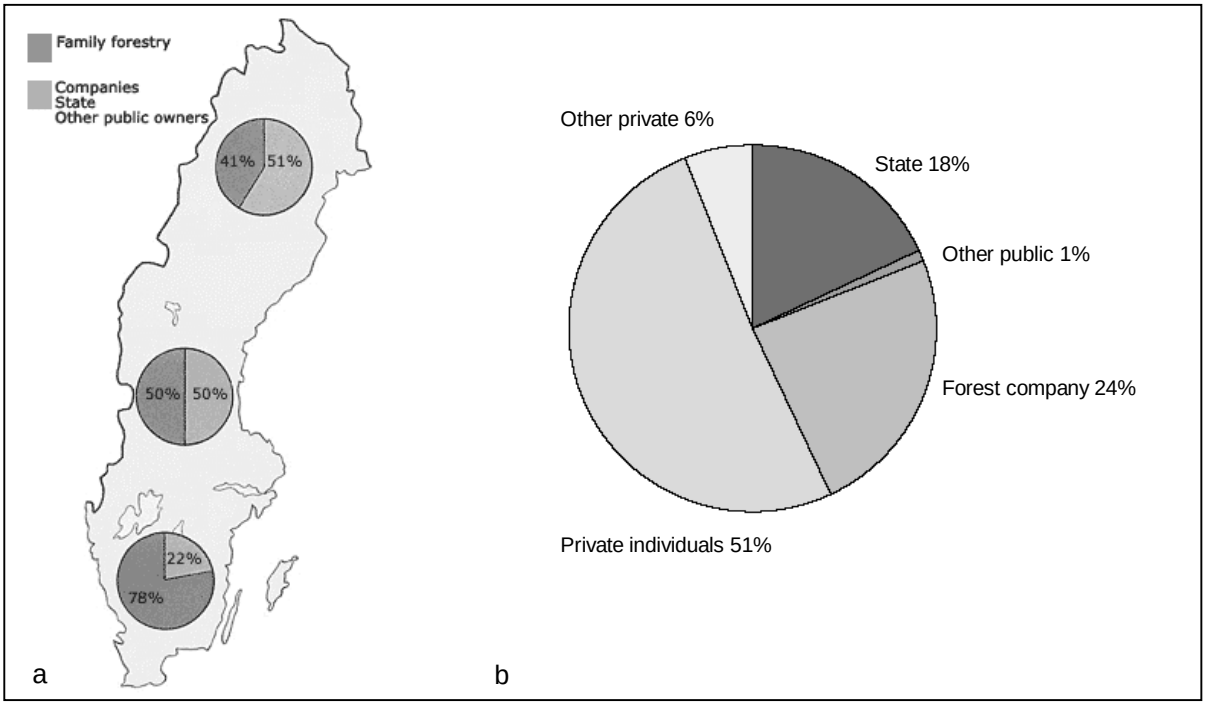


Figure 4.1 The ownership structure in the north, middle and south of Sweden (Source: Skogsstyrelsen 2006), and b. The ownership structure of forest land (Source: Enander and Loman 2005).

The state owns 18% of the forest land. The largest part of the state forest land is managed by Sveaskog and the government is mainly responsible for the development and implementation of forest policy. Forest policy is developed by the Swedish Parliament and the Ministry of Industry, Employment and Communications (Näringsdepartementet) and implemented by the Swedish Forest Agency (Skogsstyrelsen; SS). The Swedish Forest Agency nowadays uses so-called soft policy tools like education, research funding, monitoring (the national forest inventory; riksskogstaxeringen).

The Swedish Society for Nature Conservation (Svenska Naturskyddsföreningen; SNF) is by far the largest environmental NGO in Sweden. SNF has 170 000 members that are organized in 274 local branches across the country. Because forest is so abundant, SNF has since its establishment in 1909 been involved in forest issues. Greenpeace and WWF are active in Sweden but are small compared to SNF (Elliott and Schlaepfer 2001, SNF 2006).

On about 40% of the total land area of Sweden reindeer are herded. Large parts of that area are forests. Reindeer herding is an exclusive right to the Sámi and in northern Sweden. There are about 230 000 reindeer and 2 800 Sámi involved in reindeer husbandry. The reindeer herders are organized in 52 Sámi communities. Eight of these communities are so-called concession communities; the land may only be used for reindeer herding during a certain time period. The Sámi are nationally represented by the Sámi Parliament (Sametinget), which is elected by the Sámi and at the same time a government authority as part of the Ministry of Agriculture, Food and Consumer Affairs (Jordbruksdepartementet). There have been numerous conflicts over traditional reindeer husbandry on private land (Elliott and Schlaepfer 2001, Sametinget 2006).

4.2 Developments in Swedish forest policy

Swedish forests are intensively managed for timber production. An environmental awareness started growing in Swedish society in the 1970s; people became increasingly concerned about the impacts of intensive forest management. The 1980s was a decade of many conflicts over issues like the protection of broadleaf forests in the south and mountain forest in the north, clear-cutting, and the use of herbicides and exotic species. The decade was marked by controversies between environmental

NGOs and the forest industry. In the late 1980s the debates moved from the national level to the international level as the NGOs started cooperating with NGOs in countries that import Swedish timber. The NGOs used the UNCED 1992 to give more weight to their standpoint. Meanwhile the quantitative evidence of the impacts of forestry on forest-dependent plant and animal species increased and biodiversity became more and more important in international policy issues. The Swedish government started developing a new forest policy, which was accepted by Parliament in 1993, and which resulted in a new Forestry Act in 1994. Production and environmental protection from then on had equal emphasis. A consequence of the 1994 Forestry Act was the cut-back of subsidies for silvicultural activities. Forest companies started hiring ecologists and developing ecological landscape planning, which formed a basis for a dialogue and technical cooperation with NGOs. In 1993 WWF-Sweden proposed to develop FSC-standards for Sweden. The reactions from the forest industry were generally positive, but private forest owners were more reluctant. In 1994 a group of forest sector actors, including the SNF, WWF-Sweden and scientist, started developing criteria for biodiversity conservation in Swedish forestry. The criteria were published in 1995 and after extensive negotiations between NGOs, the forest industry, forest owner associations and other actors a Swedish FSC working group was established in 1996. A FSC-standard was developed in 1997 and was the first standard in the world to be accepted by the FSC in 1998. Meanwhile the forest owners' associations had withdrawn from the working group. The standard was used for certification, and by 1999 nearly all forest land owned by forest companies (>9 million hectares) was certified (Elliott and Schlaepfer 2001).

Ollonqvist and Hänninen (2004) give an overview of important events and developments in Swedish forest policy. This overview can be complemented with the 2004 The State's Public Forestry Inquiry (Statens Offentliga Utredningar, Skogsutredningen 2004). The goal of SOU 2004 is to evaluate the forest policy of 1993 in which production and environment got equal consideration and in which forest owners were given "freedom with responsibility", and to make improvements in forest policy on the basis of this evaluation. It also includes a comparison with other countries. The inquiry has not been finished yet, but in 2005 a provisional report (SOU 2005:39) suggested the merge of the National Forestry Board with the regional offices, what was implemented at the end of the year (SOU 2006).

1987-1994	"A Richer Forest" – a campaign to increase consideration regarding biodiversity
1992-1993	Forest policy reformation • environmental and timber production goals are of equal importance • silviculture fee was removed • public subsidies were limited to environmental benefits
1994	New Forest Act (substantial deregulation, increased freedom)
1994	New Nature Conservation Act (e.g. protection of key habitats)
1995	"Preservation of Cultural Heritage in the Forest" - campaign
1998	Forest Certification system (FSC)
1999-2002	"The Greener Forests" – an extension and information campaign targeted to forest owners
2000-2001	Evaluation of the effects of the new forest policy (SUS 2001)
	The Parliament decided upon the environmental objectives for all sectors • operationalization of forest sector objectives ongoing, formally adopted in March 2005
2004	The State's Public Forestry Inquiry, ongoing • Led to the merge of the National Forestry Board with the regional offices in 2005

Figure 4.2 Sweden: Milestones in recent forest management (Source: Ollonqvist and Hänninen 2004).

After the evaluation of the effects of the new forest policy in 2000 and 2001 (SUS 2001; Thuresson and Bondeson 2001) the Forest Sector Council was formed. It consisted of major stakeholders of the forest sector: forest owners, the forest industry, the Sámi Parliament, agencies including

Skogsstyrelsen, social and environmental NGOs, the forest workers union and research institutes. Its goal was to further develop overall policy objectives set by the Swedish Parliament. Those are the equally emphasized production and environmental goal for the forest sector, and the part of the national environmental objective about sustainable forests. After analyzes of policies, data and economical implications the council formulated objectives plus 13 quantitative targets, which were adopted by Skogsstyrelsen in March 2005. Strong emphasis is put on stakeholder involvement. The objectives and targets are similar to the requirements of NFPs, to the criteria and indicators of MCPFE, and to the targets to reduce global loss of biodiversity in the Convention on Biodiversity (CBD; Skogsstyrelsen 2005).

The objectives comprise economic, environmental and socio-cultural aspects of forests and forestry. From the general policy objectives of the parliament a long-term vision was formulated that serves as a framework for the development of quantitative targets. The first objective is about the co-existence of diverse interests: "The forest shall be utilized in such a way that a diversity of values are sustained throughout the country. Landowners and other interests within the forest sector, as well as those engaged in reindeer herding, hunting, tourism or any other use of the forest, shall understand each other's needs and co-exist with their various uses of the forest" (Skogsstyrelsen 2005). The other long-term objectives are a good supply of valuable primary forest products, a rich forest environment, and social and cultural values. The latter objective is translated into three targets. One target deals with the avoidance of damage to ancient monuments and valuable historical remains, another deals with the education and management of (urban) forests for recreation, and the third deals with forestry and reindeer herding. Here it is repeated that special consideration should be given to reindeer herding, but the condition is added that the Sámi villages have to have a formal grazing plan. In addition a quantitative target is set, namely that "*no later than 2010, soil treatment necessary for regeneration of forest within reindeer-herding areas should be carried out with minimal impact on soils of the following types: lichen, rich in lichen, and dry (mainly vaccinium and empetrum) with a lichen component*" (Skogsstyrelsen 2005).

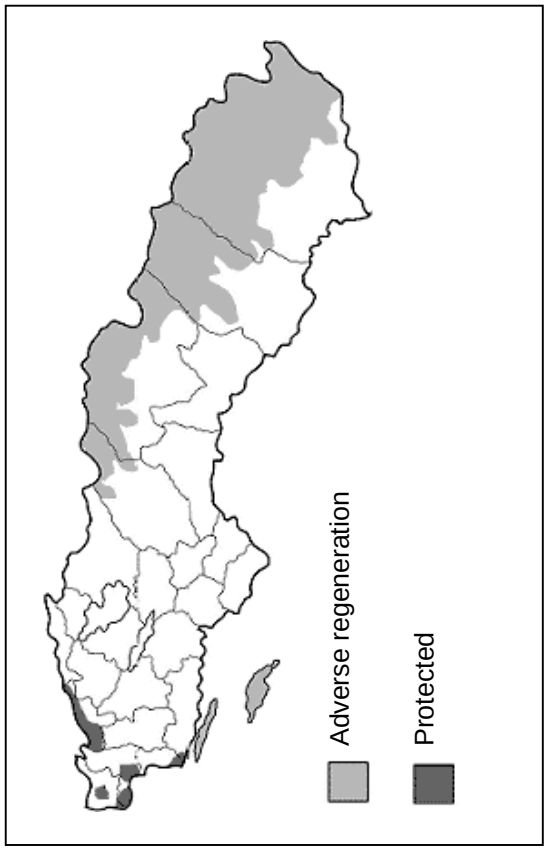
4.3 Participation in Swedish forestry

During the last years some participatory approaches have been initiated by the Forest Agency: the "*Greener Forests*" campaign, the Vilhelmina Model Forest and consultation with Sámi communities.

From 1999 to 2001 the Forest Agency carried out the "*Greener Forests*" campaign, an information and education campaign to raise the interest of private forest owners for sustainable forest management. This was a way to integrate the environmental and production objective of the Forestry Act in practice. The forest owners were shown how environmental concerns can be considered in practical forestry operations. The forest owners were invited to courses, excursions and other meetings. Every third forest owner was reached by the campaign (Skogsstyrelsen 2006b).

In 2004 a Model Forest was established in a part of Vilhelmina municipality. A model forest is a land area that serves as a test site for the development of sustainable forest management. The land area should be large enough to cover a range of environmental and socio-economic values of natural resources. Within a Model Forest projects are conducted to formulate indicators for six pre-defined criteria. The six criteria are 1. the conservation of biological diversity, 2. maintenance and enhancement of forest ecosystem conditions and production, 3. conservation of soil and water resources, 4. forest ecosystem contributions to global ecological cycles, 5. multiple benefits of forests to society, and 6. society's responsibility for ensuring sustainable development. The Vilhelmina Model Forest is an extension of the Vilhelmina project that was started in 1995. The Vilhelmina Project has the subrtitle "Diverse forest utilization in a landschape perspective" and was initiated after the conflicts in Blaikfjället and Njakafjäll in the 1980s and 1990s. After the conflicts local stakeholders became interested to learn about environmental aspects of forestry and implement those into forestry strategies. The Vilhelmina Model Forest covers a total area of 120 000 hectares, of which 58 000 hectares are productive forest land. Of those 58 000 hectares, about 12 000 hectares are owned by

250 private forest owners, about 14 000 by Vilhelmina municipality, about another 14 000 is state owned, and about 10 000 is owned by forest companies. A share of 64% of the forest is older than 80 years. The area varies in altitude between 340 and 1000 meters above see level. Although the area is dominated by coniferous forest, the variation of species, natural habitats and even the degree of disturbance by forestry is high (Svensson et al. 2004).
The consultation with Sámi communities is required by the Forestry Act. At least six week ahead, forest owners have to inform the Forest Agency about a planned felling. Forest owners then receive advice about how they can best take consideration for nature values and how they can best regenerate the forest. The advice can have the form of a recommendation or of a translation of the Forestry Act and forestry regulations. In some cases forest owners need a permission of Forest Agency for a felling.



Forest owners have to inform Forest Agency about a planned felling when:

- the area of a regeneration felling is larger than 0.5 hectares;
- a felling has another goal that wood harvesting;
- fuel is harvested;
- exotic species are used;
- ditches are made;
- consultation is needed because the natural environment is altered.

An application is required when:

- harvesting is planned on forest land with adverse regeneration conditions or protected forest (See map);
- forest with noble tree species (ädellövskog) are planned to be harvested;
- chemical herbicides or insecticides will be used;
- ditches are made to drain the soil;
- the natural environment is altered within a Natura-2000 area.

When a felling is planned in an area with year-round reindeer grazing the owners have to consult the involved Sámi community. This is stated in §20 of the Forestry Act (See Figure 4.2). This paragraph refers to §23 of the forestry regulations which mentions the term *in-depth activity plan*. It only says that an in-depth activity plan **can** be set up when forestry is in conflict with other forms of land-use. The contents of an in-depth activity plan have to be determined by the Forest Agency after consultation with the County Administrative Board. The contents of an in-depth activity plan and the way a consultation process should be executed are thus not fixed. This means that there is room for a different way of participation, or maybe multiple ways.

