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Project experiences of landscape analysis with local participation

– (LIFE 96 ENV S 367) Local participation in sustainable forest management based on landscape analysis

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Project experiences of Landscape analysis with Local participation

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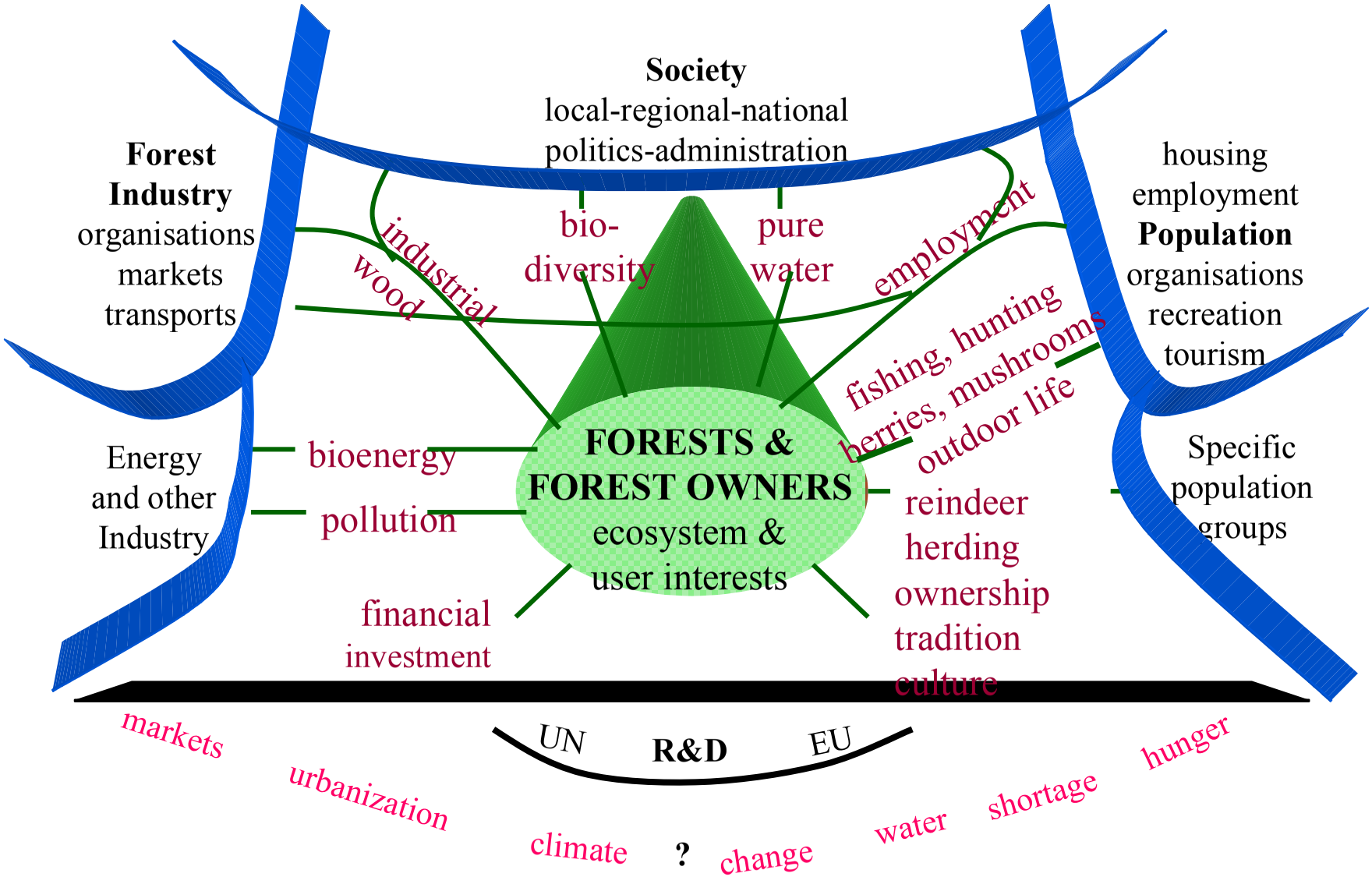
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PREFACE

”Local participation in sustainable forest management based on Landscape Analysis” was the title of a Swedish-Finnish project conducted during the years 1997-2000 with support from EU’s Environmental Fund LIFE. In Sweden, the Regional Forestry Boards in Södra Götaland, Mälardalen and Västerbotten and the National Board of Forestry’s IT unit have participated, and in Finland the Forestry Development Centre Tapio and the Kusten Forestry Centre.

The project has worked in five demonstration areas with different examples of forestry, economic and social conditions: Vindeln, Kolmården and Linderödsåsen in Sweden, and Vanda and SydÖsterbotten in Finland, see map on cover. GIS applications for processing of geographical data have been a very important tool for planning and extension. Models and programs have been developed at the National Board of Forestry and in Tapio.

The project represents the ideas around and attitudes to the nature resources that are given expression in, e.g., EC’s Fifth Environmental Action Programme, the Rio Conference’s Agenda 21 and Forest Principles, the Helsinki Ministerial Process and other initiatives following the Rio meeting. The project also reflects the changes that have taken place in Swedish and Finish forestry and environmental policy and legislation.

The title of the project indicates the main objectives of the project and the picture on the opposite page illustrates some of the numerous aspects the project has had to pay consideration to. The project has looked for models whereby the interests and opinions of persons not owning forestland could be considered in forest planning and decision-making. In addition, the activities have been directed at methods and techniques for landscape analysis and planning that lead to a sustainable and diversified forestry with preserved and improved biodiversity.

The present report gives an account of the projects experiences of local participation and landscape analysis. A list of the other reports is given in Annex 1.

We wish to thank the European Union and its Environmental Fund LIFE for the support that has been an absolute necessity for accomplishment of the project. We also wish to thank our partners in the project, and all the locally participating land-owners and other interested persons who, without compensation, have participated in the accomplishment of the project.

It is the hope of the National Board of Forestry that the project experiences and this report will contribute to develop the cooperation between authorities, land-owners and other interested parties for sustainable forestry seen in a landscape perspective.

Bo Wallin
Head of Environmental Division

Bo Mårsäter
Project Leader

SUMMARY

The preface gives a brief account of the project. Part A of the previous report, the present report being a complement, gives a more detailed account together with brief summaries of the ca. 50 reports that have been generated. The present text, however, contains no direct references to these reports, the contents of which is clear from their titles. Annex 1 is a list of all these reports, together with addresses for ordering.

The present report is an attempt to distil the main project experiences of local participation and landscape analysis as it has developed within the five demonstration areas, all widely different geographically (see map on the cover). The project was implemented in a subsidiary manner for each demonstration area, as planned, by the local participants. Forest-owners and other interested parties forming local participation groups have discussed the implications of landscape and sustainable forestry and have identified important areas and questions for participation, as well as problems, dormant conflicts and, not least, local development opportunities based on forestry.

The participants have overall had a good idea of the numerous values and functions in the forest, as well as understanding of the importance of a comprehensive approach and sustainability in forestry, particularly with regard to timber production and environmental values. Fresh water was a function that attracted little interest.

The project staff were available as consultants, educators and, to some extent, managers, the latter with regard to economy and time limitations, and also conducted inventories and other work to make landscape analysis possible in relation to areas and questions given priority by the participation groups.

The terms landscape, sustainable forestry, local participation and landscape analysis are discussed in separate chapters in the report and form the background to accounts of the project experiences. The latter offer ideas and guidelines, particularly for local participation on the grass-roots level, and thus form a valuable, decentralised, complement to the international trend of public participation.

Experiences of local participation within the project work are positive. It has been voluntary, honest and open for all parties concerned and has given all those involved the opportunity to share knowledge and information and to express views and interests. The participation groups have influenced, but also respected, decision-making processes and decisions that are the prerogative of the forest-owner, and have consciously worked to avoid developing into pressure groups.

Local participation can occur when participants are concerned by questions in their own immediate environment. Two factors have been found highly important for successful and durable participation; firstly that all participants, and particularly forest-owners, really believe that participation can lead to concrete results that yield benefits either economically, socially or environmentally, and

secondly, that it is extremely important that the participating group has a leader who can unite conflicting interests in order to create results. Otherwise there is a risk that the participation process will fade away or develop into conflicts.

When ideally developed, local participation forms a network of human resources – with knowledge, ideas, and providing forcefulness where needed most - on village and municipal levels. It also creates friendship and trust among the participants, which encourages them to face challenges, and promotes imagination and originality needed to realise visions and create development.

Participation requires time and resources from the participants. Each meeting must be well planned with good material. Each meeting must lead to concrete results for the participants, otherwise they may lose interest.

The participation process is very time-consuming, something that was underestimated when the project was formulated. Consequently, the project has been found to be too short for all goals to be achieved. However, after termination of the project, the organisations involved and most of the participating groups are still continuing to produce ideas and project work. Consequently, a follow-up evaluation is justified.

Introduction

This report presents experiences and reflections concerning landscape analysis with local participation in order to develop sustainable forestry. This has been generated in a project supported by EU's Environmental Fund LIFE. The project is called " Local participation in sustainable forest management based on landscape analysis." The beneficiary is the National Board of Forestry in Sweden. The other partners in the project are the Forestry Development Centre TAPIO and the Coastal Forestry Centre, both in Finland, together with the Swedish Regional Forestry Boards in Västerbotten, Mälardalen and Södra Götaland.

The EU's standpoint on sustainable forestry has been manifested in several ways. Thus, for example, the EU has signed Agenda 21, Convention on Biological Diversity and Forest Principles at the UN Environmental Conference in Rio, 1992. EU also supports the European Ministerial Process for Protection of European forests, and during the project, has adopted a forestry strategy. The EU Parliament utilised its right in accordance with the Amsterdam Treaty to require the Commission to submit proposals on environmental measures in order to initiate this process. The Council's resolution on forestry strategy for the European Union has the number 5626/99.

Sweden was one of the countries working for a forestry convention in Rio. This resulted in the Forest Principles. The revision of Swedish policy that was presented in 1993 had already been under preparation for several years. It gives equal importance to the goals for production and environment.

Finland led the European Ministerial Process for sustainable forestry since 1990. The Ministerial Conference in Helsinki in 1993 led to the elaboration of proposals on joint criteria and indicators for sustainable forestry in Europe. This has resulted in the starting point for the work on sustainable forestry being interpreted slightly differently in Sweden and in Finland. In Sweden, it has concerned the same thing as the introduction of the new forest policy, whereas in Finland it has largely implied introduction of the principles for sustainable forestry that were decided at the Ministerial Conference in Helsinki.

The project was intended to support the introduction in forestry of the principles of sector integration in EU's fifth environmental action programme. Full integration of environmental aspects in forestry must be based on understanding them in a landscape perspective. An effective measure to achieve this is landscape analysis.

The project has tested models and methods for stepwise landscape analysis with local participation as a base for sustainable forestry. Participation between the parties concerned was intended to allow adaptation to local conditions and to the viewpoints brought forward by private and public organisations. This was done in five demonstration areas. Their varying ecological, economic, social and cultural conditions were considered to contribute to illustrating the general applicability of the methods.

