Enhancing Training on Collaborative Planning of Natural Resources Management

Heikki Mäkinen (ed.)
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This report has been prepared under the project “Enhancing Training on Collaborative Planning of Natural Resources Management” (EnTraCoP). The project is financially supported by the European Commission’s Leonardo da Vinci programme which aims at developing the quality of vocational education and training (VET) systems and practices in Europe.

In any democratic society, planning of natural resources and environmental management requires consideration of diverse knowledge, values and interests by means of multi-professional co-operation of experts, inter-agency co-operation, participation of stakeholders, and settlement of controversies through negotiation. In this report, the term “collaborative planning” is used for all such interactions. There are a variety of terms meaning approximately the same, such as public involvement, public participation and interactive or participatory planning. Collaborative planning is considered here as an approach guiding e.g. the selection of methods and techniques used in planning. It is recognised that collaborative methods and techniques may constitute a coherent planning process or they can be applied separately, depending on the situation.

The need to enhance collaborative planning of natural resources and environmental management has been recognised in various international conventions and in the evolving legislation of the EU and the Member States. Planners are increasingly facing these current and emerging challenges in their work. Consequently, there is a need for identifying new skills, competencies and learning needs of both planners and trainers and for facilitating the adaptation of curricula of institutions providing training for planners in view of the changing roles and competence requirements.

The objective of the EnTraCoP project is to enhance the quality of training provided for planners of natural resources and environmental management by improving the knowledge, methods and training tools for trainers of collaborative planning in the project partner countries: the Czech Republic, Finland, Germany, Ireland, the Netherlands and the Slovak Republic. The main product of the project will be a new trainers’ support material package of collaborative planning (CoPack) which will be made available to trainers and planners in autumn 2007 as an internet based toolbox.

In order to ensure the usefulness of the CoPack, the working life requirements and priority needs for vocational education and training in collaborative natural resources and environmental management planning were studied in the “Core Skills Analysis” (CSA) in each EnTraCoP partner country. Moreover, an assessment of existing VET, or “VET Assessment” (VETA), was carried out in order to find out the availability and quality of training and training materials in collaborative planning and to identify the priority needs for additional support material for trainers and teachers in each EnTraCoP partner country.

The first part of this report contains a synthesis of these CSA and VET analyses and assessments.

The second part includes papers presented given at an international seminar on collaborative planning of natural resources management. The seminar was arranged

1 Information on the project is available in the following website: http://www.oamk.fi/luova/hankkeita/entracop

in September 25-26, 2006 in Helsinki, Finland by EnTraCoP project in a close cooperation with Baltic Sea region Interreg III projects Watersketch and Trabant. The seminar was targeted to researchers, teachers and practitioners of natural resources and environment management planning. The presentations were focused on issues of collaborative planning from both a holistic point of view to a more specific sector orientated approaches. This report contains only a little portion of subjects presented in the seminar but gives an idea of a variety of collaborative planning themes in the field of natural resources and environment management.
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Jukka Tikkanen, Mikko Kurttila

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Alistair Pfeifer

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Part 1

VET Assessment and Core Skills Analysis Synthesis Report

Daan van der Linde, Van Hall Larenstein University of Professional Education
Outi Myatt-Hirvonen, Diskurssi Ltd
Pekka Salminen, Diskurssi Ltd
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<tr>
<td>CoPack</td>
<td>Trainers’ support material package on collaborative planning</td>
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<td>CP</td>
<td>Collaborative planning</td>
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<td>CSA</td>
<td>Core Skills Analysis</td>
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<td>EIA</td>
<td>Environmental impact assessment</td>
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<td>EnTraCoP</td>
<td>Enhancing Training of Collaborative Planning of Natural Resources Management</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency (Ireland)</td>
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<td>EU</td>
<td>European Union</td>
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<td>FSC</td>
<td>Forest Stewardship Council</td>
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<tr>
<td>GIS</td>
<td>Geographic information system</td>
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<tr>
<td>NGO</td>
<td>Non-governmental organisation</td>
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<tr>
<td>NREP</td>
<td>Natural resources and environmental planning</td>
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<td>SEA</td>
<td>Strategic environmental assessment</td>
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<td>UK</td>
<td>United Kingdom</td>
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<td>VET</td>
<td>Vocational Education and Training</td>
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<td>VETA</td>
<td>VET Assessment</td>
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<td>WFD</td>
<td>Water Framework Directive</td>
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Summary

This report synthesises the results of the six Core Skills Analysis (CSA) and six Vocational Education and Training (VET) Assessment country studies carried out under the project “Enhancing Training on Collaborative Planning of Natural Resources Management” (EnTraCoP) in the Czech and Slovak Republics, Finland, Germany, Ireland and the Netherlands. The main product of the project will be a new trainers’ support material package on collaborative planning, the CoPack.

In order to ensure the usefulness of the CoPack, the working-life requirements and priority needs for vocational education and training in collaborative planning of natural resources and environmental management were studied in the CSA. The VET Assessment (VETA) was carried out to find out the availability and quality of training and training materials in collaborative planning and to identify the priority needs for additional support material for trainers and teachers in each EnTraCoP partner country.

The studies were targeted to selected focus sectors of natural resources and environmental management planning in each partner country. The material and methods used for the country studies included document analysis, interviews and questionnaire surveys.

The country studies revealed a high diversity of situations, challenges and needs for enhancing collaborative planning of natural resources and environmental management and the related training of students and planners in the focus sectors. Generally, there are considerable needs for training and lack of teaching material on collaborative planning. Based on the results of the studies and the planning meetings of the EnTraCoP partners, the following priority needs for training and related support materials have been identified:

1. Introduction to collaborative planning
   - Basics of theories, concepts, terms and planners’ ethics of collaborative planning
   - Legal and institutional requirements for collaborative planning in the selected focus sectors in each EnTraCoP partner country
   - Assessment of needs, pros and cons (“costs and benefits”) of collaborative planning

2. Designing collaborative planning curricula and programmes
   - Designing basic, advanced and professional level competencies (examples of collaborative planning training curricula and recommended CoPack modules for each level)
   - Designing further training programmes (examples of different training programmes and recommended CoPack modules)
   - Examples of training approaches
   - Analysis and development of personal collaborative planning skills among planners

3. Preparation and initiation of collaborative planning processes
   - Preparation and coaching of planner teams for collaborative planning
   - Preparation of collaboration plans
   - Participation of special groups
• Informing, motivating and instructing participants in the initiation of collaborative planning

4. Collaborative planning methods and techniques
• Planning exhibitions and displays
• Media co-operation, including TV, radio and newspapers
• Conducting surveys with various techniques (e.g. questionnaires and interviews)
• Personal communication skills and presentation techniques
• Organising, moderating, and facilitating public meetings
• Group working and creativity techniques: instructing, managing and facilitating working groups and utilising effective/creative group working methods
• Organising site visits and field trips to the public
• Web-based collaborative planning methods (interactive websites, chats, online forums, e-voting, etc.)
• Analysing and managing conflicts between interest groups (organising and facilitating negotiations and mediating disputes)

5. Information management in collaborative planning
• Systematic methods for comparing planning alternatives
• Computer-supported decision-making methods
• Geographic information systems (GIS) and maps in collaborative planning
• Documenting/reporting collaborative planning processes and results

6. Evaluation and utilisation of collaborative planning experiences
• Evaluation criteria and methods
• Dissemination of lessons learned

The CoPack is planned to be a web-based trainer’s support material package, with downloadable materials, to be published in the EnTraCoP³ website and as a CD-ROM. It may also be published in a hardcopy form (folder), as applicable. The material will be organised into user-friendly stand-alone units that can be flexibly adapted to training modules of varying depth and length. The CoPack will be prepared in English and translated into the other main languages of the partner countries: Czech, Dutch, Finnish, German and Slovak.

The authors of the synthesis report would like to express their sincere gratitude to the authors of each country study report and to the planners, trainers, students and others who participated in the surveys and interviews.

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³ http://www.oamk.fi/luova/hankkeita/entracop
1 Objective and purpose of the studies

The objective of the studies was to establish a firm basis for designing the Trainers’ support material package on collaborative planning, the CoPack.

The purpose of the CSA was to study:
- the working life requirements for collaborative planning skills of planners in the selected focus sectors of natural resources and environmental management in the EnTraCoP partner countries;
- the existing systems, skills and competencies of planners in collaborative planning;
- the needs and priorities for capacity development and training in collaborative planning and related support material as perceived by natural resources and environmental management planners.

The purpose of the VETA was to find out:
- the types of collaborative planning elements included in the different levels of education of natural resources and environmental management planners in the EnTraCoP partner countries;
- the amount of collaborative planning elements in the relevant study fields;
- the availability of professional competences of the relevant degree programmes;
- the needs and priorities for capacity development and training in collaborative planning and related support material as perceived by educators and students of natural resources and environmental management planning.
2 Material and methods

The synthesis report is based on the following country study reports (available in the EnTraCoP website):

CSA reports:

VETA reports:
8. Finland: Tikkanen, J., Isokääntä, T., Soukainen, O., Salminen, P. & Maunumäki A. 2006. VET analysis; Country Study of Finland, Collaborative planning in the degree programmes of the natural resource and environmental planners in Finland. April 2006

4 http://www.oamk.fi/luova/hankkeita/entracop

In each country, the project partners selected the natural resource and environmental planning sectors and organisations on which the CSA, VETA and the whole EnTraCoP project focus (Table 1).