§20. *Before felling takes place in an area where reindeer husbandry is permitted throughout the entire year (year-round grazing areas) in accordance with the Reindeer Husbandry Act, the Sámi village concerned shall be given the opportunity to participate in joint consultations, as stipulated in regulations issued by the Government, or public authority designated by the Government.*

Figure 4.3 §20 of the Swedish Forestry Act (Skogsvårdsstyrelsen 2003).

4.4 Stöken: 'participation' in practice

In November 2004 the owner associations of Klimpfjäll and Lövberg sent in a series of applications for 18 clear-cuts in Stöken (See Figure 4.3 a). The total area of the clear-cuts amounts to over 200 hectares and almost half of the whole area. The plans included the construction of a thirteen-kilometer long timber road that stretches from the south end of Stöken to Fatmomakke in the north. The road crosses three water courses and three bridges have to be constructed. The timber road to regional road system is connected with the regional road system in the centre of Grundfors, close to the bridge to Fatmomakke. Since Stöken is located in an area with year-round reindeer grazing the owner associations had to consult the Sámi community involved. A letter was send to Vilhelmina North Sámi Community. Vilhelmina North Sámi Community requested an in-depth activity plan in reply.

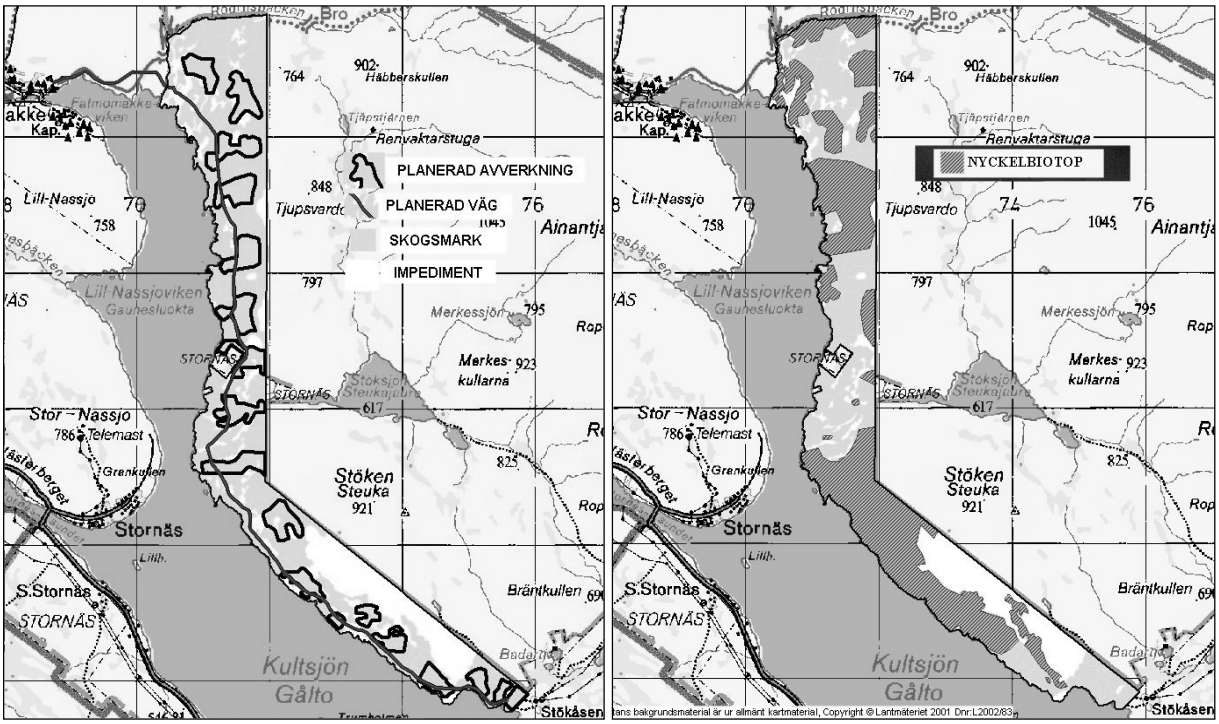


Figure 4.4 Maps showing a. the initially planned clear-cuts (planerad avverkning) and timber road (planerad väg), and b. key-habitats (nyckelbiotop; See Attachment 4 and 5 for larger views).

Part of an in-depth activity plan is an investigation of nature values. The Environmental Protection Agency made an inventory of nature values in Stöken in the summer of 2005 and found that large parts have high nature values, and that those parts consequently were determined to be key-habitats (See Figure 4.3 b). Key-habitats are ecosystems with high nature values. With high nature values is meant that a site at present houses living conditions for red-listed species. The Forest Agency has guidelines for personnel how they should deal with key habitats. The overall idea is that the Forest Agency should help to protect and enhance the natural and cultural values of key-habitats, within its own framework of resources. This means in the first place that The Forest Agency will not cooperate in the planning or implementation of activities that may damage the key-habitat. An exception may be made in certain cases when cooperation serves as a way of problem-solving to prevent the clear-

cutting of considerable parts of a key-habitat or to prevent other forms of negative influences to a key-habitat. Key-habitats are considered as normal forest land and the Forestry Act thus applies to them. In addition are they subject to the Environmental Code (Enander and Bengtsson 2003).

There are several possibilities for the Forest Agency to help protect or enhance the natural and cultural values of key-habitats. Forest owners can be given information and advice about key-habitats on their land. The advice should be documented and send to the forest owner, and should include the borders of the key-habitat. The communication with the forest owner may result in a voluntary agreement for the protection of the key-habitat. The County Administrative Board should be involved in the agreement process, and when necessary also the municipality. If the Forest Agency and the forest owner cannot reach a voluntary agreement, the protection of small sites like tree groups and springs can be enforced through a prohibition according to §35 of the Forestry Act. It is then still possible for the forest owner to use the land for forestry or other purposes. Protection of larger area can only be enforced by installing nature reserves. The forest owner will then be compensated (Enander and Bengtsson 2003).

5 RESULTS

In this chapter the results of the interviews and document analysis are presented. In the first section the stakeholders and interests are identified. In the second section it is discussed how these stakeholders and interest interrelate. In the third section participation in the current situation is described. In the forth section the preferences of the respondents for participation processes in the future are discussed. Much of the information in this chapter stems from the respondents. The respondents are in principle anonymous. That is why no reference is made to specific persons.

5.1 Stakeholders and interests

In the case of Stöken only two stakeholders were initially involved (the forest owners and the Vilhelmina North Sámi Community) and some interests where clearly relevant while it was not certain which people represented them. That some interests can be represented by multiple stakeholders or stakeholder groups and that some stakeholders represent multiple interests, makes interest and stakeholder identification complex. It is attempted to make a distinction between interests and stakeholders. Interests are discussed first and then stakeholders. Table 5.1 gives an overview of the identified interest and the stakeholders or representatives that are connected to them.

Table 5.1 The interest that play a role with the planning of forestry activities in Stöken, Swedish Lapland, and the stakeholders or possible representatives that are connected to them.

Interests	Stakeholders / possible representatives
Cultural heritage	People involved in the Fatmomakke, Living Church Town project
Local inhabitancy	Individuals, spokespersons village interest associations
Large-scale forestry	Spokespersons of owner associations
Reindeer husbandry	Vilhelmina North Sámi Community
Recreation and tourism	Small business holders, Vilhelmina municipality
Ownership of adjacent land	Land owners
Environmental and nature values	County Administrative Board, Environmental Protection Agency, NGOs

5.1.1 Interests

The interests are identified on the basis of three documents: the *Synthesis of the model forest concept and its application to Vilhelmina Model Forest and Barents Model Forest Network* by Svensson et al. (2004), and previous nature-oriented forestry plans and in-depth activity plans that were executed in Vilhelmina municipality. The interests that are identified on the basis of literature were later confirmed during the interviews.

Besides forestry Svensson et al. (2004) distinguish the following interests:

- Reindeer husbandry
- Recreation, hunting, fishing, berries, and mushrooms
- Bio-energy, including wood-based resources and reed canary grass
- Peat harvesting, mineral harvesting, and agriculture
- Hydroelectricity and windmills
- Ecotourism
- Cultural heritage
- Social and aesthetic values

Four of these interests are not relevant to the planning in Stöken: bio-energy, agriculture, hydroelectricity and windmills, and peat and mineral harvesting. Wood or reed canary grass are not specifically cultivated for biomass production in and around Stöken. Agriculture and peat and mineral harvesting are not practiced in the direct surroundings of Stöken. Hydroelectricity can influence the planning in Stöken because it restricts the possibilities of timber transport over the lake. Fluctuations of Lake Kultsjön's water level due to the production of hydroelectricity make transport of timber over the ice in wintertime impossible. But also hydroelectricity production is not affected by forestry activities in Stöken.

The previous in-depth activity plans mention cultural heritage, reindeer husbandry, nature values, and recreation and tourism as interests affected by forestry. Aesthetical and social values are interwoven in other interests; they are connected to recreation, tourism and local inhabitants.

Cultural heritage

Cultural heritage is an important interest. Stöken is located on the slope that faces Fatmomakke church town. Forestry activities will be clearly visible from Fatmomakke (See Figure 5.1). Clear-cuts will inevitable catch the eye of visitors and in that way affect the experience that people have when they visit Fatmomakke. The character of an ancient meeting place in the middle of a wilderness will be lost. The timber road will be connected to the regional road system in Grundfors. If clear-cutting will take place in Stöken heavy timber trucks will pass through the centre of Grundfors, past the bridge that forms the entrance of Fatmomakke, further affecting the character of Fatmomakke.

Cultural heritage in the case of Stöken has a special meaning because of the presence of Fatmomakke church town. Cultural heritage is also affected by large-scale forestry because objects in the forest may be damaged by the heavy machinery used.

Figure 5.1 Fatmomakke in 1890, with Stöken on the background (Source: Fatmomakke 2006b).

Local inhabitancy

There are three villages located in the direct surroundings of Stöken: Marsliden, Grundfors and Stornäs. The local inhabitants will be affected by forestry activities in Stöken because the clear-cuts will be visible from many homes, affecting the remote character of the region. The villagers in Grundfors will also be affected by the nuisance caused by the heavy timber trucks that will pass through the village for a period of 15 years (the number of years the clear-cutting in Stöken is estimated to take). Grundfors is an elongated village; the houses lie alongside one main road. Timber harvested in Stöken will be transported along this road.

Large-scale forestry

Forestry in Stöken will provide income to the land owners of Stöken and it will have a modest contribution to general demand for timber.

The term large-scale forestry is used here to make a distinction with small-scale forestry. Their effect on the other interests will be very different. Large-scale forestry in Sweden usually involves clear-cutting.

Reindeer husbandry

Stöken is located in a year-round reindeer grazing area. The Sámi Community is partly dependent on the lichens in Stöken as food for their reindeer.

Recreation and tourism

Tourism is an important source of income in the region. Several organizations are promoting tourism in the area around Stöken. These organizations are also dependent on tourism for their income. A few examples are Saxnäsgården, Fjällgården and Kultsjögården in Saxnäs, a village on the shore of Lake Kultsjö. The vast, remote landscape and the experience of untouched nature are two important characteristics of the region for tourism. Activities include cross-country skiing, hiking, fishing, hunting, and snow scooter driving. The sense of wilderness will be disturbed by large scale forestry activities in Stöken. Hunting is a very important recreational activity in Sweden and hunting tourism is important in the area, therefor hunting can be seen as a separate interest.

Ownership adjacent land

The distance between Fatmomakke and Stöken is approximately 3km. The area between Stöken and Grundfors is divided in four properties and has four different owners. The willingness of these landowners to accept a timber road across their land is not certain. Swedish law gives in some cases a right to build a road across other people's property, but in some cases laws and regulations contradict each other and then the landowners should negotiate to come to a solution. Several functions of these lands can be affected. The landowners will probably be compensated for the trees that are harvested to make space for the road, but the loose the possibility to grow new trees on the on the place where the road lies. Also these forests may have high nature values, which may be affected. Game and reindeer will be disturbed by the use of the timber road. And berries and mushrooms cannot be picket on a road.

Environmental and nature values

Stöken is located next to a large Natura 2000 area, Marsfjällets nature reserve. In addition to that it lies on a natural gradient from mountain land to the shore of Lake Kultsjön. High nature values can be expected in such a site. Nature values appear to be an important interest. The conflicts in the last decennia confirm this. The nature values in the region are that important to people that they would go to great lengths for them.

5.1.2 Stakeholders

Cultural heritage

In 2003-2005 the Vilhelmina Assembly (Vilhelmina Församling) conducted the project "Fatmomakke, Levande Kyrkstad" (Fatmomakke, Living Church Town). The project was partly financed by the European Union. The project's goal was to initiate a sustainable development of Fatmomakke church town based on cooperation. Considering the local conditions, the developments should favour churchgoers and local people as well as tourists. The project's target group were inhabitants of the municipality and the country, visitors from Sweden and Europe, Sámi communities, interest associations, and schools (Fatmomakke 2006c). The people involved in the project are good representatives of cultural heritage connected to Fatmomakke: they have been intensively working with these issues during several years. A member of the education, culture and leisure department of Vilhelmina municipality was closely involved with the project and had the supervision of the project in the last year.

Local inhabitancy

The local inhabitants are a heterogeneous group. Some people live permanently in the area, while others live elsewhere and spend their weekends and holidays in their houses. Some are Sámi, some are non-Sámi Swedes. But some villages in Vilhelmina municipality have interest associations (intresseföreningar). Those are organizations of local inhabitants that represent local interests. They have an appointed spokesperson.

Large-scale forestry

The obvious stakeholders that are involved in the planning of Stöken are the forest owner associations. The owner associations own the land and have the right to harvest timber, within the boundaries of the law. The land of the Stöken is owned by multiple owners. The owners are joined in two associations. The land of the southern part of Stöken is owned by the owner association of Lövberg. The land of the northern part of Stöken is owned by the owner association of Klimpfjäll.

Reindeer husbandry

The reindeer herders in Stöken are represented by Vilhelmina North Sámi Community.

Recreation and tourism

The staff member of the education, culture and leisure department of Vilhelmina municipality represents recreation and tourism interests in the region. Small businesses such as hostels and restaurants are directly dependent on recreation and tourism. Many small businesses organize outdoor activities. One small business holder (and inhabitant of Grundfors) was very concerned about the planning in Sweden and contacted several other stakeholders to oppose to the felling plans. If hunting is seen as a separate interest, it may be represented by a business in Saxnäs that is specialized in hunting and fishing.

Ownership of adjacent land

The four properties that lie between Stöken and Grundfors have four different owners.