The landscape

The comprehensive approach

There are good reasons to start the report with an image of the landscape. The reader is asked to close his or her eyes for a moment and try to recall a familiar landscape. What are its characteristics? Which parts can be distinguished? Has it always looked the same? How much is it influenced by human activity? What is it that makes the landscape important and valuable?

Each answer to these questions gives a unique description of the landscape; it is unique because the picture is subjective and reflects the interests, knowledge and attitudes of the beholder. The landscape's pattern of special features and details awakes and supports numerous impressions and interpretations. We are enriched by the contacts with the landscape and nature, and develop personal relationships to landscapes we have experienced during childhood and while growing up, both in recreation or while travelling, or through living and working there. Often it is nature that shapes our picture of landscapes and we give them names accordingly: mountain landscape, heath landscape, coast landscape, etc. This project deals with forest in the landscape.

The landscape rises above all other details and borders and creates the wider context required to give overall views and frameworks for principle and practical questions and problems concerning nature and our use of natural resources. That which appears correct and proper in the private, more restricted context need not necessarily be so in a larger context. One's personal view of the landscape is therefore a good starting point when, together with other people, attempts are made to analyse and discuss the landscape and the influence to which we expose it. These other people may, for example, be authorities who prefer to think in terms of administrative borders, hunters who refer to the hunting management district, or people "interested in nature", who refer to the drainage basin or to the distribution of selected biological qualities.

The picture of the landscape hopefully supports a comprehensive approach also as regards forestry and participation, whereby the comprehensive approach is experienced as something other than the sum total of the parts included, which would be termed as the holistic approach.

Project experiences

Already in the title of the project it is clear that great emphasis is placed on the landscape perspective. One of the two main tasks has concerned the question of how forest-owners and non forest-owners can work together in creating sustainable forestry on the landscape level; the other has been to study how the landscape aspect influences the planning and management of forestry.

The five demonstration blocks of the project originally covered large areas, ranging from 5,000 to 250,000 hectares. This has given the participants good opportunities of choosing study objects locally among different types of

landscape. Already before the start of the project the participants were largely well aware of the need for a comprehensive approach – when this had not occurred it was easily introduced. They have usually defined their landscapes on the basis of what they have been most familiar with, for example land within the borders of the village, parish or municipality, moose management areas and other hunting areas, drainage basins, nature management and biological qualities, tourist attractions, etc.

Nonetheless, the experience is that the interests of the land-owner often decrease along an increasing geographic scale from his/her own holding to neighbouring holdings, hunting areas, fields, villages and municipalities. People representing organisations, municipalities and associations, on the other hand, show a clear tendency for increased interest in landscape analyses along a similar geographic scale. This illustrates the importance of correct links between recipient, scale and subject area in order to achieve involvement, participation and dissemination of knowledge.

Participants in different project activities have generally understood the implications of the term landscape analysis since it is related to a landscape defined for this purpose. There is, however, a risk that the landscape perspective will be too large and alien for the private land-owner, and then it is difficult to create interest in the individual land-owner for questions ranging over wide areas.

Further, experience has shown that it is important to introduce the landscape term into most of the questions involving participation and discussions between different industries, and even those taking place within them. This is in order to achieve an overall awareness of the extent of the question. Different types of GIS[1] are good tools in this respect.

In many cases forest-owners have participated in, and promoted, questions and projects concerning their own interests with regard to the raw forest product. Non land-owners have also taken part, but in a considerably more passive role, on the local level, especially when this has concerned small geographic areas. Non profit-making associations within angling and nature protection were very active and worked for long-term comprehensive solutions in larger adjoining areas. The differences in involvement may be fairly natural: the land-owner faces the risk of having to pay for any measures on his/her land whereas associations and municipalities have other possibilities and therefore look at the entirety from other perspectives.

In order to widen our knowledge of long-term utilisation of forest land with local participation, the project has also made use of random analysis technology, GIS and other satellite technology, GPS[2]. The project has also elaborated a simple functional solution for making the digital forest inventory material[3] available to

[1] Geographic Information System, also called Geoinformatics, a computer-based information system with functions for measuring, processing, storing, analysis and presentation of geographic data. Existing data on a GIS for forest land are generally limited by administrative borders.
[2] Global Positioning System, a satellite-based system for establishing positions with great accuracy.
[3] Digital forestry material (ÖSI) prepared by the Regional Forestry Boards in Sweden during the 1970s and 1980s.

timber purchasers, etc. The aim was to increase awareness of digital GIS technology and to reduce the risks of environmental losses by spreading digital material on areas worthy of protection in maps to as many interested parties as possible.

Landscape delimitations of this kind, on the conditions of the participants, have created strong involvement and a sense of belonging, which is an important key to good cooperation. With regard to the land-owner group, as well as for participants from different authorities, the administrative borders have been of great importance when selecting landscapes. The home district and village form a natural focus for the land-owner, but in the case of the municipality and the county, their regulations and routines are often different. This means that it may be difficult to work over administrative borders. Most of the groups of participants, however, have based their standpoints on specific questions or interests when deciding on the limitations to be made.

The European Landscape Convention

Decisions of the Council of Europe have resulted in the landscape becoming a political and legal matter. This is partly because of the great importance of nature and the cultural landscape for the environment and quality of life, but also because many people feel concern and impotence when faced with changes in the landscape that accompany technical and economic development.

The Member States in the council of Europe have prepared the European Landscape Convention[4] in which it is proposed that authorities on local, regional, national and international levels should develop guidelines and measures for preserving and managing landscapes. Legal instruments and financial measures are suggested for the Member States to create a national landscape policy. The convention also proposes a European Council Landscape Prize, which would be awarded to local and regional authorities or associations and societies who have elaborated and accomplished guidelines for managing and protecting a landscape.

[4] The European Landscape Convention, ETS no. 176 was initiated in 1994 and submitted for signatures on 29 October 2000. Up to 9 March 2001 it has been signed by 21 states. A total of ten states must ratify the Convention for it to come into force. At present no state has ratified, i.e., legally bound itself to the Convention. Finland signed the Convention on 20 October 2000, and Sweden on 22 February 2001. For the complete English text, see http://www.nature.coe.int/english/cadres/texts/.htm

The Convention's definition is that a landscape is an area, the character or characteristics of which have been shaped by natural processes and/or human influence. The size of the area is not discussed and the limits are those of the beholder. The expression landscape management refers to measures that preserve the landscape by governing and adapting the changes that result from social, economic and environmentally conditioned events. Landscape planning is directed at sustainable, long-term measures to enhance, restore or create landscapes.[5]

The model used by the project, to allow the participants themselves to define their landscapes, is in line with the intentions of the Convention. Consequently, the landscapes of the project have often come to cover smaller areas than would be desirable solely from an ecological viewpoint and for the landscape models that researchers and authorities wish to apply. Nonetheless, the smaller scale may be preferable when initiating and developing sustainable forms of local participation. From that point, a wider view of the landscape (also in terms of area) and understanding can be developed, as required by biological diversity and other forest functions.

[5] Excerpts from the convention:
"Landscape" means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.
"Landscape management" means action, from a perspective of sustainable development, to ensure the regular upkeep of a landscape, so as to guide and harmonise changes, which are brought about by social, economic and environmental processes.
"Landscape planning" means strong forward-looking action to enhance, restore or create landscapes.

Sustainable forestry[6]

More than timber production

Forestry is an activity that, in different ways, manages and utilises the forests in accordance with the targets established by the owners and by society. Forestry thus comprises a large number of economic, ecological, social, cultural and spiritual values and functions – or products and services – that in different ways concern not only the forest-owners but also all groups in society.

The forests produce timber, pulpwood and other wood products that can be used in many ways and that represent great economic importance. They collect, store and deliver fresh water, they stabilise the soil, they level out the local climate, reduce noise and air pollution, and contribute to maintaining the atmospheric oxygen-carbon dioxide balance. The forests and their water systems contribute to biological diversity and offer important and renewable products such as fish and game, berries and mushrooms, as well as grazing for reindeer and domestic animals. They provide rich opportunities for recreation, open-air activities and nature experiences, but also have space for roads, railways, dams and power lines.

The forest is a place for diversified production and has always been so, even if wood products have been in focus during recent centuries. However, it is difficult to imagine forests with only one function; most of the above-mentioned functions and values occur simultaneously with different degrees of mutual dependence and sensitivity – as well as mutual conflicts. In this context, the term diversified production is rather misleading since it can be incorrectly interpreted to imply a pledge that all interests can be satisfied. This is far from possible in smaller areas of forest and on small holdings. The diversified production term, therefore, functions much better for landscapes and large areas than for small areas.

The forest road is a good example of conflicts between different goals and interests. If the forest-owner is to be able to sell raw products to the forest industry, and then create and manage new forest, roads are needed for transport of machinery, timber and personnel. The roads can also be used by hunters, anglers, reindeer herders and berry-and-mushroom pickers, but are regarded as a disturbance for open-air activities and eco-tourism. Road-making and buildings may threaten environmental values by, e.g., creating dispersal hindrances in wetlands and watercourses, etc., unless particular consideration is taken. The forest road is also, indirectly, a threat to ancient forest and biological diversity, particularly if it leads to natural forestland that could not previously be reached.

Forest-owners and all others with demands on forestry thus face a major challenge, namely, when establishing goals, strategies, plans and action to satisfy not only their own priorities but also to consider the entirety and the values and functions that are important for other interested parties.

[6] Sustainable (sufficiently stable in its formation to withstand pressure, something that retains its original quality for a long time) and durable (can keep on with something without tiring) are used synonymously.

Sustainable forestry in the EU and in member states Sweden and Finland

Forestry may be regarded as a kind of never-ending marathon for persevering but nonetheless only temporary participants who, during their lives must use and manage the forests so that they become resistant, stable and sustainable, and so that forestry becomes sustainable in the long-run. This has long been the situation as far as timber production is concerned, and over the past few decades the sustainability criterion has also involved most other environmental aspects.

The intention with sustainable forestry is easy enough to formulate: Care and responsibility for present and future generations and society. Sustainable timber production has long been part of Swedish and Finnish forest policy and legislation. In addition, recent decades have seen the development and addition of an environmental goal given the same status as the production goals, including, for example, biological diversity, genetic variation, protection of threatened species and types of nature, and also values relating to the cultural environment as well as aesthetic and social values.

Environmental and production objectives have been manifested in a large number of international declarations.[7] The Rio Conference's[8] Agenda 21 and Forest principles listed a number of general objectives for sustainable forestry in order to secure biological diversity and economic production of raw material, to satisfy social and cultural requirements, and to create conditions for alternative forest models also in the future. The Ministerial Conference on the Protection of Forests in Europe[9], or the Helsinki Process, has agreed on Pan-European Criteria for sustainable management and use of forests, and the Kyoto Protocol[10] has started a political and scientific discussion on the importance of forests in the global carbon cycle.