<table>
<thead>
<tr>
<th>Country</th>
<th>Focus sectors</th>
<th>Target organisations CSA</th>
<th>Target organisations VETA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>Natural resources and environmental management planning in land reform plans and regional master plans</td>
<td>Public associations, eco-counselling centres, NGOs, local authorities, others</td>
<td>Universities with faculties dealing with the subjects: - Settlement and land use/urban planning, spatial planning, landscape architecture - Rural Landscape/land consolidation schemes, rural development - Forestry/forest management</td>
</tr>
<tr>
<td>Finland</td>
<td>River basin management planning Forest planning for non-corporate private and municipal forest owners</td>
<td>Regional environment centres Regional forestry centres</td>
<td>Polytechnics and Universities with planning oriented bachelor programmes in the field of natural resources and environmental management and landscape architecture as well as professional training programmes</td>
</tr>
<tr>
<td>Germany</td>
<td>Rural development planning, with a special focus on village development, sustainable tourism development and renewable energy</td>
<td>Central governmental authorities, regional authorities, provincial authorities, NGOs, private companies, others</td>
<td>Universities and universities of applied sciences with collaborative planning contents in their curricula</td>
</tr>
<tr>
<td>Ireland/Coillte</td>
<td>Forestry</td>
<td>Coillte company</td>
<td>–</td>
</tr>
<tr>
<td>Ireland/Tipperary Institute</td>
<td>Land-use planning</td>
<td>Local authorities, environmental public service, Environmental Protection Agency (EPA), Regional Fisheries Board, consulting companies</td>
<td>Universities and universities of applied sciences with collaborative planning contents in their curricula</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>Forestry and nature management, landscape architecture, land and water management, urban and rural development</td>
<td>Central governmental authorities, regional/provincial authorities, local government and municipal authorities, private companies, NGOs, Co-operative Organisation for Forest Owners, Water Works Company</td>
<td>University of Wageningen and universities of applied sciences with collaborative planning contents in their curricula</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>Forestry, nature conservation and the landscape ecosystem management</td>
<td>Public associations, eco-counselling centres, NGOs, local authorities, others</td>
<td>Forestry and the landscape ecosystem management within the study programme Management and Financing the Forest Enterprises and the study programme Applied Ecology taught at the Technical University in Zvoľen</td>
</tr>
</tbody>
</table>

The methods used in the country studies included document analysis, interviews and questionnaire surveys. The surveys were targeted to selected organisations known to be involved in the focus sectors. In the CSA, in total 20 key informants were interviewed in the partner countries and a total of 247 respondents contributed to the questionnaire survey. In the VETA, altogether some 80 persons were interviewed and about 200 trainers and students responded to the survey.
The respondents of the CSA questionnaire surveys represented diverse professional backgrounds. While the majority had an education in natural sciences, also engineers, social scientists and educators were among the respondents. The current professional positions of the respondents varied, among others, from planners and consultants to administrators and managers and from land owners to teachers. The Czech & Slovak CSA was also targeted to a number of non-governmental organisations (NGOs).

In order to acquire a sufficient number of responses, in some cases personal contacts or selective sampling of likely respondents were used. Apparently, a higher number of responses were obtained from persons who have a positive attitude towards collaborative planning and who are familiar with the concept. It is important to emphasise that the results of the survey are not based on a random sample or statistically representative analyses and thus, they should not be interpreted in such a manner. Rather, the aim of the studies was to provide an overview of the current situation, challenges and future needs and priorities as foreseen and described by the survey respondents and complemented by the insights provided by the interviewees and the authors of the country study reports. The presentation of the results is influenced by the differences in the applied methodologies and approaches in different partner countries.
3 Demand for enhancing collaborative planning

The legal and other official requirements for collaborative planning of natural resources and environmental management vary considerably across the countries and the focus sectors. Nevertheless, due to common EU regulations, all countries are likely to have resembling legislation and requirements concerning, for example, public participation in environmental impact assessment (EIA) and environmental licensing processes. As an example of an EU-wide sector-specific regulation, the River Basin Management Plans (based on the “Water Framework Directive”) with requirements on public participation can be mentioned. The most relevant legal and other official requirements discussed in the country studies are highlighted in the box below:

The Czech and Slovak Republics:

Until 1992, the Czech and Slovak Republics shared the common legislation. During the past decade, the legislation of both countries has been amended, also taking into account the implementation of the EU rules. Currently, both countries stipulate land-use through numerous Acts, such as the Act on spatial planning, Act on Town and Country Planning and building regulations and Act on Land Consolidation Schemes. Acts on Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) are among the laws that provide possibilities for public participation in land-use planning. In general, the amendments of the legislation are constantly strengthening the legal basis for collaborative planning in these countries. Nevertheless, despite the existing legislation, there are no uniform regulations specifying how public participation should be carried out in the planning procedures.

In the Czech Republic, public participation is one of the basic principles of the State Environmental Policy, and there is an increasing effort to apply direct democracy in environmental planning and management. In 2004, the Sustainable Development Strategy for the Czech Republic was approved. This strategy provides a framework for political decision-making and it includes a requirement for direct public involvement. In the Slovak Republic, the National Plan of Regional Development aims to provide an integrated approach to the planning and management of land resources and serves as a basic development document for structural and regional policies.

Finland:

The Finnish Constitution states that the citizens have a right to influence decisions that concern their environment. Water management planning is stipulated by the Water Act and Environmental Act which contain provisions for public hearings concerning permit applications. Based on the Environmental Impact Assessment Act, public participation is mandatory in EIA processes. Also, the Act on Environmental Impact Assessment of Authorities’ Plans and Programmes and the Land Use and Building Act provide rights for public participation in strategic planning. The new Water Resources Management Act and the corresponding Decree on River Basin
Districts, which are based on the EU Water Framework Directive (WFD), establish rules for public participation in the river basin management planning. In the private forest planning, collaborative planning is not stipulated by law. The only reference to participation is in the Forest Act which requires that Forestry Centres collaborate with stakeholders representing forestry in their areas.

The Ministry of the Environment has provided national guidance on the river basin management planning, based on the strategy developed jointly by the EU Member States, Norway and the European Commission. Besides the guidelines on stakeholder collaboration provided by the Regional Forestry Centres, there are no national strategies or guidelines on collaborative planning available for private forest planning.

**Germany:**

Participatory processes in spatial planning have been developed in the federal republic of Germany since 1960. Public involvement is part of the planning, as mandated by the law on spatial planning. The first legal arrangements of civil participation can be found in the German federal building code (BauGB). In the context of urban neighbourhood planning there was a development to a more active participation since 1970. New methods like future conferences and workshops were applied with relatively good results. These co-operational procedures were long time determined to urban milieus. The process in rural areas was more restrictive to a formalised cooperation of interested citizens. However, the process of rural area development (since 1990) has entailed the establishment of concepts concerning the township development, which is the base for state subsidies especially in terms of house restriction and planning of public spaces. A successful instrument is the collaboration with citizens in the so called “advisory councils”. Citizens join the whole planning process from the mission statement over concept frames to application of terms.

**Ireland:**

The Irish land-use planning system is governed by the Planning and Development Act of 2000 and the regulations made under it. The system is very much based on the UK model in that it is a policy and licence rather than a zoning ordinance based approach. The process for creating and adopting a Development Plan provides roles for the elected members of the Local Authorities, for the officials through the role of the City or County Manager, for specific bodies representing a range of interests (Prescribed Bodies) and for the general citizens. While this legislation may provide opportunities for participation and consultation, however, it does not prescribe the precise mechanisms that must be used beyond the giving of public notice regarding the various stages of the plan-making process and the holding of public meetings. The planning process is still very much dominated by experts, and politicians tend to address public interest in a more or less clientelist perspective. So there is a good legal basis, but in practice public participation is not the norm.

Due to the sustainable forest management requirements, many methods and techniques of collaborative planning are an integral part of the forest management practices of the Coillte company. Consultations with stakeholders are an essential part of the certified forest management activities and have led to ongoing training of the Coillte staff in the area of collaborative planning and consultations. However, “true” collaborative planning as defined for the EnTraCoP project is possibly at a rudimentary stage in Coillte.

**The Netherlands:**

Public participation procedures in EIA and SEA (since 1987) are both very well described as in other EU countries. In rural and city planning in general there has been an upcoming trend to involve the public after some big projects were voted against.
(e.g. Schiphol airport, Regional development plan Winterswijk in the 1980’s). The planning bodies (e.g. Dienst Landelijk Gebied and Waterboards) now tend to involve the public right from the start for many reasons (better plans, quicker realisation, public support, less conflicts), but all this is done without a legal or institutional basis. The core of the Dutch planning system is still the formal non-participatory procedure in which local government offers the public a fixed term to object any plan in a strictly formalised way.

The provinces, water boards, municipalities and some Ministries (Agriculture, Environment, Infrastructure) play a dominant role as contractors for participatory planning processes. In rural planning, a privatised former government service body, Dienst Landelijk Gebied, together with a wide range of private consultancy firms do the actual preparation work. The local government always makes the final decisions, but such decisions are increasingly in line with the outcome of a participatory process prior to the decision. In forestry and nature management there is a lot of participation of NGO’s (like Natuurmonumenten), and now also former governmental management bodies (like Staatsbosbeheer) play a guiding role in participatory processes in rural and city developments where nature or forest is concerned. Water boards (formerly dominated by farmers) are increasingly opening their governance to city people. This has stimulated the planning processes to become more transparent and interactive.