Environmental and nature values

The County Administrative Board and the Swedish Environmental Protection Agency (Naturvårdsverket) have a shared responsibility for nature protection in Västerbotten. They represent the nature values of Stöken and its surroundings. Besides these governmental agencies there are several NGOs concerned with nature values. The previous in-depth activity plans mention FURA (Fjällnära Urskogens Raddnings Aktion, Ancient Mountain Forest Rescue Action) and the Swedish

Society for Nature Conservation. Greenpeace was involved in the blockades of forest the region in 1997. FURA does no longer exist and Greenpeace is not active in the region. The Swedish Society for Nature Conservation has a local branch in Vilhelmina.

5.2 Connections between stakeholders and interests

In this section it is attempted to give some insight in the relationships between different interests, and between the stakeholders that represent them.

Figure 5.2 the relationships between the interests that are involved with the planning in Stöken. The relation between an interest in a row and in a column of the matrix is indicated with a shade. A relation can be very competitive, competitive or not competitive. This is an indication; the matrix is a simplification of reality. Hence, competitive relations between different interests do not necessarily mean that the stakeholders actually are in conflict, perceive hostility towards each other or actively compete with each other. On the other hand, when a relation is indicated not to be competitive does not necessarily mean that people representing the interest fully agree on issues; all people are different and inevitably have different ideas. Below, the relations between the interests are discussed. The numbers in the matrix refer to the text. The shaded cells in the matrix thus indicate if and to which degree two interests are competitive, in the text below is explained why these interests are competitive.

Several stakeholders or stakeholder groups may represent one interest and they may have different ideas and aspirations. The relation of stakeholders or groups representing one interest can be read from cells where a row and a column with the same interest cross.

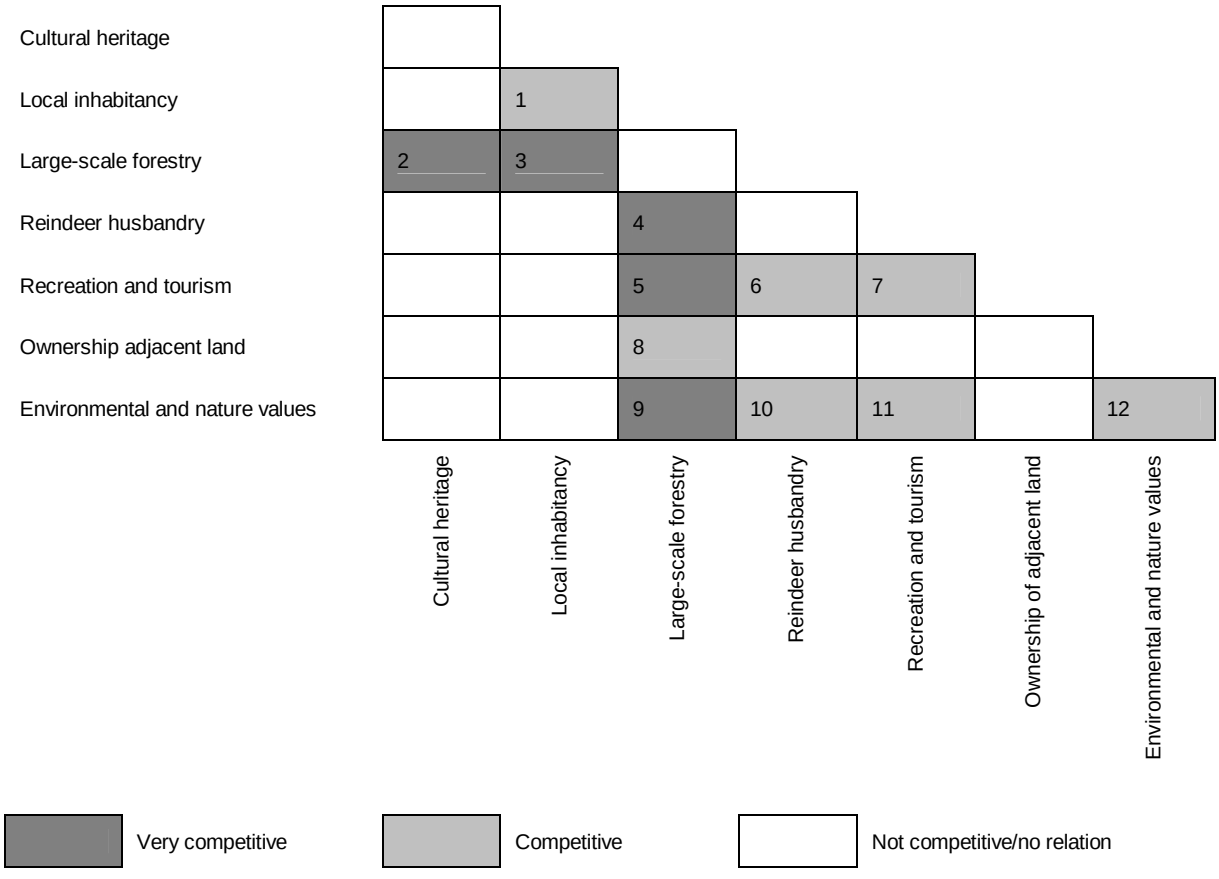


Figure 5.2 Matrix illustrating possibly competitive forest use interests in Stöken, Swedish Lapland (Numbers refer to the text; after example of Higman et al. 2005).

1. The local inhabitants in the region are a heterogeneous group. They live in different villages at different distances from Stöken and are affected by the planning in different grades. For example, inhabitants of Fatmomakke may be affected by heavy timber trucks, while the view for people in Saxnäs changes. There are also different groups representing local people, in Fatmomakke there is an association representing inhabitants of Fatmomakke and Grundfors, and an association representing Sámi.

2. The practice of large-scale forestry in Stöken affects cultural heritage both inside the area and in its surroundings. There may be historical objects in Stöken and the special character of Fatmomakke as a cultural heritage site will be affected by the change of the scenery; that is clear-cuts will be visible from Fatmomakke.

3. Large-scale forestry activities will affect the local inhabitants in various ways. Heavy machinery and timber trucks will pass along otherwise quiet roads. Clear-cuts will be visible from houses, gardens and roads. Some local inhabitants own small businesses dependent on tourism. They are through the effect on tourism, indirectly affected.

4. Reindeer eat hanging lichens that grow on trees. Thus, reindeer husbandry is directly affected by forestry practice because hanging lichens will be removed together with the trees harvested. When the ground is covered with snow, the reindeer cannot reach the ground lichens and graze hanging lichens on the trees.

5. Recreation and tourism are affected by large-scale forestry practice because of the change of the scenery. Remoteness and undisturbed nature are central in the promotion of tourism in the region and many regard Fatmomakke as the heart of a remote and undisturbed area. Clear-cuts will be visible in a large angle, including the road from Saxnäs to Fatmomakke, a part of the so-called Wilderness Route.

6. A direct, negative relation exists between recreation and reindeer husbandry. If a timber road is build into Stöken the area becomes more accessible, an increase of visits increases the chance that the reindeer are disturbed, especially when the area is visited for hunting purposes.

7. Different forms of recreation and tourism will be affected in different ways by large-scale forestry practice. The clear-cuts and timber roads may spoil the view and the sense of wilderness of visitors of the region. At the same time the accessibility of the area is increased and the area can then be more intensively used.

8. The timber road has to cross land of other owners in order to connect Stöken with the main road. The opinions of these owners have not become clear during the interviews. The owners also do not have much choice; they will have to go to great lengths to prevent the building of a timber road on their land.

9. The ecosystem in Stöken will be heavily affected by large-scale forestry in Stöken. Trees are an important part of the ecosystem and by removing them the balance in the ecosystem is altered. The soil and other plants than trees will be damaged by the heavy machinery. Large parts of the area are identified as key-habitats.
On the other hand makes the presence of the key-habitats the selling of timber from these areas practically impossible because wood companies fear public opposition and are therefore not likely to buy the timber.

10. Reindeer herding can also have a negative effect on nature values. If the grazing pressure is too high, the nature values will decrease. If large-scale forestry in areas like Stöken is practiced the total land surface available for reindeer grazing decreases and overgrazing of other areas becomes more plausible.

11. If a timber road is build through Stöken, the area becomes more accessible. An increased number of visits to the area may have a negative effect on nature values.

12. Environmental and nature organizations are various and will have different ideas and aspirations. A governmental organization like County Administrative Board is likely to have different objectives than an NGO like Swedish Society for Nature Conservation. The County Administrative Board is limited to standpoints that fit within general governmental standpoints, while the Swedish Society for Nature Conservation has more freedom to oppose forestry plans.

5.3 Current situation

The participatory elements of the planning process of Stöken consist of the consultation with the Sámi community and the implementation of an in-depth activity plan. How these two activities are executed illustrates how participation currently takes place in the region.

In-depth activity plans and its predecessor have been frequently used in Vilhelmina municipality in the past. Nothing indicates that the in-depth activity plan for Stöken will be different from the previous ones and the nature of these plans thus predicts how the in-depth activity plan of Stöken will be implemented. The previous plans thus suggest how participation is currently approached.

Three in-depth activity plans and two so-called nature-oriented forestry plans were analyzed during this study, all of them conducted within Vilhelmina municipality between 1986 and 1995. The nature-oriented forestry plan (naturvårdsinriktad skogsbruksplan) is the predecessor of the in-depth activity plan. They where used to take nature values into account in forestry, particularly on mountainous forest land. The two plans are very similar. Nature-oriented forestry plans already included several other interests and they probably served as model for in-depth activity plans. In-depth activity plans contain an additional paragraph called ‘consultation’. All the plans studied contain: a description of the background of the situation and of the areas physical characteristics such soil types, climate, geology, etc.; stand descriptions of timber volume, age classes, etc.; an inventory of nature values; directions for forestry activities; maps; and chapters about reindeer husbandry, nature considerations, cultural heritage and recreation.

The implementation of nature-oriented forestry plans and in-depth activity plans

The chapters about reindeer husbandry, nature considerations, cultural heritage and recreation are mere descriptions of no more than a few pages. The chapters describe for each subject why it is discussed, what the legal background is and what measures can be taken to prevent damage during the implementation of the plan. In the chapters about cultural heritage for example was described that soil scarification should be avoided because it damages historical objects. The chapters also contained some information about the specific areas. A hanging lichen inventory was done for each plan, but these seem quite meagre: no explanation of the method was given, the results were summed up in a few sentences and the conclusion that the areas were not particularly important for reindeer husbandry was quickly drawn.

The chapters about consultation in the in-depth activity plans consist of a summary of events. A draft plan was send to Vilhelmina municipality, Västerbottens Country Administrative Board, the two Sámi communities of Vilhelmina and two nature organizations (the Swedish Society for Nature Conservation and the Mountain Forest Rescue Action). In the letter that accompanied the draft plans the parties were offered a chance to give feedback on the plans. In some cases the letter was followed-up by a phone call. The response was usually low; in most cases the parties did not reply at

all or replied not to have anything to comment. This was probably because the parties had to reply in written form within a shot time (18 days). The letter in which the consultation was announced was quite short and blunt; the respondents were demanded to read, consider and to give comments in one sentence.

During the conduction of one in-depth activity plan, the Forestry Agency organized a meeting. The only report of the meeting is a list of attendants. The list shows that the Forestry Agency personnel and landowners (the shareholders of the owner association that was involved) attended the meeting; no other interests or parties were represented. The meeting was organized while no party had replied to the information letter.

The results of the plans where often limited; forestry was practiced as usual. In a view cases forestry activities were restricted to selective felling (bläddning) in parts of the area. One of the nature-oriented forestry plans, the planning of forestry in Bielite, however was very successful and still serves as an example of progressive forest management in the region. Patches of different types of timber harvesting were integrated into the landscape by considering natural and geographical lines. The result is hardly visible from the main road that runs along the opposite shore. During its conduction a successful meeting was organized. A range of different parties attended the meeting: Vilhelmina South Sámi Community, Vilhelmina municipality, the Swedish Society for Nature Conservation, the Mountain Forest Rescue Action, the nature and cultural heritage department of the County Administrative Board, and the owners of cabins in the area (Bielite). The results of this meeting were documented and used during the planning process. The reports says that the parties discussed how clear-cutting would affect reindeer husbandry, the landscape view, and flora and fauna. The parties were thus communicating and the meeting did not solely serve to provide information. The parties agreed to plan activities for a period of 20-30 years in stead of the 10 years that the law required of a nature-oriented forestry plan (or other forestry plan). The reindeer herders asked for an inventory of hanging lichens and the nature organizations for an inventory of nature values. Both inventories were conducted. After the new plan was made, all parties met again and discussed it. Unfortunately, the report does not mention the results of this meeting.

Some of the approaches used during the implementation of previous nature-oriented forestry plans and in-depth activity plans were very progressive. In the case of Bielite the decision-making process and its result were very successful. But Bielite seems to have been a highlight that was not followed up; there is no line of progression in the series of plans. The planning in Bielite was even one of the early planning processes in the series of plans studied. The latest in-depth activity plan was implemented in 1995, more than ten years ago, and things may have changed. But the fact that only Vilhelmina North Sámi Community was consulted during the planning process in Stöken and that most stakeholders were not or badly informed about the planning in Stöken suggests that planning is still implemented in the same way. Still developments in Swedish forest policy direct to an increase of participation and the fact that the Forestry Agency incited this study means that there is a desire for change.

The initiative was there but the participatory activities that were employed during the planning process were poorly executed. This can signify that there is a lack of knowledge about and experience with participation within the Forestry Agency. The concept of the in-depth activity plans in itself does not seem to be very useful, the result was in the past often a not very extensive report. It was however often an incentive for participatory activities, which were in the case of Bielite successful. These results of this meeting show that progress can be made when parties get together and communicate.

5.4 Participation in the future

The most striking result of the interviews was that it took months for many respondents to hear about the plans of the owner associations to make clear-cuts in Stöken, and that some of the respondent had not heard about the plans until they were approached for the interviews almost a year after the

felling application was submitted. No stakeholders were involved except the Sámi community. A number of respondents stressed that all stakeholders should be informed from the very beginning of the planning of forestry activities. That means that there should at least be some form of participation. The question then is, what level of influence all the stakeholders should have, during a participation process around Stöken, or in a future situation. That question is answered in this paragraph.

As described in Paragraph 3.3 (Techniques), the respondents were asked during the interviews to write the names of other stakeholders in empty spaces behind the levels of influence in the participation ladder (See Figure 2.3). Because the respondents were asked earlier which stakeholders should represent each interest, it was possible to translate from stakeholders to interests. The results are shown in Figure 5.3. The bars mark the highest and the lowest levels of participation that were assigned to each interest. The level of participation that was most frequently assigned to an interest by the respondents is marked *black*. So did the respondents select 'advisory body' and 'cooperation' for cultural heritage, but 'cooperation' was most frequently selected.