[7] In addition to those dealt with in the text, the following international protocols and programmes can be mentioned, all of which establish national and regional criteria and indicators for sustainable forestry. The Montreal Process focuses on boreal forests outside Europe. The Tarapoto Proposal concerns the Amazon, the Lepaterique Process concerns Central America, The Dry-Zone Africa and Near East Processes concern the respective geographic regions. ITTO, the International Tropical Timber Organisation, has also promoted global criteria and indicators.
The different programmes were presented at the XI World Conference, 1997, see http://www.fao.org/montes/foda/wforcong/PUBLI/V6/DEFAULT.HTM#TOP, and is followed up by FAO, see http://www.fao.org/docrep/meeting/003/X8783e.htm

[8] The United Nations conference on Environment and Development (UNCED), Rio de Janeiro 1992. All documents can be found on http://www.un.org/esa/sustdev/agenda21.htm.
Preparations are now being made for a new meeting Rio+10/Stockholm+30, in Johannesburg in June 2002. See, for example, http://www.un.org/rio+10/index.html , http://www.earthcharter.org and http://europa.eu.int/comm/environment/agend21/index.htm

[9] Europe's second and third conference of Forestry Ministers, in Helsinki, 1993 and in Lisbon 1998. See http://www.minconf-forests.net/

[10] United Nations Framework convention on climate Change, see http://www.cop3.de/, http://www.unfccc.int/ and http://www.unep.ch/ipcc/

The Fifth EU Environmental Action Programme[11] for the period 1992-1999, Towards sustainability,[12] implies a direction towards strong integration of environmental questions in all political and economic activities. As the Sixth Environmental Action Programme approaches it has been found, however, that many problems still remain unsolved and that the environment risks continued deterioration unless integration of environmental aspects in economic and social strategies is improved, and unless the parties concerned as well as the general public take more responsibility for their own inputs to protect the environment.

The Fifth programme was one of the starting points for the project, in which experiences from forestry also show that the distance between general goals and applicable regulations and praxis is still wide but possible to bridge, for example by a participatory approach. Individual forest-owners and participatory groups have, however, numerous questions to reach decisions on: How can environmental functions and other products and services be weighted and balanced against each other? How can alternative forest production models with, for example, different ranges of time and space, be compared? How should uncertainty and deficient knowledge of complex ecosystems be handled? And how can conflict of interest be solved or avoided?

The Sixth Environmental Action Programme, *Environment 2010: Our future – our choice,*[13] follows up experiences from the previous period. It emphasises that environmental aspects and consideration to biological diversity must be more effectively integrated with agricultural and forestry policy as well as physical planning. It also states that if the environmental programme is to be successful it is important that all parties concerned (national) should participate actively in each phase of the decision-making processes, starting when the goal is established through to the accomplishment of the measures, so that both the general public as well as the industry are involved. These premises have applied to the project already from the start.

Project experiences

The project's participants have throughout had a good idea of the forest's different values and functions, and any gaps in knowledge have been filled through discussions and educational inputs. The function or (future) product that has attracted the least interest in relation to its importance was water, its quality and quantity. Water as a habitat, on the other hand, was carefully considered.

[11] More correctly, the European Community environmental action programme. The EC, based on the Rome Protocol of 1957, together with the Economic and Monetary Union, forms the first of the three pillars upon which cooperation in the EU is based and is responsible there for environmental and development policy. The EU is the geographical and political unit that received its present form through the Maastricht Protocol on 1 November 1993.

[12] http://europa.eu.int/comm/environment/actionpr.htm has a summary in different languages and where the complete document can be ordered.

[13] The complete document with a summary in different languages can be found on http://europa.eu.int/comm/environment/newprg/index.htm

Depending on their interest or experience, the participants were able to list products and services within the selected landscapes, and mark those that, for different reasons, there was the greatest need to survey and discuss. It was then found that the choice of landscape was not always suitable with regard to the listed values or functions. This was particularly apparent when the delimitations of area were small or when it was adapted to administrative borders. Adjustments have been made but the participants have also grouped themselves in relation to facts or problems requiring a wide view of the landscape, or in relation to affinity to village or home district.

Among questions particularly noted by the project leaders, the following can be mentioned: Quality-aligned silviculture, forest fuel from tops and branches after felling, roads as hindrances to biological diversity, cloven-hoofed game and grazing damage, red-listed species, wetlands, fishery management, ecotourism, village development, and access to winter grazing for reindeer. The needs of examination and discussion listed have thus concerned products and utilities that were considered to have an unutilised development potential that appeared difficult to coordinate at one and the same place, or that would require choices possibly leading to conflicts. The identification of these needs has resulted in specific inputs in the landscape analysis.

The sustainability aspect was generally fairly well understood among the project participants as regards timber production and biological diversity. However, the uncertainty in analyses and assessments of the future development has resulted in several participants doubting the value of long-term planning, asserting the importance of being prepared as far as possible for different alternatives.

Local participation

International perspectives

Public participation is a term that has long been used in the international assistance sector, and also in connection with state ownership of forests. As a result of the Rio Conference in 1992 and subsequent initiatives, it has become increasingly common that greater emphasis is placed on measures to widen public awareness and interest in environmental questions. This has concerned improved environmental information and the possibilities for the general public to participate in environmental decisions and processes that historically have been the realm of politicians and authorities.

The UN/ECE Convention on access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, the Aarhus Convention[14] is a new type of international agreement linking environmental rights and human rights. It develops the Rio Declaration's tenth principle and confirm's our obligations to future generations and that sustainable development can only be succeed if all parties are involved.

On 1 January 2001 the EU Commission submitted a proposal on the European Parliament and Council's Directive concerning Measures for Public Participation in the processing of certain plans and programmes relating to the environment (together with modifications of certain former directives)[15] and implies, if accepted, that the Aarhus convention is signed and integrated.

The Aarhus convention and its follow-up in the EU has public participation in focus, which deals with the interaction between the general public and its representatives in different national organisations, on one hand, and on government and authorities on the other. Local participation in the present project covers parties at grass-roots level, forest-owners and the other inhabitants of a village.

What is local participation?

In the context of the project, participation refers to a process where different persons or interested parties attempt to reach agreement on an action or a statement of opinion in order to achieve a common interest. Local participation indicates that the participation is associated with a particular place in the locality, an area, an activity or a problem that is known by and concerns individual people and their societies. However, participation is nothing that can be taken for granted, and is largely a function of a social and cultural situation.

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[14] UN Economic Commission of Europe Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was approved on 25 July 1998 in Aahus at the Fourth Ministerial Conference on European Environment. See http://www.unece.org/env/pp/acig.htm; http://www.unece.org.env/pp

[15] The complete text is found on http://europa.eu.int/eur-lex/en/com/pdf/2000/en_500PC0839.pdf

Consequently, the conditions for participation vary widely, mainly between countries but also between places and parts of countries or population groups. In the case of countries, there are important differences between legislation, history and experience of cooperation between land-owners, individuals and authorities.

The projects reveals that an indisputable starting point for all participation is that it must always be voluntary, honest and open to all parties concerned. The participation must give everybody the possibility to share knowledge and information and to express opinions and interests. Participation can influence decisions and decision-making processes that legally belong to land-owners and the owners of different activities, but must not dominate ownership rights or develop into a tool for exerting pressure.

The illustration that faces the preface emphasises the central role that falls upon the forest-owner, whose actions, however, are restricted by legislation of different kinds and by the prevailing policy. The requirements of forest and environmental legislation are well-known by all forest-owners, and the protection of their property is included in the European Convention for the Protection of Human Rights and Fundamental Freedoms[16] and the Convention's first supplementary proceedings[17], both of which are incorporated in the Swedish and Finnish constitution. It is the experience of the project that knowledge of these laws is lacking outside the circle of forest-owners.

The Finnish Constitution, §15, states: "The property of each and every individual is protected." The Swedish Constitution, Ch.2, §18, first paragraph, has had the following text since 1995: "The property of all citizens is assured to the extent that nobody can be forced to relinquish property in the public interest or to an individual by expropriation or other procedure, or submit to the public interest in reducing the use of land or buildings, except when it is required to satisfy the public interest." The third paragraph establishes that: "Everybody shall have access to nature in accordance with the Common Right of Access regardless of what has been stated above."[18]

The legislation mentioned regulates the relationship between forest-owners and the State. The relationship between forest-owners and the general public is regulated, on the other hand, by Civil Law, which also deals with disputes arising

[16] ETS no. 005, Convention for the Protection of Human Rights and Fundamental Freedoms, and ETS 009, the first supplementary protocol, came into force in Sweden in 1953 and 1954, and in Finland in 1990. The complete text in English is found on http://conventions.coe.int/treaty/EN/STEList.asp?CM=8.

[17] Supplementary Proceedings, Article 1 concerning protection of property, states the following: Protection of property. Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.
The preceding provisions shall not, however, in any way impair the right of a State to enforce such laws as it deems necessary to control the use of property in accordance with the general interest or to secure the payment of taxes or other contributions or penalties.

[18] The 1999 Government Commission on Constitutional Matters, Certain Constitutional Questions, SOU 2001:19 Part III gives a detailed description of property protection in the Constitution. The Commission's result can be found on: http://www.regeringen.se/propositioner/sou/index.htm

from the Common Right of Access (in Sweden). It is the experience of the project that the local participation approach offers excellent opportunities for forest-owners and other people to cultivate good relationships.

Is participation needed?

The results of the project illustrate that both land-owners and the authorities and organisations have good arguments in favour of local participation. But these arguments do not become decisive until the prospective participants feel motivated by being able to understand not only the common interest but also the individual benefit of participation. The heading above thus, instead, might be: What benefit do I get from local participation?

The person who raises this question does so against a background of his/her own activity and ambitions: economic yield and living conditions (the private forest-owner is dependent on the holding), economic optimisation (forest companies) recreation and secondary income or capital investment (e.g., non-resident owners), optimal nature conservation (non-profit-making association), law enforcement (authority), etc. The following arguments for participation are held on a broad basis but offer something for all types of questions.

The previous sections on landscape and sustainable forestry have indicated several reasons why local participation should be justified when disseminating information and increasing the level of knowledge. The starting-point is that forestry comprises a very complex system that is expected to satisfy many interests, both hidden and expressed, in addition to the legitimate expectations of the forest-owner. Without knowledge of the requirements and expressed interests of each other, a situation may easily arise where the parties experience the lack of a comprehensive view and understanding, which may lead to conflicts and lack of progress, which in turn may adventure the sustainability of forestry and result in opportunities being missed. Participants in local participation create processes and reach decisions together, which promotes interest and responsibility.

Consultation and cooperation on the basis of the participants' own knowledge, together with material provided by authorities and organisations, creates a comprehensive picture of forest and landscape values and opportunities needed to develop and improve diversified production and sustainability, as well as offering opportunities to coordinate management questions and different measures on different holdings (road planning, soil preparation, etc.).

Within the project, it has been observed on numerous occasions that participation can prevent conflicts and find solutions to problems that have already occurred. Blinkered views and misunderstandings are avoided by open conversations and discussions, by proposals on alternative solutions and by the strengthening of local solidarity. People have a feeling of responsibility for what they participate in.

Experiences from the project demonstrate that local participation also creates channels of information and a social network for non-resident owners and other actors who do not meet very frequently. Private forest-owners, who are unwilling to enter their neighbour's land, may obtain new knowledge and fellowship, as

well as the awareness that they own part of the landscape that requires cooperation over boundaries.

In addition, local participation offers a natural forum for county administrations, regional forestry boards, municipalities, and other authorities or organisations responsible for information and consultation. The same applies to societies and non-profit-making associations requiring consultations and information. The participating group, through its mixed composition, is also a good target group for dissemination of new research results.