Besides the legal and other official requirements, all the CSA country studies identify increasing demands from the public as one of the strongest forces influencing the need for enhancing collaborative planning. For example in Finland, there are some cases of decade-long Water court processes concerning hydro-power construction and associated water course regulation. Forest conflicts are reported to be more common on state-owned lands but they are also emerging in private forestry. Even in the Czech and Slovak Republics where the demands and pressure from the general public have been rare due to historical reasons, since the 1980s there has been an increasing pressure from the so-called “expert public”, interest groups of ecologists and environmentalists who intend to influence environmental and land-use planning. Nowadays, the pressure from non-governmental organisations supported by foreign partners is considered the most influential factor, in addition to amendments in legislation. In order to convince and motivate the passive and sceptical general public, there is a demand for examples and successful experiences of collaborative planning demonstrating the benefits and true opportunities to influence plans and decisions. Improving technical, organisational and economic conditions for the public to access information on the environment is considered essential for enhancing public participation in planning.

In the Netherlands, the forest and nature conservation sectors are facing the challenges of population pressure on the small, densely populated country. Despite of high rates of urbanisation, rural and urban areas are a target of diverse interests. Thus, there is an increasing need for public involvement in the planning and management of rural areas, parks and forests. In the Dutch CSA, planning processes were identified as “politically sensitive” processes where reaching mutual understanding calls for good social skills, ability to work with diverse stakeholders and to create trust. Therefore, the planners must possess a solid professional knowledge of the subject matter, good local and regional knowledge and contacts with the residents, and be able to deal with the public media, the role of which is considered crucial for a successful planning process.

In most countries, for example in forest and landscape planning in the Czech and Slovak Republics, private forest planning in Finland and land-use planning in
Ireland, one of the priority development needs is to strengthen the awareness and willingness at the political and administrative levels to accept and apply collaborative planning as a standard planning practice. The concept of collaborative planning as a philosophy also needs to be promoted. In order to successfully manage the complex planning situations with different organisational cultures, multiple stakeholders and diverse interests, there is a high demand on communication, negotiation and conflict management skills.

In Finland and Ireland, the growing use of the Forest Stewardship Council (FSC) certification is identified as an important factor for increasing demands on collaborative planning in forest management planning. In Finnish private forestry, the planners have regular contacts with the most central forestry-related partners (Forest Management Associations and forest industries) but collaboration with other stakeholders is exceptional. A particular challenge is to organise co-operation between forest owners in order to arrange landscape ecological planning in private forests.
4 Priority needs for learning and training

4.1 Priority needs as perceived by planners

The priority needs perceived by planners are based on the results of the CSA questionnaire surveys and interviews. The figures below contain numeric data from all countries except the Czech and Slovak Republics for which the country study only provided qualitative information. Therefore, the figures and the corresponding descriptions are complemented by observations about the Czech and Slovak results when considered relevant or when the results differ notably from those of the other countries.

The various methods for disseminating information to the public are widely used and their use is expected to be high in the future as well. The most commonly used methods are newspaper announcements and letters to the public, followed by newsletters and exhibitions. Probably due to their common use, training needs for these methods are not among the priorities. On the other hand, TV or radio programmes are currently less used but considered more important in the future. (Figure 1.)

With regard to methods for information collection and consultation, inviting written comments from the public is a common requirement in many planning processes involving environmental licensing or EIA, reflected by the frequent previous and estimated future use of this method. Surveys and interviews are used occasionally and drop-in centres (or open houses) somewhat less. Telephone hotlines are rarely used, nor are they expected to be used in the future. While the perceived training needs are generally low, relatively great needs for training in the use of questionnaire surveys are indicated by the studies of the Czech and Slovak Republics, the Finnish water management planning and the Irish land-use planning. Figure 2.)

More intensive interaction in the form of public meetings and hearings are other commonly used methods of collaborative planning. Also site visits, working groups and steering committees are often used. These methods are considered important in the future, and especially the use of discussions and negotiations (both with and without mediation) is expected to increase in the future. These methods demonstrate higher needs for training. (Figure 3.)

In all countries, over half of the respondents have previously used Geographic Information Systems (GIS) and they are also estimated to be increasingly used in the future. The need for further training in the utilisation of GIS in collaborative planning becomes obvious, as it is ranked as the number one training need by the Netherlands, both CSA studies of Ireland and the water resources management sector of Finland. Also, for the private sector forest planning of Finland it is among the top training needs and the results from Czech and Slovak Republics indicate great need for training in the utilisation of GIS in collaborative planning. Particularly, the Netherlands’ CSA study suggests that it may not be necessary to train planners to become GIS
Figure 1. Training needs for methods used for disseminating information.

Figure 2. Training needs for methods of information collection and consultation.
specialists but there is rather a need to educate them about the possibilities of GIS tools for various practical purposes.

The use of **other computer-aided methods** is not common. For example, e-mail discussion groups rank as the least used method for many, and no great interest is demonstrated for their future use or further training. Neither is the use of interactive websites and computer-supported decision-making methods common but there is a growing interest in their future use and a demonstrated interest in further training. (Figure 4.)

The same also applies to systematic methods for comparing planning alternatives, which rank among the top priorities for training in most countries (Figure 5).

The German respondents are the least enthusiastic in the use of computer-aided methods, including the use of GIS which is ranked as top priority by almost all other respondents/countries. The German CSA report concludes that neither all participants of a planning process may have access to modern technologies such as internet, nor may they share a positive attitude towards their use.

Great need for further training is indicated for the **legal requirements** for collaborative planning, as well as for **requirements, norms and guidelines of the respondents’ own organisations** (Figure 6). In the Czech Republic, training needs for these requirements are considered moderate, even though an increase in the future needs for knowledge of legal requirements is expected. The present Slovak legislation dealing with the management of natural resources and landscape contain some elements of a collaborative planning approach and can serve as a good basis for its promotion and development. Anyway, there is no mention about collaborative planning as a recommended management tool in it, so far.

Moderate training needs are indicated for the various skills involved in **preparing and initiating collaborative planning processes**. Nevertheless, they are expected to be widely used skills in the future in all countries. For example, the importance of
Figure 4. Training needs for computer-aided methods.

Figure 5. Training needs for systematic comparison of planning alternatives.

Figure 6. Training needs for knowledge of legal and institutional requirements.
motivating the public in the initial stages of collaborative planning is reflected in the higher needs for training. (Figure 7.)

Various aspects of communication are among the frequently mentioned challenges of collaborative planning. Although the planners in natural resource and environmental management sectors come from diverse educational backgrounds, in many cases the majority still have their background in natural sciences and engineering. Perhaps, that is why a high further training need is indicated for communication skills.

Pressure and demand from the public and diverse interests concerning land-use and the environment are among the top driving forces for collaborative planning. Inevitably, there are often opposing interests, leading to potential conflicts during planning processes. Consequently, negotiation and conflict management skills are among the highest priorities for training by most respondents, and a high need for their use is predicted for the future. (Figure 8.)

There is generally less interest in training about the different theories related to collaborative planning. The previous needs for knowledge of these theories have been relatively low and neither are the needs for this knowledge expected to increase in the future. However, the Irish land-use planners seem to have a considerable interest in the theoretical basis of collaborative planning. Also the Finnish water management planners and the foresters in the Irish Coillte company are willing to have training in theories of collaborative planning. The results from the Czech and Slovak Republics show moderate needs for training in regard to all the relevant theories. (Figure 9.)

Both CSA reports from Ireland reflect on the philosophical aspects of current collaborative planning practices in their country and conclude that while many of the individual methods are currently used, the concept of collaborative planning is not widely understood nor do the practices correspond to a “true” collaborative approach. Thus, the need to promote the concept of collaborative planning as a philosophy is suggested.

Despite the lack of tradition and less previous experience in collaborative planning in the Czech and Slovak Republics, the training needs indicated by the survey results do not considerably differ from those of the other partner countries. The country study points out that many of the challenges of collaborative planning faced by the Czech and Slovak Republics are political and institutional in nature, and cannot be resolved by enhancing training alone.
Figure 8. Training needs for skills for managing collaborative planning.

Figure 9. Training needs for theoretical issues.
4.2 Priority needs as perceived by educators and students

According to the results of the questionnaire survey carried out in the VETA among Czech educators, the highest priority is given to training the teachers in the basics of collaborative planning and to making available good educational material in the local languages. The interviewed students generally expressed a great interest for the subject.

The Slovak students and lecturers have already fully realised the necessity of introducing collaborative planning in the curricula of all subjects dealing with the management of natural resources and landscape. Both groups emphasise the need for education on techniques necessary for communicating with the public, instructions for the use of working groups in forestry and landscape planning, methods of motivating the public to take part in the collaborative planning, methods of evaluating the efficiency of collaborative planning, and case studies about how to apply all the methods of collaborative planning in both forestry and landscape management.

The priority needs in Germany focus on the expansion of the time for collaborative planning education in the curricula, the need to involve students in real regional processes, the realisation that a landscape architect or planner should always gain collaborative planning experience in his/her studies and a general demand for good educational materials and practice situations. Students ask for multi-sectoral or integral collaborative planning education with a lot of practising situations to enhance their communication skills.