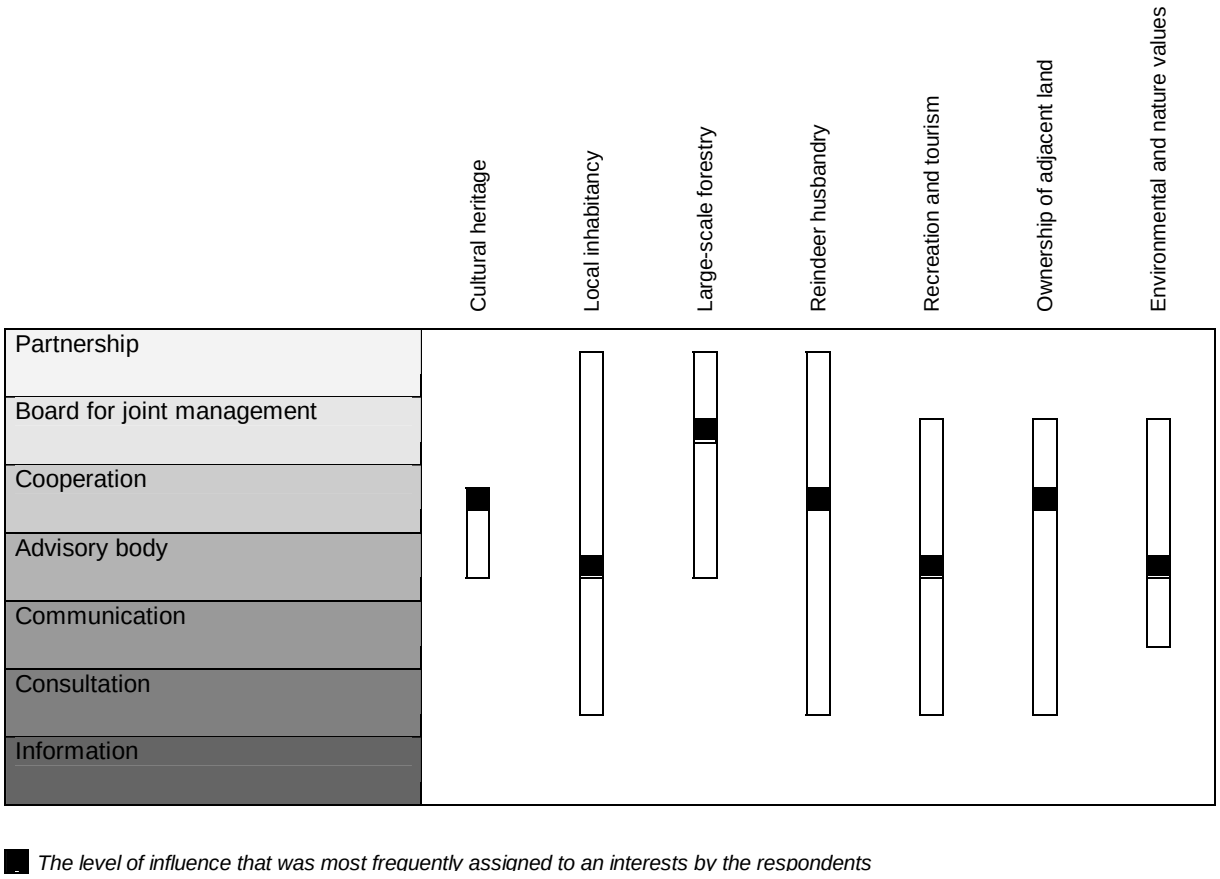


Figure 5.3 Chart showing on which level of participation different interests should be represented with forest planning in the opinion of stakeholders interviewed during a case study about participation in Vilhelmina municipality in Västerbotten (SE), autumn 2005. The bars indicate the variation.

Currently there is only consultation with the Sámi Community. Although some stakeholders at some point heard about the planning in Stöken, the stakeholders were not officially informed. The lowest level of influence that was marked by the respondents was *consultation*. That means that, although information is very important, it is not sufficient. The levels of influence that were marked most frequently were *advisory body* and *cooperation*. This suggests that also the level of *consultation* (the

lowest level of participation marked) is not sufficiently high and that participation in the future rather should executed on intermediate levels of influence.

The respondents were clearest about cultural heritage; representatives of cultural heritage should be involved either as an advisory body or through cooperation. This can be related to the importance of cultural heritage in the case of Stöken. The issue of cultural heritage mostly is about objects in the forest that should not be damaged by forestry activities. In the case of Stöken cultural heritage has another meaning because of the presence of Fatmomakke church town. The church town will not be directly damaged by forestry activities, but the experience of visitors will be harmed, and with that damage is done to Sámi culture and tourism.

Recreation and tourism, and environmental and nature values put on the level of advisory body. This can be related to the nature of their representatives. Recreation and tourism can be represented by the education, culture and leisure department of Vilhelmina municipality. The environmental and nature values can either be represented by the Country Administrative Board and the Swedish Environmental Protection Agency, or by NGOs. These are all large organizations. It is much easier for the respondents to picture themselves working together with individuals than with large and impersonal organizations. An advisory role fits these organizations in this respect better.

Assigning a level of influence to the large-scale forestry was confusing to most of the respondents. Most respondents found that the forest owners should be able to do with their land what they want, within the constraints of the law. The great dilemma of course is that other interests will be affected. The forest owners should be compensated by the government for their loss of profit when they are not allowed to harvest timber. That would however be a result of a governmental intervention and not of a participation process. Compensation by the government is not a solution of the dilemma. The result was that the forest owners, and thus large-scale forestry, were put on the higher levels of influence.

The dilemma of assigning a level of influence to large-scale forestry was also confusing because large-scale forestry can be represented by different parties. In the case of Stöken the forest owner associations represent the interest. These forest owner associations consist of individuals. Most of them live in the villages close to Stöken, at least during certain periods of the year. Small forest owners are much more approachable than large organizations. One of the respondents made a distinction between private owners and timber companies. When a timber company would be involved all other stakeholder should have more influence and should be put one level higher on participation ladder.

The range of levels of influence for reindeer husbandry and local inhabitancy is largest. Since local inhabitancy was placed on more levels of influence by different respondents, it is least clear on which level the local inhabitants should be involved in a participatory process according the respondents. Representatives of reindeer husbandry are currently already consulted with forestry on year-round grazing lands. Therefore, consultation may be most frequently marked.

That the level of influence for recreation and tourism is not unambiguous can be related to a variety of possible representatives; it can be represented by Vilhelmina municipality or tourism businesses. Some respondent made clear that the tourism industry should have considerably less or no influence, while local businesses should be involved. That the level of influence for ownership of land next to Stöken is not unambiguous can be related to the unambiguousness of laws and regulations, to the discussion if forest owners should have the right to transport timber over other people's property or not.

6 DISCUSSION

6.1 Reflections on the methodology

Case study and interviewing

Considering the explorative nature of this study, a case study was the most suitable approach. In a case study emphasis is put on the contexts, on the mechanisms that underlie what is visible on the surface. The semi-structured interview was a very suitable technique, it allowed for a natural atmosphere in which the respondents could speak freely. This yielded a lot of information, which would not have been covered by strict questions. The disadvantage of semi-structured interviews was that diversions from the subject could more easily occur. This was however not disrupting any of the interviews. Diversions from the subject can also occur during other forms of interviewing.

Stöken was a suitable case to explore the attitudes of stakeholders in the mountainous forest regions in Sweden. All stakeholders were represented, that is all interests were represented by at least one respondent. Forestry activities would also have affected all interests. If forestry activities would have been implemented as planned a conflict was likely to emerge. Similar cases in the past have led to the escalation of conflicts. The planning of felling in Njakafjäll for example led to the blocking of the entrance road to the forest by Greenpeace activists. The activists also chained themselves to the forestry machines (Lisberg Jensen 2002). Njakafjäll is just like Stöken located in the municipality of Vilhelmina, it also consists of old-growth spruce forest, and it is also part of the year-round reindeer grazing land. An even stronger example is the clear-cutting that was planned by the Swedish Church in the end of the 1990s. The Swedish Church is a fairly large forest owner in Sweden and it practices forestry to generate income. The clear cuts were planned on the opposite shore of Stöken, on the peninsula on which Fatmomakke and the village of Stornäs is located. The plans were abolished after heavy protesting of the villagers of Stornäs. The situation around the felling in Stornäs is very similar to the situation in Stöken.

Interviewing

With a structured interview or interview on the basis of a questionnaire the conversations would have been rigid. Mailed questionnaires would have been unsuitable. The response would have been lower and that would have been unacceptable considering the number of respondents. Because the information about stakeholders was limited at the beginning of the study, it would have been very difficult to select or sample a larger number of respondents for a questionnaire. A questionnaire would not have yielded all the extra but very relevant information the semi-structured interviews yielded. A meeting with multiple respondents could have been an alternative for the semi-structured interviews. In that way more respondents would have been able to give their opinion in the same amount of time.

All topics were covered during all the interviews. There was one interview question about the form of possible future participation activities that was left out after a few interviews. In the question the respondents were asked what kind of activities they would participate in if a participation process would be executed. During the interviews the question seems to be floating. Afterwards it became clear that the form of participation process on the contrary should have gotten more attention during the interviews because that would have yielded valuable information and would have enriched this study.

That the interviewer is not a native Swedish speaker was a handicap of this study. The interviews were therefore recorded so that interpretations could be double checked. The additional advantage of this was that the data was stored as MP3-files as well as notes. Storing the data in different places reduces the risk that the data would be lost. The disadvantage of the use of a recorder is that it may influence the respondents' answers and that it may be a threshold for them to speak freely.

Document analysis

The nature-oriented forestry plans and in-depth activity plans gave insight in participation in forestry in the region in the past. Past participation processes were in fact documented in them. Another way of studying participation in the past would have been to interview the people that were involved in these processes. In that way more information could have been obtained, but the nature-oriented forestry plans and in-depth activity plans would anyway have been the starting point of such a more thorough investigation. They give a fairly comprehensive overview of a longer time period. Interviewing key persons that were involved in past participatory planning activities would have given a deeper insight in the problems that were faced and solutions that were found. Future participation processes can be improved on the basis of what is learned in the past. The nature-oriented forestry plans and in-depth activity plans on the other hand showed that past participation activities however were quite meagre.

The number of nature-oriented forestry plans and in-depth activity plans used was sufficient. The plans turned out to be all very similar. Studying more plans would probably not have yielded more or different information. Their availability was also restricted; it would have been difficult to get a hold of more plans.

Respondents and interests

To avoid interests to be missed in this study, multiple approaches were used to identify interests. The interests were identified on the basis of an own investigation, a documented expert opinion and the interviews. The respondents were of opinion that all relevant interests were identified, but that hunting needed more attention. Hunting was approached as a form of recreation and tourism, but it may be better to approach it as a separate interest. In that case a hunting representative should have been interviewed.

The number of respondents was too low. All interests were represented by at least one respondent, but because there inevitably are also differences in opinions between representatives of the same interest, multiple respondents should have been interviewed for each interest. The low number of respondents was a mistake based on the assumption that the spokespersons of a certain organization represent only the opinions of the organization. The initial intention was also to interview multiple people for each interest but sometimes it was difficult to get a hold of people.

6.2 Reflections on the theory

The focus of this study was quite practical; no scientific concepts were tested. The theory was used as an analytical framework and the pivot of it was the participation ladder. The participation ladder is a simple tool and therefore easy to use. In this case it was also suitable because Sandström (2004) had already translated Berkes' ladder to Swedish. Sandström (2004) used this ladder in her study on consultation between foresters and Sámi Communities in Sweden. It was thus already proven to function well in the regional context and with forestry related-issues. A disadvantage of the participation ladder was that it is difficult to distinguish between the levels. The difference between subsequent levels is sometimes vague. The ladder does however have clear extremes; the lower levels of influence are unambiguously different from higher levels. The ladder can perhaps best be viewed as a continuum.

A problem with the use of the ladder was that it includes terms that can be confused with existing concepts. Consultation between foresters and reindeer herding communities for example has a specific meaning to people because it has been used for some decades according a specific procedure. The term consultation in the participation ladder does not refer to that specific meaning but has a broader meaning.

Furthermore, it was not always immediately clear to the respondents what was meant with the different levels. Nevertheless all respondents successfully placed the different stakeholders on the ladder, and the respondents always had a discernable opinion about the amount of influence certain stakeholders should, or should not, be assigned. It can thus be concluded that the participation ladder was a suitable tool that functioned well in the past as well as the present. Due to its arbitrary

categories the participation ladder however gives only an indication of an appropriate level of participation.

6.3 Reflections on the results

One objective of this study was to attempt to answer the question how participation can best be implemented in forestry planning in the mountainous forest region of Sweden. The form of a participation process is to a great extent dependent on the level of influence the stakeholders should have. During the execution of the nature-oriented forestry plans and in-depth activity plans some experience was gained with participation activities, and the discussion of the plans gave some insight in that. Most experience with participation in forestry in mountainous areas was however gained during consultation between Sámi communities and foresters. Such consultations have occurred since the 1980s (Sandström 2004). The former National Board of Forestry had a prominent role in the consultations (Hemberg 2001) and during the National Board of Forestry's evaluations of the effects of the forest policy in 2001 the consultations were evaluated by Hemberg. Hemberg (2001) concludes that "the consultation is perceived as more constructive by forestry than by reindeer husbandry", "consultation has a bigger meaning to forestry than to reindeer husbandry", and "reindeer husbandry wishes to have a larger influence in the consultation". The result of the consultation is usually that only small objects are changed in the original felling plans. At the same time the consultations do not seem to have had a large reducing effect on conflicts. Instead, the number of clear-cuts increased during the 1960s and 1970s, which had a negative effect on reindeer winter grazing lands (Sandström 2004). Although the Sámi communities are not of the opinion that reindeer husbandry has a negative effect on forestry, the effect is at the most small (Hemberg 2001). While the Sámi communities are thus more affected by forestry than vice versa, they have the least faith in the consultation. At the same time the results seem to be limited. This strongly suggests that the consultations are not working properly. Hemberg (2001) however suggests that the consultations are effective but do need some improvements, for example through the developments of a better protocol. The mutual understanding should also be enhanced through excursions and education in each other's industries. Sandström (2004) goes a bit further. Although she recognizes that the consultations have been improving over the years and that they can be further improved by increasing knowledge, she is of opinion that the power difference between foresters and Sámi communities however will remain to be too large and that the level of participation is thus too low. The results of this study are therefore in line with what Sandström (2004) already pointed out: participation in forestry should be executed on higher levels of influence; information, consultation and communication are not sufficient in situations in which the competition between interests is high and the resource is scarce.

The objective of this study was to implement a stakeholder and interest analysis and on the basis of that acquire knowledge about participation within sustainable forest management in Sweden. The central research question was if participation can be a suitable approach to sustainable forest management in the mountainous forest regions in Sweden, and how participation then should be employed. The research question is only partly answered by the study. To investigate if participation can be a suitable approach to sustainable forest management it should have been tested in practice. That was beyond the scope of the study. The study, however, did show that the stakeholders are willing to participate in forestry planning. This willingness of stakeholders is a requisite for a participation process. In this respect, participation can thus be a suitable approach to sustainable forest management in mountainous forest regions in Sweden.