Forest-owners and representatives of authorities generally have a good consultation and extension tradition to build upon, whereas established contacts between forest-owners and local inhabitants are less common as regards the forest-owner's use of his forest. Contacts between forest-owners and representatives of organisations and associations generally occur in connection with orienteering competitions, etc., or in the context of environmental questions. In the latter case, and when the initiative is taken by central organisations, sometimes with uncompromising demands, the discussion can move far from the principles of participation, and instead end up in fixed positions and conflict. The project work has demonstrated that local participation can create a valuable fellowship that tolerates sharp discussions, in which an outsider cannot, or is not permitted, to take part.

Local participation in an early stage of the projects and campaigns planned by authorities and organisations can contribute to, and improve, both their design and accomplishment and, which is by no means the least important, counteract the commonly occurring distrust of authorities and centrally-directed organisations. Nature reserves, infrastructure, building projects, etc., that lead to restrictions in forestry and affect the landscape are generally planned by politicians and officials, after which the proposal is exhibited or sent for referral. If the parties concerned are involved from the start there will be an immediate and effective two-way communication that benefits all parties.

Who is participating?

The experiences from the project illustrate that local participation must be open for all parties concerned, i.e., private individuals and their local organisations and societies. The forest-owners, as well as the owners of other businesses concerned with forestry and land-use, are in the centre of this activity as a consequence of their ownership. Responsibility for decision-making and activities in the company is theirs, and can be influenced but not shared with a participatory group, even if the activities of the forest-owner lead to changes in the landscape, which is open to, and spiritually shared by, all persons, and concerns other interests that are represented in the participatory group. Forest-owners, preferably all those within the area targeted by the participatory group, therefore ought to take part in the local participation.

As discussed above, the relationship between forest-owners (and also other businessmen) and the State is regulated by legislation that is followed up by different supervisory authorities. The situation is similar on the municipal level. Consequently, state and municipality agencies have no reason and no authority to

take part in the local participation as supervisors, or to regard the participation as a means of collecting information for legal supervision or other reasons. The starting-point must be that forest-owners and supervisory authorities are complying with laws and regulations.

The state and municipal authorities, on the other hand, have every reason to look for participation in disseminating information and to participate – not simply when there are obligations to provide information and for consultancy – in social planning and other activities that concern or affect areas targeted by the local participation and the members of the groups. Authorities frequently have access to their own specialists and material that would benefit local participation. Officials and specialists also have a function as advisors and educators.

The local population has participated in the project in two ways, either as individuals or through representatives of local societies and organisations. The latter alternative is generally found when larger areas or more complex questions are involved. The choice of form for participation indicates different levels of interest but it is also probable that lack of time and competition from other activities have been important factors. However, no evaluation of such factors has been made in the project.

Where should the participation take place?

As described earlier, the project has argued that local participation should take place locally and deal with forestland and questions that the participants are aware of and are interested in. Home districts, villages, municipalities and landscapes are different kinds of delimited areas that have been discussed above with the recommendation to start with the small, well-known and easily handled area before moving on to larger ones as interest and knowledge improves.

Local participation on a small scale and in many places in a large landscape forms a network, a geographical continuity, that makes it possible to more reliably map, analyse and plan biological functions and values that are difficult to distinguish on a smaller scale. A network and a larger area will spread the risk of failure, improve the general benefits, and ensure the temporal continuity. Nature conservation societies, and perhaps also moose hunting teams are parallel examples of how larger networks are created by dispersed individuals.

The project also illustrates that local participation takes place on different geographical levels depending on the question(s) considered to be relevant. The levels may be as follows:

- Project areas, such as, e.g., an entire municipality; here the local participation takes place primarily with representatives of the different interested parties.
- Reference areas, with e.g., a number of villages; this includes representatives of the interests that are relevant in the area, together with individuals with general interests.
- Special “areas of current interest”, e.g., hunting management areas (game-keeping areas), or places where reindeer are found; here the participants include people who feel concerned about the subject.
- One or more holdings where only the land-owners participate.

How is local participation created?

In order for participation to function efficiently it should start with small groups, preferably no larger than 10-15 people, whereas larger meetings are used to report the results achieved by the smaller groups and for general information. In order to strengthen a feeling of participation and understanding, those taking part should be stimulated to actively work independently. In the case of forest-owners, this can be done on the holding level, but may also concern participation across the boundaries. A chairperson, the group's engine, an enthusiast with local connections, is generally needed to keep the participants together and to stimulate them. A secretary or similar person is also required to document and report on the group's activities. Conventional rules for associations provide support in organising and arranging the participation; perhaps existing local societies can be of assistance?

The project demonstrates that the initiative for participation and consultation can be taken by individual interested parties or groups, by forest-owners or by other people, or can come from an authority or organisation. It is important that the initiative is based on something that is of major and general interest, so that the persons expected to participate can feel affected by it. Consultation and participation may, however, be impossible if the subject is too sensitive or too personal. Individuals and groups may also be blocked and unreceptive to information and attempts to conduct conversations.

Starting material, if available, must be based on facts and well prepared, but need not cover the entire field of interest; one of the participation goals is, of course, to create comprehensive descriptions. A certain amount of "new technology", such as GIS-based presentations of the subject and areas of interest to the anticipated participants generally awakes interest and appetite for new knowledge. Already from the very start the participants should receive printouts of the material discussed in the form of summaries and maps. Discussions and decisions should also be summarised and disseminated as quickly as possible. In order to accomplish a working model of this kind it is necessary to have support of both time and money from an authority or organisation, since private persons rarely have these resources.

The project demonstrates that there are good opportunities for local participation when working from the grass-roots perspective and the participants' interest arises from their own needs and wishes. Here, the project illustrates the benefits of participation in obtaining material for decisions on difficultly accepted questions. Experiences from the various sub-projects clearly shows that participation works best when it is focussed on the right receiving groups with a specific subject or geographic level.

Questions similar to those used to start the section Landscape may be a way to break the ice. A number of models for this have been tested.

- Each participant is encouraged to identify a landscape with which he/she is well acquainted (with the intention to analyse it later within the group) and to explain the main reasons for their choice. The reasons are compiled and the

areas are marked on a map or directly in a GIS that has been adapted to the region.

- The group works with available material of general interest, e.g., forest maps, nature inventories, historical maps, geology, hydrology and descriptions of the local geography.
- The landscape's history and inventories of culture and ancient remains may also be a good way of establishing local participation.

The discussion may result in interesting areas, problems, or a need for inputs to be identified as starting points for future work. Unless the group can be unanimous in their choice of a certain area or question, it may be wise to form sub-groups in order to retain as many people as possible in the local participation.

The implications of forestry can be discussed by asking each participant to make a list of the values and functions (or products and utilities) that he/she recognises. The lists are then compiled and discussed: What time horizon is needed for different functions to remain? Which functions are renewable and what time frame is then involved? Which functions depend upon each other? Which functions are compatible or non-compatible on one and the same piece of land? If the functions are not compatible, which ones should be given priority? If the discussions in the group reveal that there are strong differences of opinion between participants, what is the reason?

Which values and function can be identified in the landscape that has been (preliminarily) chosen for closer analysis? Is there reason to make adjustments or to establish the boundaries of completely new areas? Has the discussion identified any need for additional knowledge or changes of attitude? If so, what should be done?

The project illustrates the importance of landscape analysis as a method for development of consultation and participation, and understanding of other industries and organisations. A landscape analysis is generally made once a need or a threat has been localised. In the case of the reindeer husbandry, for example, the reindeer may need constant access to grazing oportunities during the winter.

Several issues suggest the need of more knowledge of the problem, which generally implies the need of field inventories of different kinds, usually on the landscape level. The project has found that many forest-owners find it difficult to understand terms such as landscape analysis, landscape ecology and landscape planning, largely because they have little relevance to the owner's own immediate environment. The expressions easily create mistrust towards the person or authority using them, and may even be experienced as hidden threats. In such cases it may be difficult to build confidence and interest in local participation in larger questions and areas.

In such circumstances it is important that the person representing an authority clearly and distinctly explains what analysis and planning can imply for the individual forest-owner, i.e., what the data collection means and also the benefits to the forest-owner in the shape of coordination advantages and access to data and general information. In order to create trust the participating representatives of

authorities must show that the views expressed are valued and must willingly share their own experience and knowledge.

There are often large deficiencies in knowledge as well as differences in the levels of knowledge in the groups involving themselves in local participation. This might prove a hindrance in group discussions and when external representatives of authorities and research make visits. The need for better knowledge may not be identified until the participants start to absent themselves from the meetings because “we are getting nowhere”, and perhaps not even then. The problem should be dealt with already at the start of the local participation, the solution may be present among those taking part, or come from local schools, educational associations or participating authorities.

In order to obtain a good and common comprehensive approach and participation on large areas (e.g., an entire municipality) with numerous interested parties, the work with environmental questions shows that it is more effective to elaborate general guidelines than to make plans. Plans are more concrete and may imply a specification of details. One of the problems with plans is that frequently the different interested parties find it difficult to, together, follow them up, or that there is no mandate for each individual to independently follow up his/her specific interests.

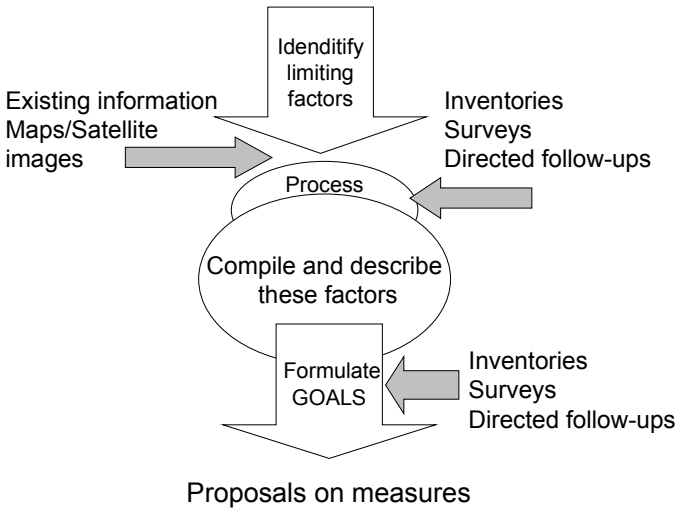
The project also illustrates the difficulty with broad participation in connection with method development of high technological nature. Effective and good participation can be achieved in a small specialised group with different backgrounds. In the project, participation was linked with actors who had knowledge of the subject. As a result of cooperation with the Regional Forestry Board in Norrbotten province, and the Swedish University of Agricultural Sciences in Umeå, the project has been able to deal with questions and difficulties in a wide spectrum ranging from databases and networks to simple inventory questions.

Landscape analysis

A model

The project's work with landscape analysis is based on experience of traditional forestry planning for private forest-owners, inventories of environmental values of different kinds, road planning, logging plans, and so on, i.e., collecting facts and analyses adapted to the forest-owner's need for management planning within the framework of the regulations imposed by forest and environmental legislation. In the project work the circle of buyers and users of landscape analysis has been widened to include all participants in a local participatory process. The project has tested a step-wise model for landscape analysis that had developed during the preparation of the "Action plan for biological diversity and sustainable forestry" (National Board of Forestry, 1995). The project's innovation in this respect was to accomplish a participatory approach allowing adaptation to local conditions and to viewpoints submitted by local organisations and authorities.[19]

The model for landscape analysis contains five steps. (1) Restrictions of particular importance for sustainable forestry are identified and reviewed; (2) Current conditions as regards these restrictions are described in compilations of available information supplemented by field inventories; (3) Goals are based on facts and visions. These are sorted into priority levels with regard to the type and urgency of the required changes; (4) Measures to achieve the established goals are proposed; (5) Results are evaluated and compared with the goals.[20] The five steps are explained in greater detail below.