The priority needs in Finland are described for three target groups: forest management planners, landscape architects and professional trainers. The first group is somewhat divided in the need to address collaborative planning in education. Some prefer to wait for official and well established guidelines for collaborative planning, others are very eager to explore this subject and actively raise awareness for this new trend with colleagues and students. Communication skills, integrated approach of forest management, and land use conflict mediation are prioritised. Landscape planners are very eager to make plans in collaboration with the public, but educators are still not sure “how much collaborative planning should be taught”. They express a great need to learn from international colleagues. The trainers of working-life professionals emphasise the motivation of the trainees. It is necessary to make them see the need for training on the quality of the planning process. The skills in comparing the different planning alternatives are perceived as important.

The priority needs in the Netherlands concentrate on awareness raising with students and teachers in collaborative planning issues, the firm anchoring of collaborative planning skills in the curricula (competencies) and the search for practice situations to be able to encounter and involve students with real collaborative planning processes. In most target institutes there is a small and enthusiastic team of collaborative planning teachers, but their knowledge is not widely offered to all students due to the lack of recognition of the importance of the subject. Some missionary work is needed here within the institutes to get all students intensively trained in collaborative planning and communicative competencies, since most job descriptions in rural resource management identify them as necessary.

Priority needs from Ireland were not worked out in detail, but the overall conclusion is that the courses offered in this field are all very technical in nature and that a firm basis of planning theories underneath is lacking.

The biggest difference between the Czech and Slovak studies and the others is the outspoken interest from especially students in these subjects. In Finland, Ireland, the Netherlands and Germany, educators wonder how to raise more interest with stu-
dents for these matters. Perhaps democratic possibilities to express oneself are taken more for granted by young western and northern EU country students. The educators feel a need to stimulate this awareness with young persons, but they are aware of the fact that jobs of process co-ordinators/facilitators are not available for newly graduated students. These jobs are mostly occupied by experienced project managers or by people from the social sciences or development co-operation backgrounds. So the challenge of many educators is to raise awareness of the changing role of specialists (e.g. landscape architect, forester, water manager, rural planner) in a democratic planning process. They will have to serve collaborative planning and not make plans on their own (as is often thought by students). Later in life, some of the specialists will manage planning processes themselves. These future specialists are very eager for further skills training and they come back to training institutes and universities for specialised adult education courses in collaborative planning.

The most prominent common training need in the VETA country studies is the need for communication skills and theoretical background training.
5 Current supply of training in collaborative planning

In the Czech Republic, most training courses available on collaborative planning are given by sociologists and professionals from the social services. They use materials that are theoretical in nature and not yet translated to the field of natural resources and environmental management. So there is a great need for producing good materials to train communication skills, conflict resolution methods and theories of collaborative planning adaptable to natural resources and environmental management planning situations with good real life cases.

The Slovak VETA study summarises the present shortcomings in the learning of collaborative planning as follows: The present Slovak legislation dealing with the management of natural resources and landscape contain some elements of collaborative planning approach and can serve as a good basis for its promotion and development. Anyway, there is no mention about collaborative planning as a managerial tool, so far. The methods of collaborative planning have not been included in the curriculum of any taught subject in a systemic form. The professional planners carry out their tasks in collaborative planning at a low social efficiency only in accordance with the valid legislation and operational needs. They only rely on their intuition and personal experience. Professional planners lack both the theoretical preparation and practical training in the application of collaborative planning approach as a system.

Dutch collaborative planning training courses are found in most natural resources and environmental management training institutes at all levels. They are mainly based on interactive planning practices in rural and city planning. Thus also in the Netherlands there is a need for translating collaborative planning experiences into the field of natural resources and environmental management. In many educational institutes there is a curriculum development under way to describe competencies in the EU Bologna terminology. This is seen as an opportunity to get collaborative planning education firmly based in the natural resources and environmental management planning curriculum. In order to do this, international experiences and exchange are very much needed. In rural development education there are interesting experiments underway to engage students in real long term interactive processes (e.g. village development and empowerment) to make it possible to experience “doing the real thing in collaborative planning”. A mentionable concept is the “Werkplaats Plattelandsvernieving concept” (translatable into rural development workplace) in Annerveensche kanaal in which students play a research and process role in several local communities. It must also be mentioned that there is a large number of professional trainers who offer short training courses in the principles of collaborative planning for adults.

The training programmes and materials available in eight universities and universities for professional education were studied in Germany. These training courses vary widely in content and number of credit points. Courses specifically focusing on collaborative natural resources and environmental management planning are
rare, since most courses concentrate on landscape or city spatial planning and rural development. There is also a large training supply for post graduate students mainly with universities, adult education centres and “Heimvolkshochschulen” (see for instance http://www.regionale-prozesse-gestalten.de). The most important gap is to have specialised training courses and material on collaborative planning of natural resources management.

In Ireland, the same situation applies: training in rural development processes, environmental management, and even coastal development studies exist in most universities. These trainings are somewhat theoretical in nature and there is a need to develop special training situations for the natural resources and environmental management field. There seems to be a wide diversity in the use of collaborative planning as a field of knowledge since there is a lot of debate on the theoretical background of collaborative planning.

The training possibilities in Finland in collaborative planning in natural resources and environmental management institutes are modest but growing. Most universities and polytechnics provide training in communication, language and management skills, but not necessarily aimed at the natural resources and environmental management practices. Tampere polytechnic gives training in collaborative forestry planning. Landscape planners are trained in collaborative planning by working for real clients and they get a lot of experience in serving the customer with emphasis on presentation skills.

It can be generally concluded that there is plenty of training available at BSc., MSc. and post-graduate levels. However most of this supply is based on material from other related fields (sociology, environment, rural development) and it would be useful to develop training in collaborative planning specifically aimed at the field of natural resources management.
6 Priority needs for trainers’ support material

The VETA and CSA country studies carried out in the EnTraCoP project demonstrate a general need for training and a lack of teaching materials on collaborative planning. In the Table 2, the priority topics to be addressed in the CoPack are identified based on the conclusions and recommendations of the VETA and CSA studies. The code letters in the table indicate the country studies in which the topic or issue is prioritised or recommended to be addressed in the CoPack (at least 50% of the respondents indicate moderate or great need for training or they are recommended in the conclusions of the study):

- C = The Czech Republic
- Ic = Ireland/Coillte (forestry)
- Ff = Finland/private and municipal forestry
- It = Ireland/Tipperary Institute (land-use)
- Fw = Finland/water resources management
- N = The Netherlands
- G = Germany
- S = The Slovak Republic

Table 2. Need for training and training material in collaborative planning.

<table>
<thead>
<tr>
<th>Collaborative methods and techniques</th>
<th>Core Skills Analysis</th>
<th>VET Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dissemination of information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letters to the public</td>
<td>Ff, It</td>
<td>F, G, C, S</td>
</tr>
<tr>
<td>Newspaper announcements</td>
<td>It</td>
<td>F, C, S</td>
</tr>
<tr>
<td>Newsletters</td>
<td>Fw, It</td>
<td>F, C, S</td>
</tr>
<tr>
<td>TV or radio programmes</td>
<td>G, It</td>
<td>F, C, S</td>
</tr>
<tr>
<td>Planning exhibitions and displays</td>
<td>It</td>
<td>F, C, S</td>
</tr>
<tr>
<td><strong>Information collection and consultation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questionnaire surveys</td>
<td>Fw, It, C/S</td>
<td>F, It, C, S</td>
</tr>
<tr>
<td>Interviews</td>
<td>Ic, It</td>
<td>F, G, It, N, C, S</td>
</tr>
<tr>
<td>Written comments and feedback from the public</td>
<td>It</td>
<td>F, C, S</td>
</tr>
<tr>
<td>Telephone hotlines</td>
<td>-</td>
<td>F, C, S</td>
</tr>
<tr>
<td>Regional offices (drop-in centres)</td>
<td>It</td>
<td>F, C, S</td>
</tr>
<tr>
<td><strong>More intensive interaction and negotiation</strong></td>
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<td></td>
</tr>
<tr>
<td>Site visits or field trips to the public</td>
<td>Ff, It</td>
<td>F, C, S</td>
</tr>
<tr>
<td>Public meetings, hearings, seminars, workshops</td>
<td>Fw, Ic, It, C/S</td>
<td>F, It, N, C, S</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Collaborative methods and techniques</th>
<th>Core Skills Analysis</th>
<th>VET Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working groups, “steering committees”, etc.</td>
<td>Fw, Ic, It</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>Discussions facilitated by a neutral, professional facilitator</td>
<td>G, Ic, It</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>Negotiations between interest groups (without mediation)</td>
<td>G, Fw, Ic, It, C/S</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>Mediated negotiations</td>
<td>Fw, Ic, It, C/S</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>Participation of children (and other special groups)</td>
<td>It</td>
<td>F, G, It, N, C, S</td>
</tr>
</tbody>
</table>

**Computer-aided methods:**
- E-mail discussion groups: It, C/S | F, C, S |
- Interactive websites: Fw, G, It, C/S | F, G, It, N, C, S |
- Computer-supported decision-making methods: Fw, G, Ic, It, C/S | F, G, It, N, C, S |
- Geographic Information Systems (GIS) in visualising planning information: Ff, Fw, G, Ic, It, N, C/S | F, It, N, C, S |