Also the second part of the research question was not answered. The respondent however did indicate on which level of participation a future planning process should be executed. According to the theory on participation certain techniques are connected to certain levels of participation. This indication of the level of participation therefore points in a certain direction of how participation should be employed.

The results of this study may have been compromised because the local forest owner associations were not actually planning to harvest timber in Stöken. It has been suggested that the local forest owner associations were trying to get government compensation for loss of income in case felling was not permitted in Stöken. The County Administrative Board of Västerbotten recently changed its policy land for the acquisition of nature reserves. Large parts of the mountainous regions are already nature reserves while there is a lack of nature reserves near the coast; nature reserves are unequally distributed over the county. The suggestion was that the local forest owner associations tried to get compensation before the policy was in full effect. This is supported by the fact that the nature values in Stöken are high; large parts of the forest are assigned the official status of key-habitat. Timber companies are not likely to buy timber that originates from key-habitats. That means that only small parts of Stöken can be harvested. The profit of timber harvesting in Stöken will thus not be high, especially after subtraction of the costs of the construction of the timber road and bridges. The local forest owner associations are likely to earn more from government compensation than from harvesting timber. Still, a planning process was initiated; the local forest owner associations officially applied for a felling permission, the consultation with the Sámi Community was done, and at least the environmental NGOs and some local inhabitants were seriously worried about the planned felling.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

In sustainable forest management economic, social and nature values are considered. In the case of Stöken social and cultural aspects were however not considered in the initial felling plan. According to the literature participation is a way to integrate multiple interests into forestry planning. Whether or not this is true for the mountainous forest regions of Sweden still needs to be further investigated. First however, it should be known whether it is possible to carry out a participation process. This is partly dependent on the willingness of stakeholders to take part in a participation process. This study shows that the stakeholders are indeed willing to participate in forestry planning.

Participation has received notable attention in both international and Swedish forest policy. It is thus stimulated in a top-down manner. There are also founded reasons to employ participation in the mountain forest regions. First, participation can be a way for the people and indigenous people in particular to increase their influence in local decision making. Second, nature and social values gained importance in forestry during the last decades. Third, participation can be a way to balance the multiple interests that are connected to forests. Most importantly, the escalations of forestry related conflicts are recurrent problems. The question remains what are the needs and wishes of the people that are actually affected by large-scale forestry. The first conclusion of this study is that there is indeed a need for participation: the stakeholders want to be informed from the very beginning of the planning of large-scale forestry activities.

While there is a need for participation, no participation activities took place during the planning of the felling in Stöken, except for the legally required consultation with the reindeer husbandry community. The stakeholders were not informed about the plans. If large-scale forestry practices indeed would have been started in Stöken, the shock among many people would have been great and the risk for conflict would have been considerable. Thus, supplying information is a minimal requirement to avoid conflict. But supplying information is not enough; the results of this study show that participation should at least be employed on the level of consultation and preferably on intermediate to higher levels of influence (advisory body or cooperation). All the respondents in this study were of the opinion that all other stakeholders should at least be consulted and thus at least should have the opportunity to meet with the forest owners and to express their views.

7.2 Recommendations

Intermediate levels of participation imply that there is a need for some kind of communication platform. Participation processes need to be facilitated. The Forestry Agency is the most obvious party to serve as a facilitator. It is an existing organization and thus no new organizations need to be established. It is already funded and it is supposed to be impartial. The Forestry Agency's personnel will have an essential role. Further research should be done on the attitudes of the Forestry Agency's personnel towards participation. If the agency's personnel are not committed to the use of participation it will be difficult to employ participation processes.

Support from the higher levels of government may also be expected because socio-cultural values have become an official objective in Swedish forest policy since spring 2006 and the Swedish government has also recently (2005) ratified the Århus Convention. What seems to be lacking is the initiative to start participation processes. This can have different causes. There can be a general lack of knowledge about and experience with participation. Increasing knowledge about participation can therefore create a good basis for its actual use. As for experience, there is only one way to gain experience with participation and that is by actually executing participation processes. With a case like Stöken there is nothing to lose.

Although the planning of large-scale forestry activities in Sweden is characteristic for the mountainous forest regions, Stöken should be considered as a separate case. For this reason and because few case studies on participation are thus far executed in Sweden, more case studies should be carried out on different sites within the region.

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ATTACHMENT 1 TRANSLATIONS OF IMPORTANT TERMS

Here follows a list of words that are used in the report and are translated from Swedish to English (or vice versa), so that no ambiguity will exist about the meaning of these terms and that it is clear to which Swedish terms the translations refer.

English	Swedish
County Administrative Board	Länsstyrelse
Cultivation border (The ~)	Odlingsgränsen
Environmental Code (The ~)	Miljöbalken
Felling application	Anmälan om avverkning
Forest land with adverse regeneration conditions	Svårföryngrad skog
Forest with noble tree species	Ädellövskog
Forestry Inquiry	Skogsutredning
Forestry regulation	Skogsvårdsförordning
In-depth activity plan	Fördjupad verksamhetsplan
Local interest association	Intresseförening
Interested party	Intressent
Key-habitat	Nyckelbiotop
Local landowner association	Samfällighetsförening
Ministry of Agriculture, Food and Consumer Affairs (The ~)	Jordbruksdepartementet
Ministry of Industry, Employment and Communications (The ~)	Näringsdepartementet
Mountainous forestland	Fjällnära skog
National Board of Forestry (The ~), main office in Jönköping, until 2006	Skogsvårdsorganisationen
National Board of Forestry (The ~), regional office, until 2006	Skogsvårdsstyrelsen
Nature-oriented forestry plan	Naturvårdsinriktad skogsbruksplan
Participatory planning	Deltagande planering
Protected forest land	Skyddsskog
Reindeer Husbandry Act (The ~)	Rennäringslagen
Right of common access (The ~)	Allemansrätten
Sámi Parliament (The ~)	Sametinget
State Public Inquiries	Statens Offentliga Utredningar
Swedish Environmental Protection Agency (The ~)	Naturvårdsverket
Swedish Federation of Forest Owners	Lantbrukarnas Riksförbunds Skogägarna
Swedish Forest and Wood Workers Union (The ~)	Skogsträfacket
Swedish Forest Industry Association (The ~)	Skogsindustrierna
Swedish Forestry Act	Skogsvårdslag
Swedish Forestry Agency (The ~), union of SVO and SVS since 2006	Skogsstyrelsen
Swedish Society for Nature Conservation (The ~)	Svenska Naturskyddsföreningen
Tree line	Trädgräns

ATTACHMENT 2 THE IAP2S PUBLIC PARTICIPATION SPECTRUM

INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
Public Participation Goal:	**Public Participation Goal:**	**Public Participation Goal:**	**Public Participation Goal:**	**Public Participation Goal:**
To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the Public:	**Promise to the Public:**	**Promise to the Public:**	**Promise to the Public:**	**Promise to the Public:**
We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example Techniques to Consider:	**Example Techniques to Consider:**	**Example Techniques to Consider:**	**Example Techniques to Consider:**	**Example Techniques to Consider:**
• Fact sheets • Web sites • Open houses	• Public comment • Focus groups • Surveys • Public meetings	• Workshops • Deliberate polling	• Citizen Advisory Committees • Consensus-building • Participatory decision-making	• Citizen juries • Ballots • Delegated decisions

ATTACHMENT 3A THE IAP2 TOOLBOX: TECHNIQUES TO SHARE INFORMATION

TECHNIQUE	ALWAYS THINK IT THROUGH	WHAT CAN GO RIGHT	WHAT CAN GO WRONG
PRINTED PUBLIC INFORMATION MATERIALS			
● Fact Sheets ● Newsletters ● Brochures ● Issue Papers	● KISS! - Keep It Short and Simple Make it visually interesting but avoid a slick sales look ● Include a postage-paid comment form to encourage two-way communication and to expand mailing list ● Be sure to explain public role and how public comments have affected project decisions. Q&A format works well	● Can reach large target audience Allows for technical and legal reviews ● Encourages written responses if comment form enclosed ● Facilitates documentation of public involvement process	● Only as good as the mailing list/ distribution network ● Limited capability to communicate complicated concepts ● No guarantee materials will be read
INFORMATION REPOSITORIES			
Libraries, city halls, distribution centers, schools, and other public facilities make good locations for housing project-related information	● Make sure personnel at location know where materials are kept ● Keep list of repository items Track usage through a sign-in sheet	● Relevant information is accessible to the public without incurring the costs or complications of tracking multiple copies sent to different people ● Can set up visible distribution centers for project information	● Information repositories are often not well used by the public
TECHNICAL REPORTS			
Technical documents reporting research or policy findings	● Reports are often more credible if prepared by independent groups	● Provides for thorough explanation of project decisions	● Can be more detailed than desired by many participants ● May not be written in clear, accessible language
ADVERTISEMENTS			
Paid advertisements in newspapers and magazines	● Figure out the best days and best sections of the paper to reach intended audience ● Avoid rarely read notice sections	● Potentially reaches broad public	● Expensive, especially in urban areas ● Allows for relatively limited amount of information
NEWSPAPER INSERTS			
A "fact sheet" within the local newspaper	● Design needs to get noticed in the pile of inserts ● Try on a day that has few other inserts	● Provides community-wide distribution of information ● Presented in the context of local paper, insert is more likely to be read and taken seriously ● Provides opportunity to include public comment form	● Expensive, especially in urban areas
FEATURE STORIES			
Focused stories on general project-related issues	● Anticipate visuals or schedule interesting events to help sell the story ● Recognize that reporters are always looking for an angle	● Can heighten the perceived importance of the project ● More likely to be read and taken seriously by the public	● No control over what information is presented or how
BILL STUFFER			
Information flyer included with monthly utility bill	● Design bill stuffers to be eye-catching to encourage readership	● Widespread distribution within service area ● Economical use of existing mailings	● Limited information can be conveyed ● Message may get confused as from the mailing entity
PRESS RELEASES			
	● Fax or e-mail press releases or media kits ● Foster a relationship of editorial board and reporters	● Informs the media of project milestones ● Press release language is often used directly in articles Opportunity for technical and legal reviews	● Low media response rate ● Frequent poor placement of press release within newspapers
NEWS CONFERENCES			
	● Make sure all speakers are trained in media relations	● Opportunity to reach all media in one setting	● Limited to news-worthy events
TELEVISION			
Television programming to present information and elicit audience response	● Cable options are expanding and can be inexpensive ● Check out expanding video options on the internet	● Can be used in multiple geographic areas ● Many people will take the time to watch rather than read	● High expense ● Difficult to gauge impact on audience

INFORMATION CENTERS and FIELD OFFICES			
Offices established with prescribed hours to distribute information and respond to inquiries	● Provide adequate staff to accommodate group tours ● Use brochures and videotapes to advertise and reach broader audience ● Consider providing internet access station ● Select an accessible and frequented location	● Provides opportunity for positive media coverage at groundbreaking and other significant events ● Excellent opportunity to educate school children ● Places information dissemination in a positive educational setting Information is easily accessible to the public ● Provides an opportunity for more responsive ongoing communications focused on specific public involvement activities	● Relatively expensive, especially for project-specific use ● Access is limited to those in vicinity of the center unless facility is mobile
EXPERT PANELS			
Public meeting designed in "Meet the Press" format. Media panel interviews experts from different perspectives.	● Provide opportunity for participation by general public following panel ● Have a neutral moderator Agree on ground rules in advance ● Possibly encourage local organizations to sponsor rather than challenge	● Encourages education of the media ● Presents opportunity for balanced discussion of key issues ● Provides opportunity to dispel scientific misinformation	● Requires substantial preparation and organization ● May enhance public concerns by increasing visibility of issues
BRIEFINGS			
Use regular meetings of social and civic clubs and organizations to provide an opportunity to inform and educate. Normally these groups need speakers. Examples of target audiences: Rotary Club, Lions Clubs, Elks Clubs, Kiwanis, League of Women Voters. Also a good technique for elected officials.	● KISS - Keep it Short and Simple ● Use "show and tell" techniques ● Bring visuals	● Control of information/ presentation ● Opportunity to reach a wide variety of individuals who may not have been attracted to another format ● Opportunity to expand mailing list ● Similar presentations can be used for different groups ● Builds community good will	● Project stakeholders may not be in target audiences ● Topic may be too technical to capture interest of audience
CENTRAL INFORMATION CONTACT			
Identify designated contacts for the public and media	● If possible, list a person not a position ● Best if contact person is local Anticipate how phones will be answered ● Make sure message is kept up to date	● People don't get "the run around" when they call ● Controls information flow ● Conveys image of "accessibility"	● Designated contact must be committed to and prepared for prompt and accurate responses ● May filter public message from technical staff and decision makers ● May not serve to answer many of the toughest questions
WEB SITES			
A Web site provides information and links to other sites through the World Wide Web. Electronic mailing lists are included.	● A good home page is critical ● Each Web page must be independent ● Put critical information at the top of page ● Use headings, bulleted and numbered lists to steer user	● Reaches across distances ● Makes information accessible anywhere at any time ● Saves printing and mailing costs	● User may not have easy access to the Internet or knowledge of how to use computers ● Large files or graphics can take a long time to download
TECHNICAL INFORMATION CONTACT			
Providing access to technical expertise to individuals and organizations	● The technical resource must be perceived as credible by the audience	● Builds credibility and helps address public concerns about equity ● Can be effective conflict resolution technique where facts are debated	● Limited opportunities exist for providing technical assistance ● Technical experts may counter project information