[19] Project document: A model for landscape analysis following a step-by-step procedure is proposed. It will be implemented in a participatory manner to allow for adaptation to the local conditions and to the views expressed by private or public local organisations.

[20] Project document: (1) Constraints of particular importance for sustainable forest management are identified and studied. (2) The present state of these features is established by compiling available information and conducting supplementary surveys. (3) Goals will be based on facts and visions. They are established and given priority according to the nature and urgency of changes required. (4) Measures are proposed to attain the established goals. (5) The effects are evaluated and compared with the goals.

In an initial step the people taking part in the local participation have identified and ranked the problems, points at issue, and areas with regard to their importance to traditional forestry and potential new activities in a diversified approach in accordance with the description given above in "Sustainable forestry". The needs and targets of the forest-owners have been respected and have formed the starting point for proposals on, for example, increased environmental protection (the forest-owner fulfils the legal requirements but to the lowest level) and new economic activities within open-air recreation and tourism. On the whole, this has resulted in an agenda for the continued work in the participatory group.

In the second step, information has been submitted by the participants themselves, or has been obtained from authorities and organisations. In addition, the project staff has made comprehensive inventories both indoors and in the field, in the latter case usually with the help of the person proposing the study. When suitable and possible, students and researchers have been involved, which has been found of great benefit for both sides.

As regards the third step, goals and priorities have frequently already been part of the discussion that proposed certain areas, problems or points at issue for closer study. As a consequence of the preparatory work being both thorough and well-founded, the collection of facts and the analysis have been target-oriented from the start, instead of providing general information for target selection. This is also apparent from the titles of most of the technical reports that function as accounts of study results and the resulting proposals on measures to be taken. The following table below illustrates how the reports, and thus the project activities, have been spread over different subject areas.

Sub-project	VIN																					SKS			TAP		
Report no.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	1	2	3	1	2	3
Main report	X	X																				X					X
Local participation					X								X	X	X			X			X						
Landscape analysis																											
Timber production				X				X	X			X	X	X	X	X	X	X			X						
Biological diversity				X					X	X	X	X			X	X	X	X			X			X			
Other products and services			X		X								X	X	X		X	X		X	X						
Cultural heritage																		X	X	X							
Information systems			X	X	X			X	X	X	X			X	X	X	X	X					X	X	X	X	
Dissemination of knowledge			X		X	X	X	X	X							X		X		X				X			

Sub-project	LIN																KOL									SYD	VAN
Report no	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1,2	3	4	5	6	7	8	9	10	1	1
Main report	X	X															X									X	X
Local participation			X	X						X	X	X	X	X	X			X							X	X	X
Landscape analysis																											
Timber production							X		X									X	X	X					X	X	X
Biological diversity			X	X	X	X		X	X	X	X		X	X	X				X		X				X		
Other products and services					X			X				X	X		X	X		X			X	X	X		X	X	
Cultural heritage			X						X																		
Information systems							X																X	X	X		X
Dissemination of knowledge			X	X														X				X	X			X	X

The material collected has been reported to the participatory group in the fourth step, and subsequently agreement is reached on an action plan for follow-up either within the group or by an authority. Alternatively, the group has submitted proposals to the forest-owners concerned. Since the latter have been involved in the participatory group, they have been able successively to consider the proposals and the possibilities to introduce them in their management planning. Any conflicts that have arisen have largely been solved at an early stage.

The project was unable to accomplish the fifth stage. The participation process was initially extremely time-consuming and the allocated project period has been sufficient only to initiate the accomplishment of the large number of action plans reported in the technical reports and an evaluation of the results still remains to be done. Annex II gives an example of a process leading to data that can be used in reaching a decision, in this case a forest management plan. Another example is the nature conservation policy for an entire municipality that one of the sub-projects was commissioned to prepare.

Remote sensing and digital technology

The project has demonstrated the possibilities of using remote sensing with the help of satellite scenes, GIS and GPS for landscape analysis and local participation. These techniques have been used in practically all field inventories and landscape analyses performed in the project, and described in the technical reports. The intention has been to increase interest and understanding of the GIS technology, to make digital material available to forest-owners and other interested parties, to demonstrate how random sensing and GIS improve our knowledge of long-term use of forestland, to reduce the risk of environmental damage and losses by disseminating digital information on sites worthy of protection, and to utilise the technology for up-dating information.

One of the problems encountered by the project was the lack of comprehensive databases for private forestland. In Sweden the project has developed a model for up-dating older databases[21] and, parallel with that, a new method of collecting data in stand-free forestry has been tested. This implies that small areas, e.g., 20x20m are allotted a number of properties that can be described using analyses of satellite pictures. The project has used the method to complement and fill gaps between existing databases and, in this way, has been able to analyse very large continuous areas. In Finland, a GIS-based model for inventories and landscape analysis has been developed and tested.

Remote sensing and GIS technology has thus been found to be a very good medium for developing an effective and positive participation between different interested parties. For many people this is a new, unknown, technology that is interesting but also appreciated because it enables material that is otherwise difficultly available to be processed and rapidly presented, elegantly and clearly. This has become particularly clear when a time factor has been introduced, so that the two-dimensional map presentations of the current status of the landscape can be compared with processing of known historical data and with projections or

[21] In Sweden, for example, from the earlier forest inventory (ÖSI) made by the silvicultural organisations during the 1970s and 1980s.

future visions based on alternative silvicultural models. At an early stage, the project attempted to develop three-dimensional models together with a programming company. This would, for example, allow the beholder to move within a virtual landscape with high degree of detail, but neither financing or time could be found. Nonetheless, developments of this kind are ongoing in many places.

The project has also seen that factors occurring in both small and larger landscapes, e.g., water and watercourses, make it easier for those who are negative to GIS and random sensing to see and appreciate their use in landscape analysis. Use of Kotten, a GIS tool, in analyses of concrete needs for measures to be taken, in cleaning of juvenile forest, and in field inventories with satellite technology of forest paths, tracks and remnants ancient buildings, etc. is another example of landscape analysis using new technology.

Discussion and conclusions

Variations between countries and areas

Differences in company culture and forest infrastructures made it difficult to transfer work models and experiences between the two countries. The project was run a few years after the introduction of the present Swedish forest policy, which gives equal values to production goals and environmental goals in forestry (1994). In Finland, the corresponding expansion of the sustainability concept (forest law and nature conservation law 1997) occurred at the beginning of the project. These factors had implications that were greater than expected at the start of the project.

The method of developing local participation and landscape analysis has been adapted to the local conditions prevailing in the project's five demonstration areas. The budget at area level was much higher in Sweden than in Finland. Nonetheless, brief comparisons of the observations can be made both on a country basis and on an area basis.

The Finnish areas are small. They have been totally inventoried and planned in detail (in the field) in connection with a more penetrating study of the normal forestry planning. The Swedish areas are much larger, and in these areas separate studies have been made of the different functions of forestry's sustainability.

Vindeln is a sparsely populated area. Here, forestry has been important whereas agriculture never has been a dominating land use. Despite strong environmental effects of forestry, many of the natural structures of the landscape remain intact. The area is important for winter grazing of reindeer.

In Vindeln the local participation developed on different geographic levels depending on which questions were of current interest. The different questions were treated in more than 20 reports.

- Participation covering the entire project area thus occurred between representatives of different interested parties, which resulted in, for example, a nature conservation policy for Vindeln Municipality
- Reference areas were also formed including, e.g., a number of villages and with representatives of interests with activities in the area, as well as individuals with general interests.
- Subject-specific participation areas, e.g., hunting areas or areas with reindeer husbandry, were formed with the parties concerned.
- One or more holdings have also been the basis for participation between the land-owners concerned.

Sydösterbotten, a Finnish area is characterised by traditional family forestry in an ancient cultural landscape. The land elevation along the coastline has created botanically distinctive sites. Here, the work was concentrated on timber and recreational aspects associated with sustainable forestry. In both areas, Kristinestad and Närpes, the work started with aerial photography and a

compilation of known knowledge. In preparation for the field inventory, a meeting was held with interested representatives of land-owners. In the case of the forests belonging to Kristinestad, different municipal departments submitted proposals and these were discussed at a meeting with invited representatives of the town's democratic board and technical administrations. In both areas, interviews were held with people who were again met during the fieldwork in order to identify the interests of the general public in the area. The resulting plans were exhibited to allow easy access for the general public.

Vindeln and Sydösterbotten are located in the same geographical region but the latter is close to the coast. Most aspects of sustainability are similar in both areas but reindeer husbandry is specific for Vindeln, and harvesting sea buckthorn is specific for Sydösterbotten. In Vindeln the participation was done on four levels. On the holding, or group of holdings, level only the land-owners participated but other interested parties participated in the other levels. In Sydösterbotten, the participation was concentrated to the holding level, or to groups of holdings, and was not restricted only to the land-owners.

Vanda is part of the city area around Helsinki and is characterised by forestry in the neighbourhood of a major city, with major impacts from society. This particularly refers to recreational aspects.

In Vanda, forestry planning was based on landscape analysis in accordance with a model that had not been tested earlier in private forestry. The work was started with a project group consisting of representatives of different interests, economic (the forest-owners), ecological (Nyland Environmental Centre) and social (Vanda township, also being a dominating forest-owner). The model translated external environmental data and the targets of the interested parties to emphasised areas in a GIS model. The participation was achieved by information/discussion meetings for forest-owners and forest officials, and also by an exhibition for the general public. In connection with the exhibition, visitors could submit written comments and requests dealing with the forest management planning in Vanda.

Kolmården is sparsely populated with regard to its geographic position. It is a large, forested area extending into two different counties, with different Regional Forestry Boards and three municipalities. Several animal species requiring large forest areas are found here, e.g., the capercaillie.

The work was concentrated on five important subject areas since the landscape is so large that a total inventory could not be accomplished. The participation included a total of about 500 people and was accomplished in five different ways.

- A reference group, that guided the design of the entire sub-project and followed it until the end, consisted of representatives of three large land-owners, two land-owner organisations, two non profit-making organisations, two municipalities and one County Administration.
- Special meetings with forest-owners and their representatives.
- Deeper participation into game questions by means of, e.g., an enquiry directed at hunters.
- Information for the general public, e.g., by means of a poster exhibition.

Vanda and Kolmården are located in the same geographical region but there is a large difference in population pressure and topography. This has the result that recreation is of relatively greater importance in Vanda, whereas timber production, game and hunting are of greater importance in Kolmården. At Kolmården, a much larger area is treated thematically, whereas at Vanda, a new approach is used to compile a forest management plan that is adapted to numerous different aspects as well as to the views of interested parties on sustainable forestry.

Linderödsåsen is a forest area on an esker in the middle of Sweden's most densely populated rural area. Small-scale family-owned holdings specialising in agriculture and forestry are characteristic features of the landscape. Geographically, the area belongs to the nemoral zone, as also does Denmark and a large part of the continent.