**Other methods:**
- Methods for comparing planning alternatives: Fw, It, N, C/S | F, G, It, N, C, S |

**Other topics and skills of collaborative planning**

**Knowledge of legal and institutional requirements:**
- Legal requirements for collaborative planning (CP): Ff, Fw, G, Ic, It, N | F, G, It, N, C, S |
- Requirements, norms and guidelines of the planning organisations for CP: Ff, Ic, It | F, It, C, S |

**Skills for preparing and initiating CP processes:**
- Assessing “costs and benefits” (pros and cons) of CP: Ff, Fw, Ic, It | F, C, S |
- Preparing collaboration plans: Fw, Ic, It, C/S | F, It, N, C, S |
- Establishing and preparing teams for CP: Fw, Ic, It, N | F, C, S |
- Analysis of actors/stakeholders: Fw, Ic, It | F, It, N, C, S |
- Designing communication strategies: Fw, Ic, It | F, G, It, N, C, S |
- Motivating the public in the initial stages of CP: G, Ff, Fw, Ic, It, C/S | F, It, C, S |

**Skills for managing CP:**
- Moderation/chairing of meetings: F, G, Ff, Fw, Ic, It | F, It, N, C, S |
- Group/Team working skills: F, G, Ff, Fw, Ic, It, N | F, It, N, C, S |
- Communications skills: G, Ff, Fw, Ic, It, N | F, G, It, N, C, S |
- Conflict mapping: G, Ff, Fw, Ic, It, N | F, It, N, C, S |
- Negotiation and conflict management skills: G, Ff, Fw, Ic, It, N, C/S | F, It, N, C, S |
- Monitoring and evaluating CP: Fw, Ic, It, C/S | F, It, N, C, S |
- Documenting CP: Ic, It | F, It, C, S |

**Knowledge of theoretical issues:**
- Planning theories: Fw, Ic, It | G, It, N, C, S |
- Communication theories: Ic, It | F, N, C, S |
- Organisational theories: It | F, G, It, C, S |
- Theories of democracy: It | It, N, C, S |
- Other theories: - | - |
A few additional topics and issues are identified in some of the studies. The most important are the following:

<table>
<thead>
<tr>
<th>Additional topics and issues</th>
<th>Core Skills Analysis</th>
<th>VET Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the teachers’, educators’ and planners’ overall understanding of the issues and concepts of CP</td>
<td>F</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>Enhance the teachers’, educators’ and planners’ general interest in CP (“more information on the real benefits of collaborative planning; examples of successful participation, etc.”).</td>
<td>F</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>General advice on “how to teach collaborative planning”</td>
<td>F, It, N, C, S</td>
<td></td>
</tr>
<tr>
<td>Explanation of the key terms and concepts in non-technical language</td>
<td>F, It, C, S</td>
<td></td>
</tr>
<tr>
<td>Interactive assessment of as-built maps, evaluation maps and planning maps</td>
<td>G</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>Pamphlets/brochures and information desks</td>
<td>G</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>Visualising of ideas, plans, concepts by association-pictures, 3D-presentations</td>
<td>G</td>
<td>F, N, C, S</td>
</tr>
<tr>
<td>Interactive methods of project presentation</td>
<td>G</td>
<td>F, G, It, N, C, S</td>
</tr>
<tr>
<td>Tools for analysing objectives of forest owners</td>
<td>F</td>
<td>F, N, C, S</td>
</tr>
<tr>
<td>Media co-operation in general</td>
<td>C/S</td>
<td>F, C, S</td>
</tr>
<tr>
<td>Avoidance of unrealistic expectations among the participants on their possibilities to influence the plans and decisions</td>
<td>F</td>
<td>F, It, N, C, S</td>
</tr>
<tr>
<td>Instructions for use of communication techniques in a communication strategy</td>
<td>G, N, F, It</td>
<td></td>
</tr>
<tr>
<td>Use of simulated case studies in education</td>
<td>G, N, S</td>
<td></td>
</tr>
<tr>
<td>Use of real life case studies in education</td>
<td>G, G, N, S</td>
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</tr>
<tr>
<td>International exchange of information and expertise through a website, workshops, seminars (with certificates for teachers)</td>
<td>C</td>
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<tr>
<td>Exchange of experience on collaborative planning teaching with professionals from other disciplines, e.g. business, management, marketing, sociology, psychology, etc.</td>
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</tbody>
</table>

Based on the results and recommendations of the VETA and CSA studies and the CoPack planning sessions held in the EnTraCoP partner meetings in Eberswalde (3-5 April 2006) and Larenstein (26-28 June 2006), the following components and subjects are identified as of a high priority in the CoPack:

1. **Introduction to collaborative planning**
   - Basics of theories, concepts, terms and planners’ ethics of collaborative planning
   - Legal and institutional requirements for collaborative planning (relating to the selected focus sectors in each EnTraCoP partner country)
   - Assessment of needs, pros and cons (“costs and benefits”) of collaborative planning

2. **Designing collaborative planning curricula and programmes**
   - Designing basic, advanced and professional level competencies (examples of CP training curricula and recommended CoPack modules for each level)
   - Designing further training programmes (examples of different training programmes and recommended CoPack modules)
• Examples of training approaches
• Analysis and development of personal collaborative planning skills among planners

3. Preparation and initiation of collaborative planning processes
• Preparation and coaching of planner teams for collaborative planning
• Preparation of collaboration plans, including:
  • defining the objectives of collaboration
  • defining the required extent of collaboration and identifying stakeholders
  • selecting appropriate methods and techniques for collaboration
  • preparation of the work plan, budget, etc.
• Participation of special groups
• Informing, motivating and instructing participants in the initiation of collaborative planning

4. Collaborative planning methods and techniques
• Planning exhibitions and displays
• Media co-operation, including TV, radio and newspapers
• Conducting surveys with various techniques (e.g. questionnaires and interviews)
• Personal communication skills and presentation techniques
• Organising, moderating, and facilitating public meetings
• Group working and creativity techniques: instructing, managing and facilitating working groups and utilising effective/creative group working methods
• Organising site visits and field trips to the public
• Web-based collaborative planning methods (interactive websites, chats, online forums, e-voting, etc.)
• Analysing and managing conflicts between interest groups (organising and facilitating negotiations and mediating disputes)

5. Information management in collaborative planning
• Systematic methods for comparing planning alternatives
• Computer-supported decision-making methods
• Geographic information systems (GIS) and maps in collaborative planning
• Documenting/reporting collaborative planning processes and results

6. Evaluation and utilisation of collaborative planning experiences
• Evaluation criteria and methods
• Dissemination of lessons learned
7 Plans for the CoPack

Based on the results of the studies and the planning meetings of the EnTraCoP partners, the following has been proposed for the Trainers’ support material package, CoPack, to be produced:

The principal objective of the CoPack is to enhance the development of vocational education and training in collaborative planning of natural resources and environmental management. The main purpose of the CoPack is to improve the knowledge, skills and training tools of natural resources and environmental planning and management trainers by providing them with:

- general advice and guidance for training on collaborative planning with a systematic framework;
- a set of practical support material which trainers can use in designing and implementing training in important skills and methods of collaborative planning.

The point of departure is that collaborative methods may constitute a coherent planning process or they can be applied separately, depending on the situation and the abilities and needs of the planning organisations.

The CoPack is planned to be a web-based trainers’ support material package, with downloadable materials, to be published in the EnTraCoP website and as a CD-ROM. It may also be published in a hardcopy form (folder), as applicable. The material will be organised into user-friendly stand-alone units that can be flexibly adapted to training modules of varying depth and length.

The support materials to be linked to each subject may consist of different types of materials and components, as applicable, for example:

- Introduction to the subject (what is it, why is it important, subject aims/learning objectives, learning outcomes and general description of the support material)
- General advice and guidance for the design and implementation of training in each subject (appropriate teaching/learning methodologies, time, facility, material and equipment requirements, etc.)
- Presentation material (e.g. illustrative slide presentation/s with photographs, diagrams, charts, etc.)
- Video clips
- Checklists and models (examples of materials that can be used in collaborative planning)
- Teacher’s notes and materials for lectures, exercises, simulation games, role plays, etc.
- Handouts for students, such as exercise tasks, brief texts, articles, case studies, best practice examples, lessons learned, etc.
- Material needed for evaluating the training (and evaluating the use of particular collaborative methods/techniques, where applicable)
- Material for assessment (tests/examinations).
- References and/or links to relevant training courses, literature, internet solutions, software and other available materials.

A schematic presentation of the proposed structure of the CoPack is given in the Annex 1.

A few draft CoPack modules (Theories and concepts, and Group work) were demonstrated and discussed in the EnTraCoP International Seminar in Helsinki on 25-26 September 2006. The draft CoPack will be tested in eight testing courses: three courses in Finland and one course in each of the other project partner countries. The test courses include three courses for students in vocational degree education and five further training courses for professional planners.

The CoPack will be prepared in English and translated into the other main languages of the partner countries (Czech, Dutch, Finnish, German and Slovak) in order to ensure wide usefulness of the material.