ATTACHMENT 3B THE IAP2 TOOLBOX: TECHNIQUES TO COMPILE INPUT AND PROVIDE FEEDBACK

TECHNIQUE	ALWAYS THINK IT THROUGH	WHAT CAN GO RIGHT	WHAT CAN GO WRONG
INFORMATION HOT LINE			
Identify a separate line for public access to prerecorded project information or to reach project team members who can answer questions/ obtain input	● Make sure contact has sufficient knowledge to answer most project-related questions ● If possible, list a person not a position ● Best if contact person is local	● People don't get "the run around" when they call ● Controls information flow ● Conveys image of "accessibility" ● Easy to provide updates on project activities	● Designated contact must be committed to and prepared for prompt and accurate responses
INTERVIEWS			
One-to-one meetings with stakeholders to gain information for developing or refining public involvement and consensus building programs	● Where feasible, interviews should be conducted in-person, particularly when considering candidates for citizens committees	● Provides opportunity for in-depth information exchange in non-threatening forum ● Provides opportunity to obtain feedback from all stakeholders ● Can be used to evaluate potential citizen committee members	● Scheduling multiple interviews can be time consuming
IN-PERSON SURVEYS			
One-on-one "focus groups" with standardized questionnaire or methodology such as "stated preference"	● Make sure use of result is clear before technique is designed	● Provides traceable data ● Reaches broad, representative public	● Expensive
RESPONSE SHEETS			
Mail-In-forms often included in fact sheets and other project mailings to gain information on public concerns and preferences	● Use prepaid postage ● Include a section to add name to the mailing list ● Document results as part of public involvement record	● Provides input from those who would be unlikely to attend meetings ● Provides a mechanism for expanding mailing list	● Does not generate statistically valid results ● Only as good as the mailing list ● Results can be easily skewed
MAILED SURVEYS & QUESTIONNAIRES			
Inquiries mailed randomly to sample population to gain specific information for statistical validation	● Make sure you need statistically valid results before making investment ● Survey/questionnaire should be professionally developed and administered to avoid bias ● Most suitable for general attitudinal surveys	● Provides input from individuals who would be unlikely to attend meetings ● Provides input from cross-section of public not just activists ● Statistically tested results are more persuasive with political bodies and the general public	● Response rate is generally low ● For statistically valid results, can be labor intensive and expensive ● Level of detail may be limited
TELEPHONE SURVEYS/POLLS			
Random sampling of population by telephone to gain specific information for statistical validation	● Make sure you need statistically valid results before making investment ● Survey/Questionnaire should be professionally developed and administered to avoid bias ● Most suitable for general attitudinal surveys	● Provides input from individuals who would be unlikely to attend meetings ● Provides input from cross-section of public, not just those on mailing list ● Higher response rate than with mail-in surveys	● More expensive and labor intensive than mailed surveys
INTERNET SURVEYS/POLLS			
Web-based response polls	● Be precise in how you set up site, chat rooms or discussion places can generate more input than you can look at	● Provides input from individuals who would be unlikely to attend meetings ● Provides input from cross-section of public, not just those on mailing list ● Higher response rate than other communication forms	● Generally not statistically valid results ● Can be very labor intensive to look at all of the responses ● Cannot control geographic reach of poll ● Results can be easily skewed
COMPUTER-BASED POLLING			
Surveys conducted via computer network	● Appropriate for attitudinal research	● Provides instant analyses of results ● Can be used in multiple areas ● Novelty of technique improves rate of response	● High expense ● Detail of inquiry is limited
COMMUNITY FACILITATORS			
Use qualified individuals in local community organizations to conduct project outreach	● Define roles, responsibilities and limitations up front ● Select and train facilitators carefully	● Promotes community-based involvement ● Capitalizes on existing networks ● Enhances project credibility	● Can be difficult to control information flow ● Can build false expectations
FOCUS GROUPS			
Message testing forum with randomly selected members of target audience. Can also be used to obtain input on planning decisions	● Conduct at least two sessions for a given target ● Use a skilled focus group facilitator to conduct the session	● Provides opportunity to test key messages prior to implementing program ● Works best for select target audience	● Relatively expensive if conducted in focus group testing facility
DELIBERATIVE POLLING			
Measures informed opinion on an issue	● Do not expect or encourage participants to develop a shared view ● Hire a facilitator experienced in this technique	● Can tell decision-makers what the public would think if they had more time and information ● Exposure to different backgrounds, arguments, and views	● Resource intensive ● Often held in conjunction with television companies ● 2 – 3 day meeting

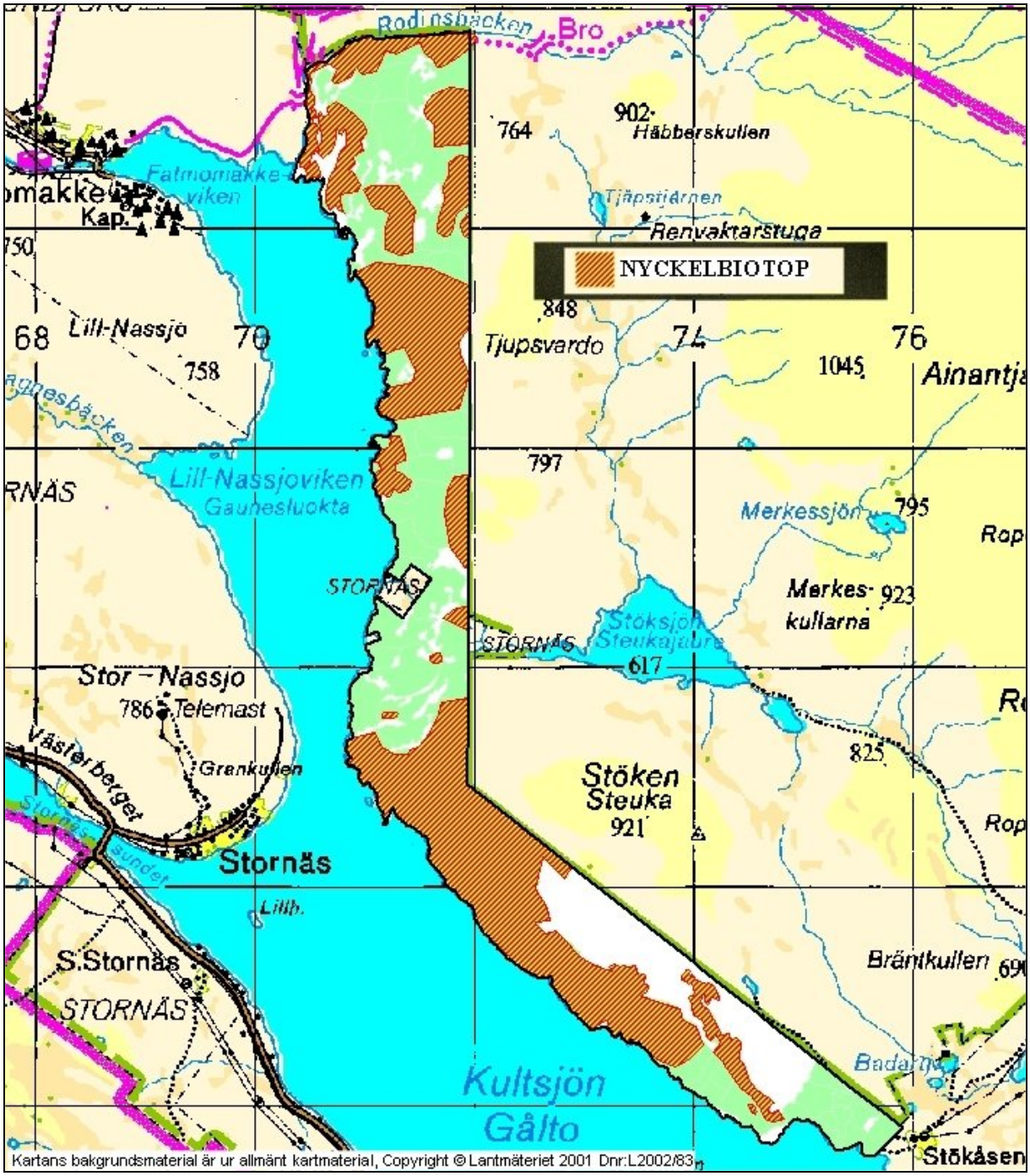
ATTACHMENT 3C THE IAP2 TOOLBOX: TECHNIQUES TO BRING PEOPLE TOGETHER

TECHNIQUE	ALWAYS THINK IT THROUGH	WHAT CAN GO RIGHT	WHAT CAN GO WRONG
SIMULATION GAMES			
Exercises that simulate project decisions	● Test "game" before using ● Be clear about how results will be used	● Can be designed to be an effective educational/training technique, especially for local officials	● Requires substantial preparation and time for implementation Can be expensive
TOURS			
Provide tours for key stakeholders, elected officials, advisory group members and the media	● Know how many participants can be accommodated and make plans for overflow ● Plan question/ answer session Consider providing refreshments Demonstrations work better than presentations	● Opportunity to develop rapport with key stakeholders ● Reduces outrage by making choices more familiar	● Number of participants is limited by logistics ● Potentially attractive to protestors
OPEN HOUSES			
An open house to allow the public to tour at their own pace. The facility should be set up with several stations, each addressing a separate issue. Resource people guide participants through the exhibits.	● Someone should explain format at the door ● Have each participant fill out a comment sheet to document their participation ● Be prepared for a crowd all at once - develop a meeting contingency plan ● Encourage people to draw on maps to actively participate ● Set up stations so that several people (6-10) can view at once	● Foster small group or one-on-one communications ● Ability to draw on other team members to answer difficult questions ● Less likely to receive media coverage ● Builds credibility	● Difficult to document public input ● Agitators may stage themselves at each display ● Usually more staff intensive than a meeting
COMMUNITY FAIRS			
Central event with multiple activities to provide project information and raise awareness	● All issues, large and small must be considered ● Make sure adequate resources and staff are available	● Focuses public attention on one element ● Conducive to media coverage ● Allows for different levels of information sharing	● Public must be motivated to attend ● Usually expensive to do it well ● Can damage image if not done well
COFFEE KLATCHES			
Small meetings within neighborhood usually at a person's home	● Make sure staff is very polite and appreciative	● Relaxed setting is conducive to effective dialogue ● Maximizes two-way communication	● Can be costly and labor intensive
MEETINGS WITH EXISTING GROUPS			
Small meetings with existing groups or in conjunction with another event	● Understand who the likely audience is to be ● Make opportunities for one-on-one meetings	● Opportunity to get on the agenda ● Provides opportunity for in-depth information exchange in non-threatening forum	● May be too selective and can leave out important groups
WEB-BASED MEETINGS			
Meetings that occur via the Internet	● Tailor agenda to your participants ● Combine telephone and face-to-face meetings with Web-based meetings. ● Plan for graphics and other supporting materials	● Cost and time efficient ● Can include a broader audience ● People can participate at different times or at the same time	● Consider timing if international time zones are represented ● Difficult to manage or resolve conflict
COMPUTER-FACILITATED WORKSHOP			
Any sized meeting when participants use interactive computer technology to register opinions	● Understand your audience, particularly the demographic categories ● Design the inquiries to provide useful results ● Use facilitator trained in the technique	● Immediate graphic results prompt focused discussion ● Areas of agreement/disagreement easily portrayed ● Minority views are honored ● Responses are private ● Levels the playing field	● Software limits design ● Potential for placing too much emphasis on numbers ● Technology failure
PUBLIC HEARINGS			
Formal meetings with scheduled presentations offered	● Avoid if possible	● Provides opportunity for public to speak without rebuttal	● Does not foster constructive dialogue ● Can perpetuate an us vs. them feeling
DESIGN CHARRETTES			
Intensive session where participants re-design project features	● Best used to foster creative ideas ● Be clear about how results will be used	● Promotes joint problem solving and creative thinking	● Participants may not be seen as representative by larger public
CONSENSUS BUILDING TECHNIQUES			
Techniques for building consensus on project decisions such as criteria and alternative selection. Often used with advisory committees. Techniques include Delphi, nominal group technique, public value assessment and many others.	● Use simplified methodology ● Allow adequate time to reach consensus ● Consider one of the computerized systems that are available ● Define levels of consensus, i.e. a group does not have to agree entirely upon a decision but rather agree enough so the discussion can move forward	● Encourages compromise among different interests ● Provides structured and trackable decision making	● Not appropriate for groups with no interest in compromise ● Clever parties can skew results ● Does not produce a statistically valid solution ● Consensus may not be reached

ADVISORY COMMITTEES			
A group of representative stakeholders assembled to provide public input to the planning process	● Define roles and responsibilities up front ● Be forthcoming with information ● Use a consistently credible process ● Interview potential committee members in person before selection ● Use third party facilitation	● Provides for detailed analyses for project issues ● Participants gain understanding of other perspectives, leading toward compromise	● General public may not embrace committee's recommendations ● Members may not achieve consensus ● Sponsor must accept need for give-and-take ● Time and labor intensive
TASK FORCES			
A group of experts or representative stakeholders formed to develop a specific product or policy recommendation	● Obtain strong leadership in advance ● Make sure membership has credibility with the public	● Findings of a task force of independent or diverse interests will have greater credibility ● Provides constructive opportunity for compromise	● Task force may not come to consensus or results may be too general to be meaningful ● Time and labor intensive
PANELS			
A group assembled to debate or provide input on specific issues	● Most appropriate to show different news to public ● Panelists must be credible with public	● Provides opportunity to dispel misinformation ● Can build credibility if all sides are represented ● May create wanted media attention	● May create unwanted media attention
CITIZEN JURIES			
Small group of ordinary citizens empanelled to learn about an issue, cross examine witnesses, make a recommendation. Always non-binding with no legal standing	● Requires skilled moderator ● Commissioning body must follow recommendations or explain why ● Be clear about how results will be used	● Great opportunity to develop deep understanding of an issue ● Public can identify with the "ordinary" citizens ● Pinpoint fatal flaws or gauge public reaction	● Resource intensive
ROLE-PLAYING			
Participants act out characters in pre-defined situation followed by evaluation of the interaction	● Choose roles carefully. Ensure that all interests are represented. ● People may need encouragement to play a role fully	● Allow people to take risk-free positions and view situation from other perspectives ● Participants gain clearer understanding of issues	● People may not be able to actually achieve goal of seeing another's perspective
SAMOAN CIRCLE			
Leaderless meeting that stimulates active participation	● Set room up with center table surrounded by concentric circles ● Need microphones ● Requires several people to record discussion	● Can be used with 10 to 500 people ● Works best with controversial issues	● Dialogue can stall or become monopolized
OPEN SPACE TECHNOLOGY			
Participants offer topics and others participate according to interest	● Important to have a powerful theme or vision statement to generate topics ● Need flexible facilities to accommodate numerous groups of different sizes ● Groundrules and procedures must be carefully explained for success	● Provides structure for giving people opportunity and responsibility to create valuable product or experience ● Includes immediate summary of discussion	● Most important issues could get lost in the shuffle ● Can be difficult to get accurate reporting of results
WORKSHOPS			
An informal public meeting that may include a presentations and exhibits but ends with interactive working groups	● Know how you plan to use public input before the workshop ● Conduct training in advance with small group facilitators. Each should receive a list of instructions, especially where procedures involve weighting/ ranking of factors or criteria	● Excellent for discussions on criteria or analysis of alternatives Fosters small group or one-to-one communication ● Ability to draw on other team members to answer difficult questions ● Builds credibility Maximizes feedback obtained from participants ● Fosters public ownership in solving the problem	● Hostile participants may resist what they perceive to be the "divide and conquer" strategy of breaking into small groups ● Several small-group facilitators are necessary
FUTURE SEARCH CONFERENCE			
Focuses on the future of an organization, a network of people, or community	● Hire a facilitator experienced in this technique	● Can involve hundreds of people simultaneously in major organizational change decisions ● Individuals are experts ● Can lead to substantial changes across entire organization	● Logistically challenging ● May be difficult to gain complete commitment from all stakeholders ● 2 — 3 day meeting

ATTACHMENT 4 MAP SHOWING THE INITIALLY PLANNED FELLING SITES AND TIMBER ROAD IN STÖKEN

ATTACHMENT 5 MAP SHOWING KEY-HABITATS IN STÖKEN



Serien Arbetsrapporter utges i första hand för institutionens eget behov av viss dokumentation. Rapporterna är indelade i följande grupper: Riksskogstaxeringen, Planering och inventering, Biometri, Fjärranalys, Kompendier och undervisningsmaterial, Examensarbeten, Internationellt samt NILS. Författarna svarar själva för rapporternas vetenskapliga innehåll.