The participation for Linderödsåsen was started with the formation of a local reference group with representatives of two land-owner organisations, Skåne's Nature Conservation Society, two municipalities, and the county Administration in Skåne. With the support of five study organisations, information meetings were initially arranged and then study circles at village level. Fourteen groups with a total of 179 participants met on average nine times per group. Eleven groups discussed an effect of sustainability in relation to their own village, whereas two groups discussed game management, and one group discussed valuable hardwood forests. Each group performed landscape analyses dealing with the questions found to be most important.

The accomplishment of the landscape analysis has, thus, been adapted to the functions that the local participants found important and possible with available resources. In all areas, four steps were taken for local participation: The first is to create a reference or steering group at an early stage with representatives of the interests found to be affected. From the start this group is included in the work and influence the planning of the project. The second is a survey of existing information and supplementary collection of field data. Steps three and four deal with the preparation of plans on measures to be taken, and to inform and, in one way or another, consult, with the people concerned.

In the large areas where relatively large amounts of resources have been invested in landscape analysis this dependency on local priorities has been divided in different ways between the four steps. A decisive factor in this work has been the size of the landscape that the groups have been prepared to deal with for each respective function.

Factors affecting the accomplishment

Social and cultural factors have probably been the most decisive for differences in attitudes of presumptive participants to taking part in the project. Some individuals might have been fully dismissive, many have been cautious in their approach but open for argumentation, but perhaps most of them have been interested in knowing more about what the project could offer. A generally encountered mistrust of authorities has often been identified. Nonetheless, the organisations involved in the forest project have had good local support and there

is widespread confidence in their staff. This has opened the door for the accomplishment of the project.

Initially, the project was exposed to major problems on account of the re-organisation of several of the parties involved. This resulted in a severe delay in the project work. With hindsight, however, we can now see that the disruptions probably had less effect on the targets of the project than the fact that the local participation process needed a very long period to become fully developed. This long period of reaching maturity in the participatory process was not anticipated from the perspective of a national authority when the project was being planned.

These experiences lead to a number of conclusions. In the participatory process the authorities and organisations must not dominate over the local participants, and participation must be based on the conditions of the latter. The role of authorities and organisations is to assist with knowledge and material, and to provide information on the intentions of social policy (supervision of legislation falls outside the definition of local participation). With these conditions, local participation is something that should be disseminated and supported, not least because it is in line with the arguments of the European Union's and other international organisations for public participation, but closer to the grass-roots.

Follow-up

When considering that the work initiated by the project is still ongoing in several participatory groups and has become integrated into the work of the organisations that participated in the project, it would be advantageous if an evaluation could be done two or three years after the formal closing of the project. This recommendation is foremost directed at the beneficiary of the project, the National Board of Forestry, who should also initiate measures to disseminate local participation to new areas.

Recommendations

The following points are suggested as a list of suggestions for forest-owners and other local interested parties, as well as for authorities and organisations active within this sector. In the same way as the report, the list is based on specific experiences and is not intended to provide complete guidelines for local participation and landscape analysis. The definition of local participation is based, among other things, on the agenda being designed by those taking part.

The landscape

The landscape in the immediate surroundings of the home district is a good starting point for creating interest and friendship, and to develop a comprehensive view of the subject. However, some of the values that need to be developed through local participation can only be understood correctly in a large landscape.

The comprehensive view is needed in order to correctly define and see the relationships between the landscape's different functions and values. This is possibly most apparent for the ecological values.

The authorities and organisations desiring to influence the landscape must respect local knowledge of, and responsibility for, the landscape.

Sustainable forestry

Timber production and environmental values are basic functions for sustainable forestry and the large number of other functions and values included in forestry.

Forestry is not only important for the forest-owner and society at large, but is also of local interest for all those who are directly or indirectly affected by forest products and services.

All people with expectations on forestry must consider it in its entirety as well as the needs of other people.

The diversity and sustainability of forestry are the foundation stones of local participation.

Guidelines for those planning to initiate local participation

The term participation refers to a process where different people or interested parties attempt to reach agreement on a certain matter or a statement of opinion in order to achieve a common goal.

Local participation is associated to a local place, area, activity or point at issue that is known by, or concerns, individual people and their associations/organisations.

Participation must be voluntary, honest and open to all parties concerned.

The initiative to participation can be taken by individual interested parties and groups but also by organisations and authorities that are aware that the participation is foremost a local responsibility.

The person taking the initiative should devote a lot of energy to giving all persons concerned, and particularly the forest-owners within the area to be studied, the possibility to join the local participation.

The participants themselves should identify what is important to work for, and the questions that need to be studied on the landscape level.

It is important to link the correct recipient to the correct subject area in order to achieve good dissemination of knowledge, interest and participation.

Inventories of history, culture and ancient remains in an area, a landscape, are often good ways of starting a more fundamental form of local participation.

Geographic scale for local participation

Local participation and cooperation generally occurs on different geographic levels depending on the question or questions of current interest.

The interest of the landowner decreases with an increasing geographic scale from his/her own holding to neighbouring holdings, hunting areas, home districts and municipality.

Representatives of organisations, municipalities and associations, on the other hand, have a tendency to increase their interest in landscape analyses along the same geographic scale.

For a large area such as an entire municipality, local participation occurs foremost with representatives of the different groups with interests.

For a small geographic area such as a number of villages, representatives of the interests active in the area are involved, together with individuals with general interests.

For special areas with “subjects of current interest”, such as hunting areas, or areas where reindeer are found, the persons included are those that feel concern about the subject.

For one or more holdings it may be suitable that only the landowners participate and consider forms of participation with outsiders.

Guidelines for successful accomplishment of local participation

Participation can also be created in the small-scale, for inclusion in networks or to be extended as interest and knowledge increases.

The participatory group should be fairly small if it is to function efficiently. Larger meetings are initially used and also for reports from the smaller groups and for general information.

If the group is to function, it is necessary to have devoted leaders who respect other people's opinions, and also good rapporteurs. Information concerning activities must be in detail and disseminated immediately.

Those taking part in the participatory process must respect the fact that forest-owners and other businessmen have the right to make their own decisions in relation to their property and that responsibility for this cannot be shared.

Participants in the participatory process must also be aware that forest-owners risk having to pay for any measures introduced on their land, whereas others may often see the entirety without having direct economic responsibility.

Participation is based on the knowledge and experience of the participants, especially the local participants.

Through their access to specialists, material and technology, authorities play an important role in problem analysis.

Nature inventories, historical maps, cultural inventories, descriptions of geology, hydrology, etc. are useful, fundamental starting points for local participation.

In order for effective consultation and participation to take place on a broad local level in an interesting subject and geographic area, where methods and technology are on an excessively high technical level, it is necessary to have a long preparatory period during which the project becomes firmly established.

The willingness of forest-owners to participate is stimulated by them participating/working actively in the collection of facts and problem solution both on an overall level as well as for the actual subject area. This can be done on a holding level but may also concern cooperation between holdings.

Those taking part in local participation must be able to see the benefit of the activities clearly.

Good participation is often created with a combination of a subject or subjects of current interest to the participant and a geographic area that the participant is responsible for, or has an interest in.

Digital technology and landscape analysis is a very good means of linking effective and good cooperation and participation in a group of different interested parties.

Effects of local participation

Local participation can lead to the participants taking increased responsibility for their environment seen in a landscape perspective.

Local participation creates a platform for exchange of information about the landscape and forest and about the needs and interests of the participants.

Participation provides channels for information and a social network of contacts for non-resident landowners and others who do not meet so frequently, and is a natural route for contacts with authorities and organisations.

Local participation in an early stage of projects and campaigns planned by authorities and organisations may contribute to and improve both the design and the accomplishment. In addition, and by no means the least important, this may counteract the widespread mistrust of authorities and centrally-directed organisations.

Landscape analysis

The intention of landscape analysis is to describe the current status and future result of different alternative measures. The landscape analysis should, for each question, be based on objective data that cover the relevant landscape for that particular question.

The landscape analysis widens the traditional collection of data to satisfy the forest-owner's requirements in management planning to apply to all functions and values of interest to those concerned in the forest landscape.

All landscape analysis should be based on an inventory of which databases there are for the defined area, and their quality. Complementation and collection of new data should be done in a cost effective manner. Depending on the question to be analysed, this can be done through interviews with local inhabitants, inventories conducted by specialists, or analyses of satellite scenes and aerial photos.

The approach used and the result of the landscape analysis should be documented so that it can be repeated and that the result of the participation can be identified and compared with originally established goals.

A comprehensive landscape analysis should have a structure that can easily be recognised, e.g., lakes, watercourses, and wetlands, which also give the beholder support in map presentations. Computer-based technology is indispensable for the work with geographical data. The reports using thematic maps awake great interest.

Digital technology, however, must not be used in such a manner that those taking part in the participation regard it as something other than an aid in presenting position-based information.

Major demands with regard to the landscape perspective are placed on the person giving the presentation. If the perspective is too large it may become uninteresting, for instance, to the individual forest-owner

Projektrapporter *Project reports*

Projektledning *Project management*

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Slutrapport: Del A Teknisk rapport *Final Report: Part A Technical Report*	Bo Mårsäter
Projekterfarenheter från lokal samverkan och landskapsanalys Project experiences of local participation and landscape analysis	Bo Mårsäter
Slutrapport: Del B Ekonomirapport *Final Report: Part B Financial Report*	Bo Mårsäter
Annex II: Revisionsrapport *Annex II: Audit Report*	Lars-Erik Tärnåsen, Riksrevisionsverket
VIN 0: Intern utvärdering av projektarbete och resultat *Internal evaluation of project implementation and results*	Per-Anders Lindgren, Sören Persson
Utvärdering av projektarbetet *External evaluation of the project implementation*	Liselott Eriksson, Stiftelsen Skogsbrukets Forskningsinstitut
Utvärdering av GIS utveckling *External evaluation of GIS developments*	Johan Bergström, Stiftelsen Skogsbrukets Forskningsinstitut

Delprojekt *Subproject* **Vindeln**

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VIN 1	**Projektorganisation och genomförande** *Project organisation and implementation*	Per-Anders Lindgren
VIN 2	**Sammanfattning av erfarenheter och resultat** *Summary of experiences and results*	Per-Anders Lindgren, Sören Persson
VIN 3	**Nya skoterleder, överfarter och kartor** *New tracks, passages and maps for snowmobile users*	Sören Persson
VIN 4	**ÖSI-uppdatering med hjälp av fjärranalys** *Updating of old forest inventories with the help of remote sensing*	Sören Persson, Max-Göran Sehlström, Leif Hemberg, Johan Eriksson, Peter Söderberg
VIN 5	**Fältinventering med hjälp av satellitteknik** *Field inventory with the help of satellite technologies*	Sören Persson
VIN 6	**Utveckling av uppföljningsmetoder för att bestämma kundtillfredsställelse. Kvalitetsstyrd utveckling av rådgivningen.** *Development of methods for evaluating customer satisfication. Quality driven development of extension services*	Per-Anders Lindgren, Åsa Norling, Mats-Erik Estefors
VIN 7	**Kvinnor i en Grönare skog** *Women in a Greener forest*	Sofia Blomquist, Karin Johansson, Cecilia Persson