The final version of the CoPack will be advertised and disseminated in the EnTraCoP website and six national dissemination seminars (one in each partner country), through the extended national and international networks of the project partners and through the internet. The CD-ROM versions and hardcopies will be sold at a price which covers the copying costs. In addition, articles will be written and submitted to relevant professional publications.
Annex 1. Proposed structure of the CoPack

<table>
<thead>
<tr>
<th>COMPONENTS AND SUBJECTS</th>
<th>Introduction to collaborative planning</th>
<th>Designing CP training curricula &amp; programmes</th>
<th>Preparation and initiation of collaborative planning</th>
<th>Collaborative planning methods and techniques</th>
<th>Information management in collaborative planning</th>
<th>Evaluation and dissemination of experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glossary</td>
<td>Examples of basic, advanced and professional level competencies</td>
<td>Preparation and coaching of the planner team for CP</td>
<td>Exhibitions and displays</td>
<td>Methods for comparing alternatives</td>
<td>Evaluation criteria and methods</td>
<td>Disseminating experiences and lessons learned</td>
</tr>
<tr>
<td>Theories and concepts</td>
<td>Examples of further training programmes</td>
<td>Collaboration plan</td>
<td>Surveys</td>
<td>Computer-supported decision-making methods</td>
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</tr>
<tr>
<td>Planners' ethics in CP</td>
<td>Examples of training approaches</td>
<td>Participation of special groups</td>
<td>Media co-operation</td>
<td>GIS and maps in CP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legal and institutional requirements for CP</td>
<td>Analysis and development of personal CP skills among planners</td>
<td>Informing, motivating &amp; instructing participants</td>
<td>Making presentations</td>
<td>Documenting and reporting CP</td>
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<tr>
<td>Pros and cons of CP</td>
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<td>Public meetings</td>
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<td>Group working</td>
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<td>Site visits</td>
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<td>Web-based methods</td>
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<td>Conflict management</td>
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</tr>
</tbody>
</table>

**ANNEX 1/1**
Annex 2. Literature and materials

Literature lists of the Czech and Slovak CSA:
Sítte, C. 1995. Stavba měst podle uměleckých zásad, Nakladatelství ARCH.
Rosenan, H. 1959. The Ideal City in its Architectural Evolution.
Cherry, G.E. Infl uences on the Development of Town Planning in Britain; in Contemporary history.
Rosenan, H. 1959. The Ideal City in its Architectural Evolution.

In English

Alexander, Ch.1968. Major changes in environmental form required by social and psychological de- mands.
Cherry, G.E. Influences on the Development of Town Planning in Britain; in Contemporary history.
Rosenan, H. 1959. The Ideal City in its Architectural Evolution.

Some of the tips as suggested by the Czech VETA respondents:
Materials produced by Ecological Centre Toulcuv dvůr (www.toulcuvdvur.cz), which is organisation providing ecological education for pre-school children
Interesting website of Dr. Johaniisova: http://home.pf.jcu.cz/~nadiaj/soez-syl.php (syllabus of a social economy course, and proceedings from Krtiny summer school workshop)

References from the Dutch CSA:
Commisie Evaluatie Staatsbosbeheer (2003); Vooruit op eigen benen, evaluatie van de verzelfstandiging van Staatsbosbeheer 1998-2003;
Probos (2005); Kerngegevens Bos en Hout in Nederland; Stichting Probos, Wageningen.
Reports of Finnish Environment Institute 26 | 2007


Staatsbosbeheer (2005); Offerte 2005; Staatsbosbeheer, Driebergen.
Staatsbosbeheer (2004), Jaarverslag Staatsbosbeheer 2004; Driebergen

Internet references:
www.sbb.nl
www.natuurmonumenten.nl
www.grondbezit.nl
www.probos.nl

References from the Dutch VETA:
Books:
Byttebier, I, 2000, Creativiteit? Hoe Zo!”, , COCD, Antwerp, (Basic book on creativity, methods to get more ideas and methods to converge to the best idea: www.cocd.be
Pröpper, I. en D. Steenbeek (2001), De aanpak van interactief beleid: elke situatie is anders, Coutinho, Bussum.

Software aids:
MindMapping to make a good project start: e.g. www.novamind.com

Negotiations around GIS based maps: Maptalk and MapTable: many examples in Dutch, but translatable in English. MAPTALK™ is the geographic conference software for interactive spatial planning. MAPTALK™ is developed by WSL and the Center of Geo Information of Alterra. Info at www.maptalk.nl or www.mapsup.nl

Versnellingskamer Translated into: Group Decision Room is a electronic conferencing environment to speed up any decision with very flexible software to promote consensus on all are equal basis. Information at www.Grontmij.nl or http://www.twynstragudde.nl/tg.htm?id=188

References from the Finnish CSA:


References from the Finnish VETA:


References from the German CSA:


References from the German VETA:


Websites
http://www.leo.org [12.05.2006]
http://www.degede.de/ [12.05.2006]
University Rostock: http://www.auf.uni-rostock.de/aoe/studium/ [12.05.2006]
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University of Applied Sciences Hildesheim: http://www.fh-hildesheim.de/hawk/fk_ressourcen/default.php [12.05.2006]
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University of Applied Sciences Dresden: http://www.htw-dresden.de/pillnitz/ [12.05.2006]

List of publications in the internet
http://www.all-in-one-spirit.de/publikationen/buecher.htm [12.05.2006]
http://www.civic-s.de/ [12.05.2006]
Annex 3. Questionnaire used as a basis for the csa surveys

I. Basic information on the respondent and her/his organisation

1.1. Profession/title: ________________________________

1.2. Professional education (subject and degree): ________________________________

1.3. Position in the organisation: ________________________________

1.4. Professional field or sector of the organisation: ________________________________

1.5. Type of organisation of the employer:
- Central government authority
- Regional/provincial authority
- Local government/municipal authority
- Private company
- Non-governmental/citizen organisation
- Other, please specify: ________________________________

II. Characteristics of your work

2.1. Please, give a brief description of your work (responsibilities, tasks, key elements, role of natural resources and/or environmental planning in your work, etc.):

2.2. With regard to your work relating to natural resources and/or environmental planning, please, indicate which of the following tasks have been or are likely to be a significant part of that work (please, tick the appropriate check-boxes)?

- Managing or supervising planning processes
- Planning how public participation is organised in planning processes managed by your organisation
- Informing the public about the forthcoming planning processes or events
- Informing the public about plans (being) prepared or implemented by your organisation
- Collecting and receiving information and views from the public for plans (being) prepared or implemented by your organisation
- Facilitating public meetings (chairing, leading working groups, etc.)
- Participating in discussions with the public in planning processes
- Facilitating negotiations or mediating conflicts between interest groups
- Documenting/reporting processes and results of public participation
- Evaluating collaborative planning
- Developing collaborative planning practices for your organisation
- Providing training for professionals or students in collaborative planning
- Other tasks of collaborative planning, please specify: ________________________________

III. Utilisation of collaborative planning methods/techniques and related training needs

Please, indicate to what extent you have used or are likely to use the following collaborative planning methods/techniques, and how you see your needs for training to use them (please, select the appropriate options in the drop-down fields):

<table>
<thead>
<tr>
<th>Collaborative methods/techniques</th>
<th>Previous use</th>
<th>Future use</th>
<th>Training needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letters to the public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspaper announcements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newsletters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV or radio programmes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhibitions in public places</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site visits or field trips with the public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questionnaire surveys</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Inviting written comments from the public
Telephone hotlines
Regional offices (drop-in centres)
Public meetings, hearings, seminars, workshops
Working groups
Steering committees
Discussions facilitated by a neutral, professional facilitator
Negotiations between interest groups (without mediation)
Mediated negotiations
E-mail discussion groups
Interactive websites
Children's participation in planning
Methods for systematic comparison of project alternatives
Computer-supported decision-making methods
Geographic Information Systems (GIS) in illustrating information on projects
Other methods/techniques, please specify:

| 4. Your needs for training in other issues and skills of collaborative planning |
|---|---|---|---|
| Issues/skills | Previous need for skills | Future need for skills | Further training needs |
| Legal requirements for collaborative planning | | | |
| Requirements, norms and guidelines of your organisation for collaborative planning | | | |
| Assessing “costs and benefits” (pros and cons) of collaborative planning | | | |
| Establishing and preparing your team for collaborative planning | | | |
| Designing communication strategies | | | |
| Analysis of actors in a communication strategy | | | |
| Preparing plans for collaborative planning | | | |
| Motivating the public in the initial stages of collaborative planning | | | |
| Chairing of meetings | | | |
| Group/Team working skills | | | |
| Communications skills | | | |
| Negotiation and conflict management skills | | | |
| Identifying issues of disagreement (conflict mapping, etc.) | | | |
### 5. Challenges of collaborative planning

Please, give a brief description of the most important challenges you have faced in collaborative planning:

### 6. Your previous training and providers of training on collaborative planning

Please, describe what kind of training related to collaborative planning has been provided to you or your colleagues and by which organisations and service providers, including the possible internal training unit of your organisation:

---

<table>
<thead>
<tr>
<th>Monitoring and evaluating collaborative planning processes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Documenting collaborative planning processes and results (progress, views of the public, choices made, agreements/disagreements,…)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning theories (planning ideologies and approaches)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication theories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisational theories (organisational structures appropriate for collaborative planning)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theories of democracy (evolving ideas of democracy)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other theories, please specify:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other skills related to collaborative planning, please specify:</td>
<td></td>
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<td>-</td>
<td></td>
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</tr>
</tbody>
</table>
Annex 4. Questions used as a basis for the csa interviews

A. The guiding and management principles that should be used to progress the interview process are:

1. At the start of the interview:

Provide some background information on the EnTraCoP project and the research / data gathering context.