Riksskogstaxeringen:

1995	1	Kempe, G.	Hjälpmedel för bestämning av slutenhet i plant- och ungskog. ISRN SLU-SRG-AR--1--SE
	2	Nilsson, P.	Riksskogstaxeringen och Ståndortskarteringen vid regional miljöövervakning. - Metoder för att förbättra upplösningen vid inventering i skogliga avrinningsområden. ISRN SLU-SRG-AR--2--SE
1997	23	Lundström, A., Nilsson, P. & Ståhl, G.	Certifieringens konsekvenser för möjliga uttag av industri- och energived. - En pilotstudie. ISRN SLU-SRG-AR--23--SE
	24	Fridman, J. & Walheim, M.	Död ved i Sverige. - Statistik från Riksskogstaxeringen. ISRN SLU-SRG-AR--24--SE
1998	30	Fridman, J., Kihlblom, D. & Söderberg, U.	Förslag till miljöindexsystem för naturtypen skog. ISRN SLU-SRG-AR--30--SE
	34	Löfgren, P.	Skogsmark, samt träd- och buskmark inom fjällområdet. En skattning av arealer enligt internationella ägoslagsdefinitioner. ISRN SLU-SRG-AR--34--SE
	37	Odell, P. & Ståhl, G.	Vegetationsförändringar i svensk skogsmark mellan 1980- och 90-talet. - En studie grundad på Ståndortskarteringen. ISRN SLU-SRG-AR--37--SE
	38	Lind, T.	Quantifying the area of edges zones in Swedish forest to assess the impact of nature conservation on timber yields. ISRN SLU-SRG-AR--38--SE
1999	50	Ståhl, G., Walheim, M. & Löfgren, P.	Fjällinventering. - En utredning av innehåll och design. ISRN SLU-SRG-AR--50--SE
	52	Fridman, J. & Ståhl, G. (Redaktörer)	Utredningar avseende innehåll och omfattning i en framtida Riksskogstaxering. ISRN SLU-SRG-AR--52--SE

	54	Fridman, J., Holmström, H., Nyström, K., Petersson, H., Ståhl, G. & Wulff, S.	Sveriges skogsmarksarealer enligt internationella ägoslagsdefinitioner. ISRN SLU-SRG-AR--54--SE
	56	Nilsson, P. & Gustafsson, K.	Skogsskötseln vid 90-talets mitt - läge och trender. ISRN SLU-SRG-AR--56--SE
	57	Nilsson, P. & Söderberg, U.	Trender i svensk skogsskötsel - en intervjuundersökning. ISRN SLU-SRG-AR--57--SE
2000	65	Bååth, H., Gällerspång, A., Hallsby, G., Lundström, A., Löfgren, P., Nilsson, M. & Ståhl, G.	Metodik för skattning av lokala skogsbränsleresurser. ISRN SLU-SRG-AR--65--SE
	75	von Segebaden, G.	Komplement till "RIKSTAXEN 75 ÅR". ISRN SLU-SRG-AR--75--SE
2001	86	Lind, T.	Kolinnehåll i skog och mark i Sverige - Baserat på Riksskogstaxeringens data. ISRN SLU-SRG-AR--86--SE
2003	110	Berg Lejon, S.	Studie av mätmetoder vid Riksskogstaxeringens årsringsmätning. ISRN SLU-SRG--AR--110--SE
	116	Ståhl, G.	Critical length sampling for estimating the volume of coarse woody debris. ISRN SLU-SRG-AR--116--SE
	117	Ståhl, G. Blomquist, G. Eriksson, A.	Mögelproblem i samband med risrensning inom Riksskogstaxeringen. ISRN SLU-SRG-AR--117--SE
	118	Ståhl, G. Boström, B. Lindkvist, H. Lindroth, A. Nilsson, J. Olsson, M.	Methodological options for quantifying changes in carbon pools in Swedish forests. ISRN SLU-SRG-AR--118--SE
2004	129	Bååth, H., Eriksson, B., Lundström, A., Lämås, T., Johansson, T., Persson, J A. & Sundquist, S.	Internationellt utbyte och samarbete inom forskning och undervisning i skoglig mätteknik och inventering. -Möjligheter mellan en region i södra USA och SLU. ISRN SLU-SRG-AR--129--SE

2006	159	Ståhl, G., Glimskär, A., Holm, S., & Högström, M.	Utökad samordning av landskapsövervakning och uppföljning av Natura 2000. ISRN SLU-SRG-AR--159--SE

Planering och inventering:

1995	3	Homgren, P. & Thuresson, T.	Skoglig planering på amerikanska västkusten - intryck från en studieresa till Oregon, Washington och British Colombia 1-14 augusti 1995. ISRN SLU-SRG-AR--3--SE
	4	Ståhl, G.	The Transect Relascope - An Instrument for the Quantification of Coarse Woody Debris. ISRN SLU-SRG-AR--4--SE
1996	15	van Kerkvoorde, M.	An Sequential approach in mathemtical programming to include spatial aspects of biodiversity in long range forest management planning. ISRN SLU-SRG-AR--15--SE
1997	18	Christoffersson, P. & Jonsson, P.	Avdelningsfri inventering - tillvägagångssätt och tidsåtgång. ISRN SLU-SRG-AR--18--SE
	19	Ståhl, G., Ringvall, A. & Lämås, T.	Guided transect sampling - An outline of the principle. ISRN SLU-SRG-AR--19--SE
	25	Lämås, T. & Ståhl, G.	Skattning av tillstånd och förändringar genom inventeringssimulering - En handledning till programpaketet. ISRN SLU-SRG-AR--25--SE
	26	Lämås, T. & Ståhl, G.	Om detektering av förändringar av populationer i begränsade områden. ISRN SLU-SRG-AR--26--SE
1999	59	Petersson, H.	Biomassafunktioner för trädfraktioner av tall, gran och björk i Sverige. ISRN SLU-SRG-AR--59--SE
	63	Fridman, J., Löfstrand, R. & Roos, S.	Stickprovsvis landskapsövervakning - En förstudie. ISRN SLU-SRG-AR--63--SE
2000	68	Nyström, K.	Funktioner för att skatta höjdtillväxten i ungskog. ISRN SLU-SRG-AR--68--SE
	70	Walheim, M.	Metodutveckling för vegetationsövervakning i fjällen. ISRN SLU-SRG-AR--70--SE
	73	Holm, S. & Lundström, A.	Åtgärdsprioriteter. ISRN SLU-SRG-AR--73--SE
	76	Fridman, J. & Ståhl, G.	Funktioner för naturlig avgång i svensk skog. ISRN SLU-SRG-AR--76--SE

2001	82	Holmström, H.	Averaging Absolute GPS Positionings Made Underneath Different Forest Canopies - A Splendid Example of Bad Timing in Research. ISRN SLU-SRG-AR--82--SE
2002	91	Wilhelmsson, E.	Forest use and it's economic value for inhabitants of Skröven and Hakkas in Norrbotten. ISRN SLU-SRG-AR--91--SE
	93	Lind, T.	Strategier för Östads säteri: Redovisning av planer framtagna under kursen Skoglig planering ur ett företagsperspektiv ht 2001, SLU Umeå. ISRN SLU-SRG-AR--93--SE
	94	Eriksson, O. et. al.	Wood supply from Swedish forests managed according to the FSC-standard. ISRN SLU-SRG-AR--94--SE
2003	108	Paz von Friesen, C.	Inverkan på provytans storlek på regionala skattningar av skogstyper. En studie av konsekvenser för uppföljning av miljömålen. SLU-SRG-AR--108--SE
2005	145	Nordfjell, T., Kettunen, A., Vennesland, B. & Suadicani, K.	Family Forestry Future challenges and needs ISRN SLU-SRG-AR--145--SE

Biometri:

1997	22	Ali, A. A.	Describing Tree Size Diversity. ISRN SLU-SRG--AR--22--SE
1999	64	Berhe, L.	Spatial continuity in tree diameter distribution. ISRN SLU-SRG--AR--64--SE
2001	88	Ekström, M.	Nonparametric Estimation of the Variance of Sample Means Based on Nonstationary Spatial Data. ISRN SLU-SRG-AR--88--SE
	89	Ekström, M. & Belyaev, Y.	On the Estimation of the Distribution of Sample Means Based on Non-Stationary Spatial Data. ISRN SLU-SRG-AR--89--SE
	90	Ekström, M. & Sjöstedt-de Luna, S.	Estimation of the Variance of Sample Means Based on Nonstationary Spatial Data with Varying Expected Values. ISRN SLU-SRG-AR--90--SE
2002	96	Norström, F.	Forest inventory estimation using remotely sensed data as a stratification tool - a simulation study. ISRN SLU-SRG-AR--96--SE

Fjärranalys:

1997	28	Hagner, O.	Satellitfjärranalys för skogsföretag. ISRN SLU-SRG-AR--28--SE
	29	Hagner, O.	Textur i flygbilder för skattningar av beståndsegenskaper. ISRN SLU-SRG-AR--29--SE
1998	32	Dahlberg, U., Bergstedt, J. & Pettersson, A.	Fältinstruktion för och erfarenheter från vegetationsinventering i Abisko, sommaren 1997. ISRN SLU-SRG-AR--32--SE
	43	Wallerman, J.	Brattåkerinventeringen. ISRN SLU-SRG-AR--43--SE
1999	51	Holmgren, J., Wallerman, J. & Olsson, H.	Plot-level Stem Volume Estimation and Tree Species Discrimination with Casi Remote Sensing. ISRN SLU-SRG-AR--51--SE
	53	Reese, H. & Nilsson, M.	Using Landsat TM and NFI data to estimate wood volume, tree biomass and stand age in Dalarna. ISRN SLU-SRG-AR--53--SE
2000	66	Löfstrand, R., Reese, H. & Olsson, H.	Remote sensing aided Monitoring of Nontimber Forest Resources - A literature survey. ISRN SLU-SRG-AR--66--SE
	69	Tingelöf, U. & Nilsson, M.	Kartering av hyggeskanter i pankromatiska SPOT-bilder. ISRN SLU-SRG-AR--69--SE
	79	Reese, H. & Nilsson, M.	Wood volume estimations for Älvsbyn Kommun using SPOT satellite data and NFI plots. ISRN SLU-SRG-AR--79--SE
2003	106	Olofsson, K.	TreeD version 0.8. An Image Processing Application for Single Tree Detection. ISRN SLU-SRG-AR--106-SE
2003	112	Olsson, H. Granqvist Pahlen, T. Reese, H. Hyyppä, J. Naesset, E.	Proceedings of the ScandLaser Scientific Workshop on Airborne Laser Scanning of Forests. September 3 & 4, 2003. Umeå, Sweden. ISRN SLU-SRG-AR--112--SE
	114	Manterola Matxain, I.	Computer Visualization of forest development scenarios in Bäcksjön estate. ISRN SLU-SRG-AR--114--SE
2004	122	Dettki, H. & Wallerman, J.	Skoglig GIS- och fjärranalysundervisning inom Jägmästar- och Skogsvetarprogrammet på SLU. - En behovsanalys. ISRN SLU-SRG-AR--122--SE

2005	136	Bohlin, J.	Visualisering av skog och skogslandskap -erfarenheter från användning av Visual Nature Studio 2 och OnyxTree. ISRN SLU-SRG-AR--136--SE
2005	151	Olsson, H., Eriksson, G., Pettersson, H., Högström, M. & Lundblad M	Kyoto - ENFORMA - en undersökning om möjligheterna att använda Skogsvårdsorganisationens rutiner för satellitbaserad hyggeskartering som stöd vid rapportering av avskogning enligt Kyoto-protokollet ISRN SLU-SRG--AR--151--SE

Kompendier och undervisningsmaterial:

1996	14	Holm, S. & Thuresson, T. samt jägm. studenter kurs 92/96	En analys av skogstillståndet samt några alternativa avverkningsberäkningar för en del av Östads säteri. ISRN SLU-SRG-AR--14--SE
1997	21	Holm, S. & Thuresson, T. samt jägm.studenter kurs 93/97.	En analys av skogstillsåndet samt några alternativa avverkningsberäkningar för en stor del av Östads säteri. ISRN SLU-SRG-AR--21--SE
1998	42	Holm, S. & Lämås, T. samt jägm.studenter kurs 94/98.	An analysis of the state of the forest and of some management alternatives for the Östad estate. ISRN SLU-SRG-AR--42--SE
1999	58	Holm, S. & Lämås, T. samt studenter vid Sveriges lantbruksuniversitet.	En analys av skogstillsåndet samt några alternativa avverkningsberäkningar för Östads säteri. ISRN SLU-SRG-AR--58--SE
2001	87	Eriksson, O. (Ed.)	Strategier för Östads säteri: Redovisning av planer framtagna under kursen Skoglig planering ur ett företagsperspektiv HT2000, SLU Umeå. ISRN SLU-SRG-AR--87--SE
2003	115	Lindh, T.	Strategier för Östads Säteri: Redovisning av planer framtagna under kursen Skoglig Planering ur ett företagsperspektiv HT 2002, SLU Umeå. SLU-SRG--AR--115--SE
2005	150	Lindh, T.	350 000 skogsägare kan inte ha fel - men hur vet vi vad det tycker och vad de gör? Workshop om skogägandets förändrade villkor och vad skogsnäringen, samhället och allmänheten förväntar sig av skogen och dess ägare. Tisdagen den 26 april 2005 på Kungl. Skogs- och Lantbruksakademien, Stockholm. ISRN SLU-SRG-AR--150--SE

Examensarbeten:

1995	5	Törnquist, K.	Ekologisk landskapsplanering i svenskt skogsbruk - hur började det? ISRN SLU-SRG-AR--5--SE
1996	6	Persson, S. & Segner, U.	Aspekter kring datakvaliténs betydelse för den kortsiktiga planeringen. ISRN SLU-SRG--AR--6--SE
	7	Henriksson, L.	The thinning quotient - a relevant description of a thinning? Gallringskvot - en tillförlitlig beskrivning av en gallring? ISRN SLU-SRG-AR--7--SE
	8	Ranvald, C.	Sortimentsinriktad avverkning. ISRN SLU-SRG-AR--8--SE
	9	Olofsson, C.	Mångbruk i ett landskapsperspektiv - En fallstudie på MoDo Skog AB, Örnsköldsviks förvaltning. ISRN SLU-SRG-AR--9--SE
	10	Andersson, H.	Taper curve functions and quality estimation for Common Oak (Quercus Robur L.) in Sweden. ISRN SLU-SRG-AR--10--SE
	11	Djurberg, H.	Den skogliga informationens roll i ett kundanpassat virkesflöde. - En bakgrundsstudie samt simulering av inventeringsmetoders inverkan på noggrannhet i leveransprognoser till sågverk. ISRN SLU-SRG-AR--11--SE
	12	Bredberg, J.	Skattning av ålder och andra beståndsvariabler - en fallstudie baserad på MoDo:s indelningsrutiner. ISRN SLU-SRG-AR--12--SE
	13	Gunnarsson, F.	On the potential of Kriging for forest management planning. ISRN SLU-SRG-AR--13--SE
	16	Tormalm, K.	Implementering av FSC-certifiering av mindre enskilda markägares skogsbruk. ISRN SLU-SRG-AR--16--SE
1997	17	Engberg, M.	Naturvärden i skog lämnad vid slutavverkning. - En inventering av upp till 35 år gamla föryngringsytor på Sundsvalls arbetsområde, SCA. ISRN SLU-SRG-AR--17--SE
	20	Cedervind, J.	GPS under krontak i skog. ISRN SLU-SRG-AR--20--SE
	27	Karlsson, A.	En studie av tre inventeringsmetoder i slutavverkningsbestånd. ISRN SLU-SRG-AR--27--SE