VIN 8	**Åtgärdsbehov i ungskogar - att effektivisera och rikta rådgivning** / *Tending needs in young stands - rendering extension services effective and targeted*	Sofia Blomquist
VIN 9	**Användning och förbättring av hänsynsredovisning vid avverkningsanmälan** /*Logging report statements on environmental considerations - usage and improvements*	Mikael Bäckman, Per-Anders Lindgren, Sören Persson
VIN 10	**Vägnät i ett landskapsperspektiv** *Road networks in a landscape perspective*	Sören Persson, Bert Grahn
VIN 11	**Hindrande vägtrummor i viktiga vattensystem** *Culverts as obstacles [to biodiversity] in important water systems*	Arne Öberg, Sören Persson
VIN 12	**Effektivt naturanpassat skogsbilvägnät** *Effective and environment friendly forest road networks*	Arne Öberg
VIN 13	**Samverkansmöjligheter mellan rennäring och skogsbruk** / *Possibilities for co-operation between reindeer management and forestry*	Per-Anders Lindgren
VIN 14	**Hänsyn till renskötsel vid långsiktig planering av virkesproduktion** / *Restrictions in long-term timber production planning with regard to reindeer herding*	Jonas Björklund
VIN 15 A	**Avverkningsmöjligheter och skogens utveckling på lång sikt inom referensområdet Strycksele** *Timber production and forest development in a long-term [multiple use] perspective, the Strycksele area*	Erik Wihelmsson
VIN 15 B	**Avverkningsmöjligheter och skogens utveckling på lång sikt inom Vindeln kommun** *Timber production and forest development in a long-term [multiple use] perspective, the Vindeln rural district*	Erik Wihelmsson
VIN 16	**Miljöanalys med hjälp av applikation till ArcView** *Environment analysis with help of an ArcView application*	Sören Persson
VIN 17	**Skogshögskoleelevers projektarbeten** *9 papers presented by forestry undergraduates at the University of agriculture*	Peter Jonsson, Johan Söderholm, Claes Kindblom, Anna Nilsson, Daniel Cluer, Andreas Bernhold, Anton Bergdahl, Carl- Johan Gärdemalm, Andreas Alexandre, Mattias Nilsson
VIN 18	**Utkast till naturvårdspolicy för Vindelns kommun** *Draft environment policy for the Vindeln rural community*	Per-Anders Lindgren
VIN 19	**Byabeskrivningar** Village descriptions	Sören Persson
VIN 20	**Stenträskbäcken. Ett vattendrags nyttjande genom tiderna** / *A watercourse and its use through the ages*	Per-Anders Lindgren, Ulf Marklund
VIN 21	**Renskötselanpassad skogsbruksplan. Ett samrådsunderlag för renskötsel och skogsbruk. Strycksele** *Forest management plans adjusted to reindeer herding requirements. A basis for consultations between forest owners and reindeer owners*	Erik Persson

Delprojekt *Subproject* **Kolmården**

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KOL 1-2	**Slutrapport Kolmården** *Final report Kolmården*	Nils Carlborg
KOL 3	**Viltstammar och betestryck** *Elk and red deer populations versus wildlife damages*	Henry Karlsson
KOL 4	**Naturvård och biologiska kvalitéer** *Environmental protection and biological qualities*	Rolf Pettersson
KOL 5	**Skogsskötsel med betoning på kvalitetsskogbruk** *Management for quality forestry*	Nils Carlborg
KOL 6	**Vattnet och marken i skogslandskapet** *Soil and water in forest landscapes*	Leif Eriksson
KOL 7	**Friluftsliv och turism** *Outdoor life and tourism*	Leif Eriksson
KOL 8	**Flyginventering av älg och kronhjort** *Helicopter inventory of elk and red deer*	Svensk Viltförvaltning
KOL 9	**Examensarbete 20p GIS** *Examination paper on GIS*	Mats Lundevaller
KOL 10	**Tjäderinventering** *Capercaillie inventory*	Hans Svensson
Broschyr *Booklet*	**Skogen - en hållbar resurs** *The forest - a sustainable resource*	

Delprojekt *Subproject* **Linderödsåsen**

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LIN 1	**Projektområde, organisation och medverkande** *Project area, organisation and partners*	Anna Avilov, Gunnar Isacsson
LIN 2	**Sammanfattning av erfarenheter och resultat** *Experiences and results*	Gunnar Isacsson
LIN 3	**Landskapsekologisk analys i samarbete med markägarna i byarna Gunnarp och Östentorp** *Ecological landscape analysis in co-operation with landowners in two villages*	Anna Avilov
LIN 4	**Landskapsutveckling i byarna Östentorp och Gunnarp. Förslag på spridningskorridorer** *Landscape developments in two villages. Suggested dispersal corridors*	Marie Löfberg

LIN 5	**Vatten och skogsbruk - ett ekologiskt nätverk** *Water and forestry - an ecological network*	Anders Rosell
LIN 6	**Flygbildsinventering av lövskogs och jätteträd i S.Rörums socken** / *Aerial photo interpretation in respect of broad-leaved forests and large trees*	Karin Djurvall
LIN 7	**Regional wood volume estimation by use of satellite data and ancillary data**	Zoltán Fazakas
LIN 8	**Markanvändning och vattenkvalité på Linderödsåsen med fokus på skogsbrukets inverkan** *Influence of land use, in particular forestry, on surface water qualities*	Carna Sigvardsson Lööv
LIN 9	**Rapport från ädellövgruppen** *Report by the workgroup on broad-leaved forests*	Gunnar Isacsson
LIN 10	**Rapport från Benarp gruppen** *Report by the Benarp village workgroup.*	Hans Åström
LIN 11	**Rapport från grupperna i Degeberga och Maglehem**	Christer Karlsson, John Erik Nilsson
LIN 12	**Rapport från grupperna i Herröd, Långaröd-Önneköp, och Svensköp**	Eric persson, Kjell Nyström, Bengt Jönsson
LIN 13	**Rapport från Olarp gruppen**	Tor-Björn Nyqvist, John Nordqvist
LIN 14	**Rapport från Tollarp gruppen**	Hans Bengtsson, Evert Valfridsson
LIN 15	**Rapport från Tormastorp gruppen**	Bertil Ohlsson
LIN 16	**Rapport från viltvårdsgrupperna** *Report by the workgroups on wildlife management*	Kjell Ekenros, Frank Jönsson
Videofilm	**Linderödsåsen**	

Delprojekt *Subproject* **Skogsstyrelsen - GIS**

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SKS 1	**Projektorganisation och genomförande** *Project organisation and implementation*	Erik Svensson
SKS 2	**LIFE och Kotten** *LIFE and "The Cone"*	Magnus Fridh
SKS 3	**Skogens pärlor** *Pearls of the forest*	Anders Persson

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SYD 1	**Slutrapport Sydösterbotten** *Final report Sydösterbotten*	Ralf Böling, Sven Eklund
Broschyr *Booklet*	**Jag kan garantera att skogen är full av liv** *The forest is full of LIFE - I promise*	Ralf Böling, Sven Eklund

Delprojekt *Subproject* **Vanda**

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VAN 1	**Slutrapport Vanda** *Final report Vanda*	Henry Schneider

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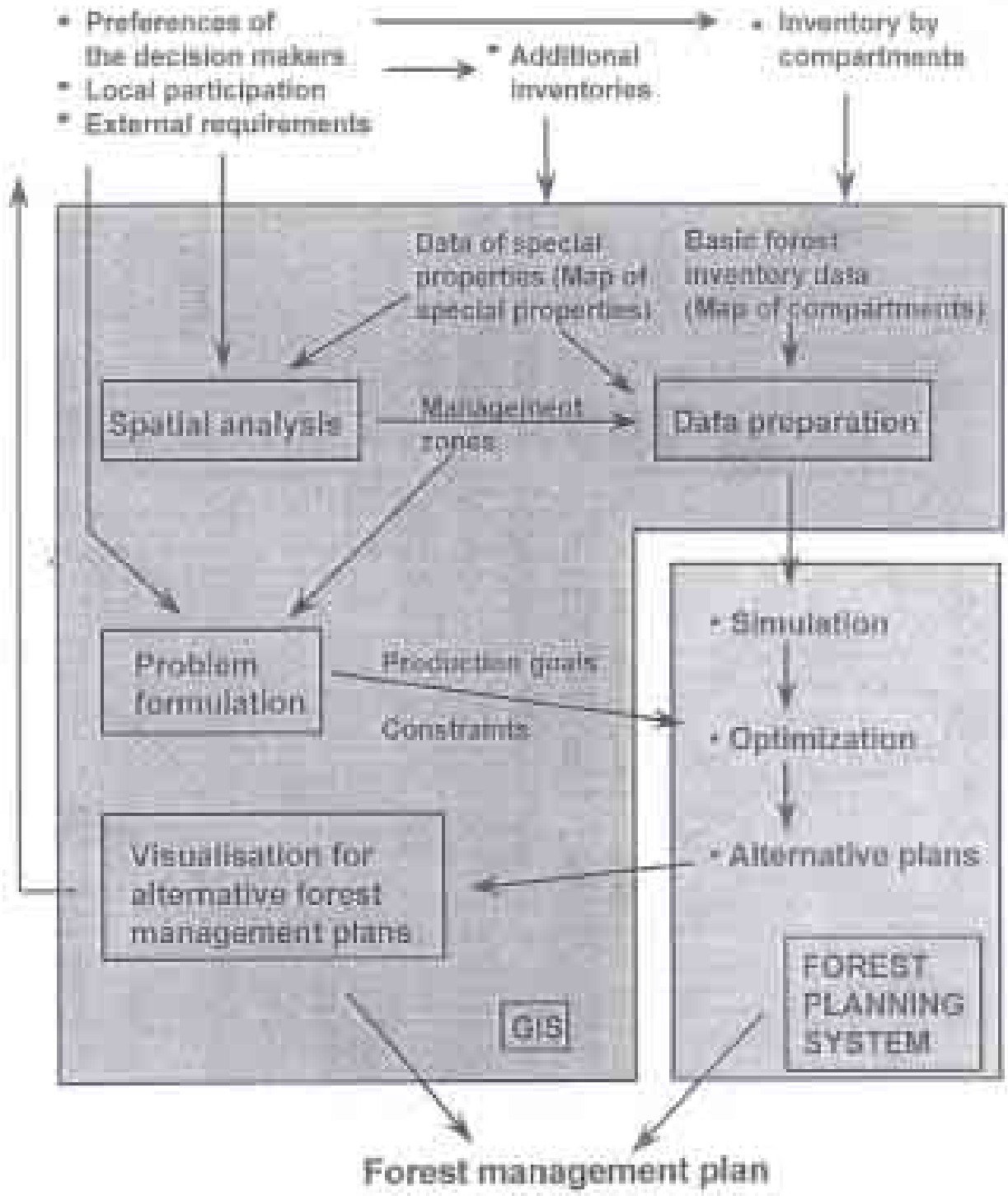
TAP 1	**Modelling local participation and multiple use in sustainable forest management based on spatial landscape analysis**	Esa Ärölä
TAP 2	**Digitaaliset ilmakuvat metsäsuunnittelun käytössä** *Användning av digitala flygbilder* *Usage of digital aerial photos*	Esa Ärölä
TAP 3	**Project report**	Esa Ärölä