Ensure that the interviewee is comfortable with the interview and explain that anonymity will be guaranteed. (The use of a tape recorder, if possible, will help with the analysis and reduces the need for note taking.)

2. During the Interview:

Maintain focus (repeat questions if/when necessary).

Avoid leading the interview by using collaborative planning type terminology.


3. At the end of interview:

Allow interviewees to ask questions.

Provide some feedback where appropriate.

B. Initial question that might be asked:

- N..........., can you give me an example of a ‘collaborative planning’ situation that you were actively involved in and you felt that you managed the CP situation to a successful / unsuccessful outcome.

Rationale: This question is designed to open the formal interview while imposing the minimum amount of guidance to the interviewee.

Typical questions that might be used to progress the interview are:

- Can you tell me about the background to the CP situation, i.e. how did the situation come about? (context, need and requirements for CP)
- Who were the main people involved in the situation (collaborative planning situation)?
- What exactly were you trying to achieve? What were your objectives for CP? (focus on the task)
- How did you go about dealing with the CP situation / issue, for example, how did you plan and prepare yourself and/or your team for the task; how did you interact with the public; what kind of methods/techniques did you use in the interaction with the public?
- How did you document the process and results of the process?
- What kind of challenges did you face during the planning process in interacting with the public and/or various authorities and experts? What was easy / difficult?
- Did you/your team evaluate the successfulness of the process? How?
- Why do you think that there was a satisfactory / unsatisfactory outcome?
- What factors do you feel were important (critical) to the successful or unsatisfactory outcome to the CP situation?
- If that CP situation were to arise again, what would you do differently or how would you approach it now?

At the end of the interview you might also ask the interviewee:

- Based on your experiences, what do you think are the most important competencies (skills, knowledge and attitudes) that are required for good collaborative planning? (The purpose of this question is to gather some themes / topics that might be also included in any training / education syllabus.)
- How do you see the need/role for further training in achieving good collaborative planning?
- What kind of training related to collaborative planning has been provided to you or your colleagues and by which organisations and service providers, including the possible internal training unit of your organisation?
Annex 5. Questionnaire used as a basis for the veta surveys

I. Basic information on the respondent and her/his organisation

1.1. Profession/title: ________________________________

1.2. Professional education (subject and degree): ________________________________

1.3. Position in the organisation: ________________________________

1.4. Professional field or sector of the organisation: ________________________________

1.5. Type of educational organisation:
   - Vocational courses (hands-on training)
   - Intermediate level education
   - BSc. level education
   - MSc. Level education
   - Adult education (part time degree courses)
   - Professional training courses/ specialized training
   - Other, please specify: ________________________________

II. The role of collaborative planning in your educational work

2.1. Please, give a brief description of your work (responsibilities, tasks, key elements, role of natural resources and/or environmental planning in your work, etc.):

2.2. With regard to your work in education or training on collaborative planning relating to natural resources and/or environmental planning, please, indicate which of the following subjects have been or are likely to be a significant part of future work for students:
   - Managing or supervising planning processes
   - Planning how public participation is organised in planning processes managed by your organisation
   - Informing the public about the forthcoming planning processes or events
   - Informing the public about plans (being) prepared or implemented by your organisation
   - Collecting and receiving information and views from the public for plans (being) prepared or implemented by your organisation
   - Facilitating public meetings (chairing, leading working groups, etc.)
   - Participating in discussions with the public in planning processes
   - Facilitating negotiations or mediating conflicts between interest groups
   - Documenting/reporting processes and results of public participation
   - Evaluating collaborative planning
   - Developing collaborative planning practices for your organisation
   - Providing training for professionals or students in collaborative planning
   - Other tasks of collaborative planning, please specify: ________________________________

III. Education and training on collaborative planning methods/techniques

Please, indicate if you are currently teaching in or are likely to use in the future the following collaborative methods/techniques in education, and how you see your needs for training yourself in collaborative planning methods/techniques:

<table>
<thead>
<tr>
<th>Theories/Methods/Techniques</th>
<th>Teaching currently</th>
<th>Teaching in the future</th>
<th>Training need for yourself</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education on the basic principles / theories on interactive planning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education on the basic principles / theories on communication</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructions for communication strategy design</td>
<td></td>
<td></td>
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<tr>
<td>Instructions for the analysis of actors in a communication strategy</td>
<td></td>
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<tr>
<td>Instructions for use of communication techniques in a communication strategy</td>
<td></td>
<td></td>
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<tr>
<td>Instructions chairing a meeting</td>
<td></td>
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<tr>
<td>Instructions for public meetings, hearings, seminars, workshops</td>
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<tr>
<td>Instructions for letters to the public</td>
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<td>Instructions for newspaper announcements</td>
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<tr>
<td>Instructions for newsletters</td>
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<tr>
<td>Instructions for TV or radio programmes</td>
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<tr>
<td>Instructions for exhibitions in public places</td>
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<tr>
<td>Instructions for site visits or field trips with the public</td>
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<tr>
<td>Instructions for questionnaire surveys</td>
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<tr>
<td>Instructions for interviews</td>
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<tr>
<td>Instructions for inviting written comments from the public</td>
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<tr>
<td>Instructions for setting up telephone hotlines</td>
<td></td>
<td></td>
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<tr>
<td>Instructions for organisation and management of regional offices (drop-in centres)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Instructions for public meetings, hearings, seminars, workshops</td>
<td></td>
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<tr>
<td>Instructions for the use of working groups</td>
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<tr>
<td>Instructions for the use of steering committees</td>
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<tr>
<td>Instructions for the use of discussions facilitated by a neutral, professional facilitator</td>
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<tr>
<td>Instructions for the use of negotiations between interest groups (without mediation)</td>
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<tr>
<td>Instructions for the use of mediated negotiations</td>
<td></td>
<td></td>
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<tr>
<td>Instructions for the use of e-mail discussion groups</td>
<td></td>
<td></td>
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<tr>
<td>Instructions for the use of interactive websites</td>
<td></td>
<td></td>
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<tr>
<td>Instructions for the use of children’s participation in planning</td>
<td></td>
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<tr>
<td>Instructions for methods for systematic comparison of project alternatives</td>
<td></td>
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<tr>
<td>Instructions for the use of computer-supported decision-making methods</td>
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<tr>
<td>Instructions for the use of Geographic Information Systems (GIS) in illustrating information on projects</td>
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<tr>
<td>Use of simulated case studies in education:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Use of real life case studies in education:</td>
<td></td>
<td></td>
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<tr>
<td>Instructions on monitoring interactive processes</td>
<td></td>
<td></td>
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<tr>
<td>Other methods/techniques, please specify:</td>
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</tr>
</tbody>
</table>
4. Your needs for training in other skills of collaborative planning

Please, indicate your needs for further training in the following issues:

<table>
<thead>
<tr>
<th>Issues</th>
<th>Training need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal requirements for collaborative planning</td>
<td></td>
</tr>
<tr>
<td>Requirements, norms and guidelines of professional organisations for collaborative planning</td>
<td></td>
</tr>
<tr>
<td>Assessing &quot;costs and benefits&quot; (pros and cons) of collaborative planning</td>
<td></td>
</tr>
<tr>
<td>Establishing and preparing teams for collaborative planning</td>
<td></td>
</tr>
<tr>
<td>Preparing plans for collaborative planning</td>
<td></td>
</tr>
<tr>
<td>Motivating the public in the initial stages of collaborative planning</td>
<td></td>
</tr>
<tr>
<td>Group (team) working skills</td>
<td></td>
</tr>
<tr>
<td>Communications skills</td>
<td></td>
</tr>
<tr>
<td>Negotiation and conflict management skills</td>
<td></td>
</tr>
<tr>
<td>Identifying issues of disagreement (conflict mapping, etc.)</td>
<td></td>
</tr>
<tr>
<td>Monitoring and evaluating collaborative planning processes</td>
<td></td>
</tr>
<tr>
<td>Documenting collaborative planning processes and results (progress, views of the public, choices made, agreements/disagreements,…)</td>
<td></td>
</tr>
<tr>
<td>Planning theories (planning ideologies and approaches)</td>
<td></td>
</tr>
<tr>
<td>Organisational theories (organisational structures appropriate for collaborative planning)</td>
<td></td>
</tr>
<tr>
<td>Theories of democracy (evolving ideas of democracy)</td>
<td></td>
</tr>
<tr>
<td>Other theories, please specify:</td>
<td></td>
</tr>
<tr>
<td>Other skills related to collaborative planning, please specify:</td>
<td></td>
</tr>
</tbody>
</table>

5. Challenges of collaborative planning

Please, give a brief description of the most important challenges you have faced in collaborative planning education and training:

6. Providers of education and training on collaborative planning

Please, identify (potential) organisers/providers of training on collaborative planning most suitable for your needs:
Annex 6. Questions used as a basis for the veta interviews