1998	31	Bendz, J.	SÖDRAs gröna skogsbruksplaner. En uppföljning relaterad till SÖDRAs miljömål, FSC's kriterier och svensk skogspolitik. ISRN SLU-SRG-AR--31--SE
	33	Jonsson, Ö.	Trädskikt och ståndortsförhållanden i strandskog. - En studie av tre bäckar i Västerbotten. ISRN SLU-SRG-AR--33--SE
	35	Claesson, S.	Thinning response functions for single trees of Common oak (Quercus Robur L.). ISRN SLU-SRG-AR--35--SE
	36	Lindskog, M.	New legal minimum ages for final felling. Consequenses and forest owner attitudes in the county of Västerbotten. ISRN SLU-SRG-AR--36--SE
	40	Persson, M.	Skogsmarkindelningen i gröna och blå kartan - en utvärdering med hjälp av Riksskogstaxeringens provytor. ISRN SLU-SRG-AR--40--SE
	41	Eriksson, M.	Markbaserade sensorer för insamling av skogliga data - en förstudie. ISRN SLU-SRG-AR--41--SE
	45	Gessler, C.	Impedimentens potentiella betydelse för biologisk mångfald. - En studie av myr- och bergimpediment i ett skogslandskap i Västerbotten. ISRN SLU-SRG-AR--45--SE
	46	Gustafsson, K.	Långsiktsplanering med geografiska hänsyn - en studie på Bräcke arbetsområde, SCA Forest and Timber. ISRN SLU-SRG-AR--46--SE
	47	Holmgren, J.	Estimating Wood Volume and Basal Area in Forest Compartments by Combining Satellite Image Field Data. ISRN SLU-SRG-AR--47--SE
	49	Härdelin, S.	Framtida förekomst och rumslig fördelning av gammal skog. - En fallstudie på ett landskap i Bräcke arbetsområde. ISRN SLU-SRG-AR--49--SE
1999	55	Imamovic, D.	Simuleringsstudie av produktionskonekvenser med olika miljömål. ISRN SLU-SRG-AR--55--SE
	62	Fridh, L.	Utbytesprognoser av rotstående skog. ISRN SLU-SRG-AR--62--SE
2000	67	Jonsson, T.	Differentiell GPS-mätning av punkter i skog. Point-accuracy for differential GPS under a forest canaopy. ISRN SLU-SRG-AR--67--SE

	71	Lundberg, N.	Kalibrering av den multivariata variabeln trädslagsfördelning. ISRN SLU-SRG-AR--71--SE
	72	Skoog, E.	Leveransprecision och ledtid - två nyckeltal för styrning av virkesflödet. ISRN SLU-SRG-AR--72--SE
	74	Johansson, L.	Rotröta i Sverige enligt Riksskogstaxeringen. - En beskrivning och modellering av rötförekomst hos gran, tall och björk. ISRN SLU-SRG-AR--74--SE
	77	Nordh, M.	Modellstudie av potentialen för renbete anpassat till kommande slutavverkningar. ISRN SLU-SRG-AR--77--SE
	78	Eriksson, D.	Spatial Modeling of Nature Conservation Variables useful in Forestry Planning. ISRN SLU-SRG-AR--78--SE
	81	Fredberg, K.	Landskapsanalys med GIS och ett skogligt planeringssystem. ISRN SLU-SRG-AR--81--SE
2001	83	Lindroos, O.	Underlag för skogligt länsprogram Gotland. ISRN SLU-SRG-AR--83-SE
	84	Dahl, M.	Satellitbildsbaserade skattningar av skogsområden med röjningsbehov (Satellite image based estimations of forest areas with cleaning requirements). ISRN SLU-SRG-AR--84--SE
	85	Staland, J.	Styrning av kundanpassade timmerflöden - Inverkan av traktbankens storlek och utbytesprognosens tillförlitlighet. ISRN SLU-SRG-AR--85--SE
2002	92	Bodenhem, J.	Tillämpning av olika fjärranalysmetoder för urvalsförfarandet av ungskogsbestånd inom den enkla älgbetesinventeringen (ÄBIN). ISRN SLU-SRG-AR--92--SE
	95	Sundquist, S.	Utveckling av ett mått på produktionsslutenhet för Riksskogstaxeringen. ISRN SLU-SRG-AR--95--SE
	98	Söderholm, J.	De svenska skogsbolagens system för skoglig planering. ISRN SLU-SRG-AR--98--SE
	99	Nordin, D.	Fastighetsgränser. Del 1. Fallstudie av fastighetsgränsers lägesnoggrannhet på fastighetskartan. ISRN SLU-SRG-AR--99--SE

	100	Nordin, D.	Fastighetsgränser. Del 2. Instruktion för gränsvård. ISRN SLU-SRG-AR--100--SE
	101	Nordbrandt, A.	Analyser med Indelningspaketet av privata skogsfastigheter inom Norra Skogsägarnas verksamhetsområde. ISRN SLU-SRG-AR--101--SE
2003	102	Wallin, M.	Satellitbildsanalys av gremmeniellaskador med skogsvårdsorganisationens system. ISRN SLU-SRG-AR--102--SE
	103	Hamilton, A.	Effektivare samråd mellan rennäring och skogsbruk - förbättrad dialog via ett utvecklat samrådsförfarande. ISRN SLU-SRG-AR--103--SE
	104	Hajek, F.	Mapping of Intact Forest Landscapes in Sweden according to Global Forest Watch methdology. ISRN SLU-SRG-AR--104--SE
	105	Anerud, E.	Kalibrering av ståndortsindex i beståndsregister - en studie åt Holmen Skog AB. ISRN SLU-SRG-AR--105--SE
	107	Pettersson, L.	Skördarnavigering kring skyddsvärda objekt med GPS-stöd. SLU-SRG-AR--107--SE
	109	Östberg, P-A.	Försök med subjektiva metoder för datainsamling och analys av hur fel i data påverkar åtgärdsförslagen. SLU-SRG-AR--109--SE
	111	Hansson, J.	Vad tycker bilister om vägnära skogar - två enkätstudier. SLU-SRG-AR--111--SE
	113	Eriksson, P.	Renskötseln i Skandinavien. Förutsättningar för sambruk och konflikthantering. SLU-SRG-AR--113--SE
	119	Björklund, E.	Medlemmarnas syn på Skogsägarna Norrskog. ISRN SLU-SRG--AR--119--SE
2004	120	Fogdestam, Niklas	Skogsägarna Norrskog:s slutavverkningar och PEFC-kraven - fältinventering och intervjuer. ISRN SLU-SRG--AR--120--SE
	121	Petersson, T	Egenskaper som påverkar hänsynsarealer och drivningsförhållanden på föryngringsavverkningstrakter -En studie över framtida förändringar inom Sveaskog. ISRN SLU-SRG--AR--

	123	Mattsson, M	Markägare i Stockholms län och deras inställning till biodiversitet och skydd av mark. ISRN SLU-SRG--AR--123--SE
	125	Eriksson, M.	Skoglig planering och ajourhållning med SkogsGIS - En utvärdering av SCA:s nya GIS-verktyg med avseende på dess introduktion, användning och utvecklingspotential. ISRN SLU-SRG--AR--125--SE
	130	Olmårs, P.	Metrias vegetationsdatabas i skogsbruket - En GIS-studie. ISRN SLU-SRG--AR--130--SE
	131	Nilsson, M.	Skogsmarksutnyttjande på Älvdalens kronopark före 1870. En kulturhistorisk beskrivning och analys. ISRN SLU-SRG--AR--131--SE
2005	133	Bjerner, J.	Betydelsen av felaktig information i traktbanken -Inverkan på virkesleveranser samt tidsåtgång och kostnad vid avverkningar. ISRN SLU-SRG--AR--133--SE
	138	Kempainen, E.	Ett kalkylstöd för ekonomiska analyser av avverkningsåtgärder på beståndsnivå. A calculation support program for economic analysis of cutting actions on stand level. ISRN SLU-SRG--AR--138--SE
	140	González, J.D.D.	A time study and description of the work methods for the field work in the National Inventory of Landscapes in Sweden. ISRN SLU-SRG--AR--140--SE
	141	Jacobsson, L.	Förbättringspotential i avverkningsplanering -En fallstudie av ett års avverkningar på två distrikt inom SCA skog, Jämtlands förvaltning. ISRN SLU-SRG--AR--141--SE
	142	Gallegos, Å.	Design and evaluation of a computer aided calibration program for visual estimation of vegetation cover. ISRN SLU-SRG--AR--142--SE
	143	Gålnander, H.	Bevarande av naturvärdesträd i enlighet med FSC och Holmen Skogs naturvårdspolicy. ISRN SLU-SRG--AR--143--SE
	144	Lövdahl, H.	Automatisk beståndsavgränsning i satellitbilder - En jämförelse av gränser från två segmenteringsmetoder och Grön Plan. ISRN SLU-SRG--AR--144--SE
	147	Karltun, P.	Utveckling av diameterklassmodell för grandominerade bestånd i Sverige. ISRN SLU-SRG-AR--147--SE

	148	Bergsten, M.	Skogsmarksgödsling - en ekonomisk analys av olika gödslingsstrategier för ett skogsinnehav i norra Sverige. ISRN SLU-SRG-AR--148--SE
	149	Petterson, M.	Användning av satellitdata för lokalisering av skogsområden där lövröjning bedöms angelägen. - En analys av användbarheten med fjärranalys som hjälpmedel till röjningsrådgivning. ISRN SLU-SRG-AR--149--SE
	152	Samuelsson, J.	En jämförelse mellan två datorprogram för utbytesräkningar. ISRN SLU-SRG-AR--152--SE
	153	Sigfridsson, A.	Mätning av stamdiameter med markstående scanner. ISRN SLU-SRG-AR--153--SE
2006	154	Johansson, Å.	Renens fejskador på tall- och contortaplanteringar inom Malå samebys höst och vinterbetesområden. ISRN SLU-SRG-AR--154--SE
	155	Claesson, C.	Mångbruk på Bäcksjö. Förslag på framtida skötsel på fastigheterna Bäcksjön 1:1, Bäcksjön 2:1 samt Mångbyn 1:1 i Umeå kommun ISRN SLU-SRG-AR--155--SE
	156	Sjöstedt, O.	Changes in Spatial Distribution of Deciduous Tree Speices in the County of Västerbotten in North Sweden. SRN SLU-SRG-AR--156--SE

Internationellt:

1998	39	Sandewall, M., Ohlsson, B. & Sandewall, R.K.	People's options of forest land use - a research study of land use dynamics and socio-economic conditions in a historical perspective in the Upper Nam Water Catchment Area, Lao PDR. ISRN SLU-SRG-AR--39--SE
1998	44	Sandewall, M., Ohlsson, B., Sandewall, R.K., Vo Chi Chung, Tran Thi Binh & Pham Quoc Hung.	People's options on forest land use. Government plans and farmers intentions - a strategic dilemma. ISRN SLU-SRG-AR--44--SE

1998	48	Sengthong, B.	Estimating Growing Stock and Allowable Cut in Lao PDR using Data from Land Use Maps and the National Forest Inventory. ISRN SLU-SRG-AR--48--SE
1999	60	Sandewall, M. (Edit.).	Inter-active and dynamic approaches on forest and land-use planning - proceedings from a training workshop in Vietnam and Lao PDR, April 12-30, 1999. ISRN SLU-SRG-AR--60--SE
2000	80	Sawathwong, S.	Forest Land Use Planning in Nam Pui National Biodiversity Conservation Area, Lao P.D.R. ISRN SLU-SRG-AR--80--SE
2002	97	Sandewall, M.	Inter-active and dynamic approaches on forest and land-use planning in Southern Africa. Proceedings from a training workshop in Botswana, December 3-17, 2001. ISRN SLU-SRG-AR--97--SE

NILS:

2004	124	Esseen, P-A., Löfgren, P.	Vegetationskartan över fjällen och Nationell Inventering av Landskapet i Sverige (NILS) som underlag för Natura 2000. ISRN SLU-SRG-AR--124--SE
	126	Allard, A., Löfgren, P. & Sundquist, S.	Skador på mark och vegetation i de svenska fjällen till följd av barmarkskörning. ISRN SLU-SRG-AR--126--SE
	127	Esseen, P-A., Glimskär, A. & Ståhl, G.	Linjära landskapselement i Sverige: skattningar från 2003 års NILS-data. ISRN SLU-SRG-AR--127--SE
	128	Ringvall, A., Ståhl, G., Löfgren, P. & Fridman, J.	Skattningar och precisionsberäkning i NILS - Underlag för diskussion om lämplig dimensionering. ISRN SLU-SRG-AR--128--SE
	132	Esseen, P-A., Glimskär, A., Moen, J., Söderström, B. & Weibull, A.	Analys av informationsbehov för Nationell Inventering av Landskapet i Sverige (NILS). ISRN SLU-SRG--AR--132--SE
2005	134	Glimskär, A., Allard, A. & Högström, M.	Småbiotoper vid åkermark – indikatorer och flygbildsbaserad uppföljning i NILS. ISRN SLU-SRG--AR--134--SE
	135	Hylander, K. & Esseen, P-A.	Lavkompendium för Nationell Inventering av Landskapet i Sverige (NILS) ISRN SLU-SRG--AR--135--SE
	137	Ericsson, S.	Arthandbok Fältskiktsarter för Nationell Inventering av Landskapet i Sverige NILS. ISRN SLU-SRG-AR--137--SE

	139	Weibull, H.	Mosskompendium för Nationell Inventering av Landskapet i Sverige (NILS) 2004. ISRN SLU-SRG-AR--139--SE
	146	Glimskär, A., Löfgren, P. & Ringvall, A.	Uppföljning av naturvärden i ängs- och betesmarker via NILS - statistisk utvärdering och förslag till design. ISRN SLU-SRG-AR--146--SE
2006	157	Hultengren, S., Andersson, M.	Sammanställning över lavar som indikerar höga naturvärden på gamla och grova träd i södra Sveriges kulturlandskap. Kompendium för Nationell Inventering av Landskapet i Sverige (Nils). ISRN SLU-SRG-AR--157--SE
	158	Allard, A., Marklund, L., Glimskär, A. & Högström, M.	Utveckling av nationellt uppföljningssystem för småbiotoper vid åkermark. ISRN SLU-SRG-AR--158--SE