• Preferences of the decision makers
• Local participation
• External requirements
• Additional inventories
• Inventory by compartments
Data of special properties (Map of special properties)
Basic forest inventory data (Map of compartments)
Spatial analysis
Management zones
Data preparation
Problem formulation
Production goals
Constraints
• Simulation
• Optimization
• Alternative plans
Visualisation for alternative forest management plans
GIS
FOREST PLANNING SYSTEM
Forest management plan

Av Skogsstyrelsen publicerade Rapporter:

1985 Utvärdering av ÖSI-effekter mm
1985:1 Samordnad publicering vid skogsstyrelsen
1985:2 Beskärning i tallfröplantager
1986:1 Bilvägslagrat virke 1984
1987:1 Skogs- och naturvårdsservice inom skogsvårdsorganisationen
1988:1 Mallar för ståndortsbonitering; Lathund för 18 län i södra Sverige
1988:2 Grusanalys i fält
1988:3 Björken i blickpunkten
1989:1 Dokumentation – Storkonferensen 1989
1989:2 Bok, ek och ask inom svenskt skogsbruk och skogsindustri
1990:1 Teknik vid skogsmarkskalkning
1991:1 Tätortsnära skogsbruk
1991:2 ÖSI; utvärdering av effekter mm
1991:3 Utboträffar; utvärdering
1991:4 Skogsskador i Sverige 1990
1991:5 Contortarapporten
1991:6 Participation in the design of a system to assess Environmental Consideration in forestry a Case study of the GREENERY project
1992:1 Allmän Skogs- och Miljöinventering, ÖSI och NISP
1992:2 Skogsskador i Sverige 1991
1992:3 Aktiva Natur- och Kulturvårdande åtgärder i skogsbruket
1992:4 Utvärdering av studiekampanjen Rikare Skog
1993:1 Skoglig geologi
1993:2 Organisationens Dolda Resurs
1993:3 Skogsskador i Sverige 1992
1993:4 Av böcker om skog får man aldrig nog, eller?
1993:5 Nyckelbiotoper i skogarna vid våra sydligaste fjäll
1993:6 Skogsmarkskalkning – *Resultat från en fyraårig försöksperiod samt förslag till åtgärdsprogram*
1993:7 Betespräglad äldre bondeskog – *från naturvårdssynpunkt*
1993:8 Seminarier om Naturhänsyn i gallring i januari 1993
1993:9 Förbättrad sysselsättningsstatistik i skogsbruket – *arbetsgruppens slutrapport*
1994:1 EG/EU och EES-avtalet ur skoglig synvinkel
1994:2 Hur upplever "grönt utbildade kvinnor" sin arbetssituation inom skogsvårdsorganisationen?
1994:3 Renewable Forests - Myth or Reality?
1994:4 Bjursåsprojektet - *underlag för landskapsekologisk planering i samband med skogsinventering*
1994:5 Historiska kartor - *underlag för natur- och kulturmiljövård i skogen*
1994:6 Skogsskador i Sverige 1993
1994:7 Skogsskador i Sverige – *nuläge och förslag till åtgärder*
1994:8 Häckfågelinventering i en åkerholme åren 1989-1993
1995:1 Planering av skogsbrukets hänsyn till vatten i ett avrinningsområde i Gävleborg
1995:2 SUMPSKOG – ekologi och skötsel
1995:3 Skogsbruk vid vatten
1995:4 Skogsskador i Sverige 1994
1995:5 Långsam alkalinisering av skogsmark
1995:6 Vad kan vi lära av KMV-kampanjen?
1995:7 GROT-uttaget. Pilotundersökning angående uttaget av trädrester på skogsmark
1995:8 The Capercaillie and Forestry. Reports No. 1-2 from the Swedish Field Study 1982-1988
1996:1 Women in Forestry – What is their situation?
1996:2 Skogens kvinnor – Hur är läget?
1996:3 Landmollusker i jämtländska nyckelbiotoper
1996:4 Förslag till metod för bestämning av prestationstal m.m. vid självverksamhet i småskaligt skogsbruk.
1996:5 Skogsvårdsorganisationens framtidsscenarier
1997:1 Sjövatten som indikator på markförsurning
1997:2 Naturvårdsutbildning (20 poäng) Hur gick det?
1997:3 IR-95 – Flygbildsbaserad inventering av skogsskador i sydvästra Sverige 1995
1997:4 Den skogliga genbanken (Del 1 och Del 2)
1997:5 Miljeu96 Rådgivning. Rapport från utvärdering av miljeurådgivningen
1997:6 Effekter av skogsbränsleuttag och askåterföring – *en litteraturstudie*
1997:7 Målgruppsanalys
1997:8 Effekter av tungmetallnedfall på skogslevande landsnäckor *(with English Summary: The impact on forest land snails by atmospheric deposition of heavy metals)*
1997:9 GIS–metodik för kartläggning av markförsurning – *En pilotstudie i Jönköpings län*

1998:1 Miljökonsekvensbeskrivning (MKB) av skogsbränsleuttag, asktillförsel och övrig näringskompensation
1998:2 Studier över skogsbruksåtgärdernas inverkan på snäckfaunans diversitet *(with English summary: Studies on the impact by forestry on the mollusc fauna in commercially uses forests in Central Sweden*
1998:3 Dalaskog - Pilotprojekt i landskapsanalys
1998:4 Användning av satellitdata – *hitta avverkad skog och uppskatta lövröjningsbehov*
1998:5 Baskatjoner och aciditet i svensk skogsmark - tillstånd och förändringar
1998:6 Övervakning av biologisk mångfald i det brukade skogslandskapet. *With a summary in English: Monitoring of biodiversity in managed forests.*
1998:7 Marksvampar i kalkbarrskogar och skogsbeten i Gotländska nyckelbiotoper
1998:8 Omgivande skog och skogsbrukets betydelse för fiskfaunan i små skogsbäckar
1999:1 Miljökonsekvensbeskrivning av Skogsstyrelsens förslag till åtgärdsprogram för kalkning och vitalisering
1999:2 Internationella konventioner och andra instrument som behandlar internationella skogsfrågor
1999:3 Målklassificering i ”Gröna skogsbruksplaner” - betydelsen för produktion och ekonomi
1999:4 Scenarier och Analyser i SKA 99 - Förutsättningar
2000:1 Samordnade åtgärder mot försurning av mark och vatten - Underlagsdokument till Nationell plan för kalkning av sjöar och vattendrag
2000:2 Skogliga Konsekvens-Analyser 1999 - Skogens möjligheter på 2000-talet
2000:3 Ministerkonferens om skydd av Europas skogar - Resolutioner och deklarationer
2000:4 Skogsbruket i den lokala ekonomin
2000:5 Aska från biobränsle
2000:6 Skogsskadeinventering av bok och ek i Sydsverige 1999
2001:1 Landmolluskfaunans ekologi i sump- och myrskogar i mellersta Norrland, med jämförelser beträffande förhållandena i södra Sverige
2001:2 Arealförluster från skogliga avrinningsområden i Västra Götaland
2001:3 The proposals for action submitted by the Intergovernmental Panel on Forests (IPF) and the Intergovernmental Forum on Forests (IFF) - in the Swedish context
2001:4 Resultat från Skogsstyrelsens ekenkät 2000
2001:5 Effekter av kalkning i utströmningsområden *med kalkkross 0 - 3 mm*
2001:6 Biobränslen i Söderhamn
2001:7 Entreprenörer i skogsbruket 1993-1998
2001:8A Skogspolitisk historia
2001:8B Skogspolitiken idag - en beskrivning av den politik och övriga faktorer som påverkar skogen och skogsbruket
2001:8C Gröna planer
2001:8D Föryngring av skog
2001:8E Fornlämningar och kulturmiljöer i skogsmark
2001:8F Ännu ej klar
2001:8G Framtidens skog
2001:8H De skogliga aktörerna och skogspolitiken
2001:8I Skogsbilvägar
2001:8J Skogen sociala värden
2001:8K Arbetsmarknadspolitiska åtgärder i skogen
2001:8L Skogsvårdsorganisationens uppdragsverksamhet
2001:8M Skogsbruk och rennäring
2001:8N Ännu ej klar
2001:8O Skador på skog
2001:9 Projekterfarenheter av landskapsanalys i lokal samverkan – (LIFE 96 ENV S 367) Uthålligt skogsbruk byggt på landskapsanalys i lokal samverkan
2001:10 Blir ingen rapport
2001:11A Strategier för åtgärder mot markförsurning
2001:11B Markförsurningsprocesser
2001:11C Effekter på biologisk mångfald av markförsurning och motåtgärder
2001:11D Urvalskriterier för bedömning av markförsurning
2001:11E Effekter på kvävedynamiken av markförsurning och motåtgärder
2001:11F Effekter på skogsproduktion av markförsurning och motåtgärder
2001:11G Effekter på tungmetallers och cesiums rörlighet av markförsurning och motåtgärder
2001:11H Ännu ej klar
2001:11I Ännu ej klar
2001:12 Forest Condition of Beech and Oek in southern Sweden 1999
2002:1 Ekskador i Europa
2002:2 Gröna Huset, slutrapport
2002:3 Project experiences of landscape analysis with local participation – (LIFE 96 ENV S 367) Local participation in sustaina ble forest management based on landscape analysis
2002:4 Landskapsekologisk planering i Söderhamns kommun
2002:5 Miljöriktig vedeldning - Ett informationsprojekt i Söderhamn

Av skogsstyrelsen publicerade Meddelanden:

1985:1 Fem år med en ny skogspolitik
1985:2 Eldning med helved och flis i privatskogsbruket/virkesbalanser 1985
1986:1 Förbrukningen av trädbränsle i s.k. mellanskaliga anläggningar/virkesbalanser 1985
1986:3 Skogsvårdsenkäten 1984/virkesbalanser 1985
1986:4 Huvudrapporten/virkesbalanser 1985
1986:5 Återväxttaxeringen 1984 och 1985
1987:1 Skogsvårdsorganisationens årskonferens 1986
1987:2 Återväxttaxeringen 1984 – 1986
1987:3 Utvärdering av samråden 1984 och 1985/skogsbruk – rennäring
1988:1 Forskningsseminarium/skogsbruk – rennäring
1989:1 Skogsvårdsorganisationens årskonferens 1988
1989:2 Gallringsundersökningen 1987
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”Local participation in sustainable forest management based on landscape analysis ” was the title of a Swedish-Finnish project conducted during the years 1997-2000 with support from EU’s Environmental Fund LIFE. The beneficiary was the Swedish National Board of Forestry. In Sweden the Regional Forestry Boards in Södra Götaland, Mälardalen and Västerbotten also participated, and in Finland the Forestry Development Centre Tapio as well as the Kusten Forestry Centre. Almost 60 project reports in Swedish with summaries in English have been listed in Annex 1.

The present report gives an account of the projects experiences of local participation and landscape analysis. The terms landscape, sustainable forestry, local participation and landscape analysis are discussed in separate chapters in the report and form the background to accounts of the project experiences. The latter offer ideas and guidelines, particularly for local participation on the grass-roots level, and thus form a valuable, decentralised, complement to the international trend of public participation.

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