<table>
<thead>
<tr>
<th>B</th>
<th>Question</th>
<th>Answer (qualitative and quantitative answers are both welcome)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name and address of educator and institution</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Estimated number of students in NREP</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Educational level</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>NREP-fields covered</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>What educational philosophy is used in the class room (teacher-centred education, teacher as facilitator, coach and assessor)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Courses identified, dealing with collaborative planning you are participating in</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Components of collaborative planning components addressed in lessons (e.g. Education in values and interests of various stakeholders by means of multi-professional team work of experts, inter-agency co-operation, public participation, and settlement of controversies (concerning e.g. land-use alternatives) through negotiation and mediation) (See list Web-questionnaire)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Qualification system present and translation into curriculum</td>
<td>(if possible describe collaborative planning components in terms of knowledge, attitude and skills)</td>
</tr>
<tr>
<td>9</td>
<td>Competencies system present and translation into curriculum (See example in Annex 6)</td>
<td>(if possible describe collaborative planning components in terms of knowledge, attitude and skills)</td>
</tr>
<tr>
<td>10</td>
<td>Estimated time spent on collaborative planning in total of curriculum</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Identifiable lesson plans, case studies, teaching aids on collaborative planning used</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Contacts of interviewee with professional field</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>General remarks of interviewee</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>General impression of interviewer on education offered</td>
<td></td>
</tr>
</tbody>
</table>
| 15 | Estimation of collaborative planning quality: “Is there a gap?” | • well addressed in curriculum,  
• medium addressed in curriculum,  
• not addressed in curriculum |
| 16 | Estimation of potential interest in EnTraCop seminars and findings and willingness to adopt EnTra-Cop results in curriculum | |
Part II

Papers presented at EnTraCoP seminar

September 25.-26.2006 in Helsinki
Doing the Real Thing in Collaborative Planning Education

(BSc. Level) - CP learning in the Netherlands

Daan van der Linde, Ir. (MSc.)
Van Hall Larenstein University of Professional Education,
e-mail: daan.vanderlinde@wur.nl

Abstract

In collaborative planning education the most exciting thing is to let students and teachers participate in real-life interactive processes. It means that students will act on the level of an information provider or even stake-holder. This poses a great responsibility on the educational institute involved, because student work will be used in real planning preparations and in real decision-making. In this paper the possibilities are presented from several examples in The Netherlands and the pros and cons are clarified. This presentation focuses on BSc. level education in the field of forestry, nature conservation, water management and rural development. In the workshop I hope to discuss this ideal in collaborative planning education with the audience.

CP education in brief

In natural resources education NRE there is a growing need for students to get familiar with Collaborative planning principles as their future work environment is changing. Blueprint planning is becoming history and many spatial plans are subject to a collaborative process with a wide range of stakeholders. In this article I will try to show the efforts that are undertaken in Dutch education to involve students during their studies in real life interactive processes. In the workshop that I prepared I hope to discuss this approach with other educators. Let’s try to discover when, where and how you can prepare students for their later participation in real life interactive processes.

Aims for CP education

In Dutch NRE education we hope to prepare students for two possible roles in an interactive planning process:

1. The specialist (forestry, spatial planning, hydrologist, etc) who is serving the process with the right information at the right time.
2. The assistant process coordinator, who is planning and guiding the interactive process.

Experience with a question put to interactive planning students about these two roles, most students choose to be the specialist (80%) and a minority sees itself fit for the process coordinators job. (20%) It must be realised that the latter job is mostly unobtainable for a young graduate. These students can start in an assistant process coordinators job. The students who choose for this advanced job perspective are mostly very socially aware and eager students with a lot of feeling for organising meetings, addressing the public and with oversight for social processes.
Educational background

Action learning

In Van Hall Larenstein University of Professional Education we started a new approach in learning about rural development. This approach is called Action learning for rural development. The aim of this approach is to involve students directly in real rural processes. We discovered that for this approach a new form of practical learning is needed that goes further than the traditional 6 months practical period in an institution outside school. We came up with the concept of a “Rural workplace” (Plattelandswerkplaats) in a physical, but also virtual form. The physical form is a real laboratory located in a vacated church building in a rural setting. (Annerveensche kanaal) This workplace is a building with workspaces for students, meeting rooms, hotel facilities, transport facilities and most important: a dedicated staff of coordinators and specialists who guide the students in doing real work for local stakeholder groups on a long term basis. The virtual form consists of a coordinator, a team of specialists and a real rural casestudy with local actor’s involvement. Subjects that are studied are for instance a question from the village of Annerveensche kanaal to help the citizens with a Village perspective on future developments for the next 20 years. For this study villagers were interviewed, workshops for Mind mapping (a map of places with a special personal meaning) for the village were organised and prepared and scenario-studies were evaluated into real spatial development choices for the future. This interactive process is also done in a second village Gasselternijveen and more interested parties are identified. We call this approach action learning because students are involved in rural transformation processes in which both students, teachers, professionals, government officials and stakeholders are learning on the job, in an intensive learning environment.

Cone of Learning

I always like to look at the picture of the Cone of learning from Edgar Dale (ref@)), in which the retention percentage of experiences is sorted from different sorts of experiences. In this famous picture you can see that “We tend to remember 90%” from “Doing the real thing”. I am convinced that this counts for the student involvement in real life interactive processes: they will experience the difficulty of getting people on one line in decisions on spatial planning, the excitement in organising a workshop for real inhabitants, the development of all sorts of communicative skills. I would like to involve this picture in my story and in my workshop as reminder of the way we learn as a student, but also as an educator or specialist.
Elements of a CP process fit for the Real Thing

In a Dutch textbook on interactive planning, there is a list of 10 aims for an interactive planning process.

1. Enriching the plan with the input of stakeholders: better alternatives, better local information, and better prerequisites.
2. Realisation of a higher planning ambition: more, better and faster (spatial) policy development by better bundling of ideas, time and money.
3. Improvement of the process by improving the communication and involvement of parties involved.
4. Improvement of cooperation with external parties: better cooperation as a side product.
5. Improvement of local support for the plan and also support for the realisation of the plan.
6. Speeding up of the decision process.
7. Increasing the problem solving capabilities from society: stakeholders and local organisations take responsibility for their own problems and do not wait for governmental involvement first.
8. Improving participation and democracy: direct involvement from citizens or local representatives in local issues improves decisions.
9. Improvement of the internal organisation: in some governments the internal organisation is improved to deal with complex interactive processes with the public. This internal improvement can be seen as a side product, but sometimes it is used to force people to do their work differently and better.
10. Improvement of the image: the public office can get a better image with active interactive policy and good results.
When you involve students in an interactive process, they should always use this check-list to see what the process will be about. The choices from this list must always be very clear from the start, in order to avoid disappointments later on. When we look at the list as an overview of where we can involve students I would like to have your opinion in our Helsinki workshop. In my experiences in The Netherlands I can say that students are mostly involved in numbers 1, 2, 3 and 8. Ad 1. Students are very useful for getting specialist information on the table or helping local citizens to mobilise hidden information (interviews, mind mapping, visualisation workshops) Ad 2. Student involvement and also other specialist’s involvement (educators and scientists) can give a boost to a local decision process, just by their enthusiasm and new and fresh vision on the problem. Ad 3. Students can be used to prepare meetings for the real coordinator with impressive visualisations (even 3D), films, slide shows, Marquette’s, etc. They can also learn a lot from just dealing with the public in a workshop or meeting and improve on their communicative skills. They can be involved in devising invitations and evaluation and reporting. Ad 8. Students and teachers can help design an interactive process together with the official management and think on the basics of democracy and public involvement. In the Helsinki workshop I would like to invite you to share your opinion on where you would see further benefits for involving students and educators in real processes.

Examples of CP learning in practice

External projects

For many years our institute offered students a possibility to do a real job in the professional field in a group of five students for a period of 12 weeks for real money. We called this assignment ‘external project” because students were housed (if possible) on site and were involved with a real problem with a real contractor (Municipality, water board, NGO, etc) and with real stakeholders. Although some of these external projects were quite successful, many were disappointing. Disappointing in the project results or disappointing in the learning results of students. In some instances students were doing primary and preparative work for organisations like local action groups or NGO’s to make a good bottom up proposal for a project that could be offered to a local government for a democratic decision. Although some of these projects did not reach a balanced enough perfection to be successful, all the students, teachers and stakeholders agreed that they learned a lot. With the up coming of collaborative planning education we decided that we could do a better job than these external projects: 1st we decided to prepare the students better in their knowledge in interactive planning and democratic processes in local government. 2nd We decided to strengthen the bond with local stakeholder groups in a more long term relation, because the collaborative processes took much more time than 12 weeks. 3rd We prepared facilities for students to be on site and do their work closely together with the local actors. (Housing, bicycles, PC’s, information, etc.) 4th We tried to get a safety belt around the project in case things went wrong: professionals to back-up students and teachers work to guarantee certain professionalism in the results.

Rural Development Workplace Annerveensche kanaal, province of Drenthe

This concept was named the rural development workplace, because many of these projects were dealing with multi-stakeholder integral problems from the rural areas.
With the help of a special lectorate rural development this concept was deliberated into a full service unit for rural development projects in the North of the Netherlands. The concept even won a Dutch innovation price for educational experiments in 2006.

To give you examples of subjects that were studied by students and teachers:
1st. Performing a village scan on the physical and mental qualities of the environment for local inhabitants in Annerveensche kanaal. (Mental map) Inhabitants were asked to photograph and name personal local qualities and special places of interest in their lives and put them on a map in an interactive session guided by students. Students perfected all these ideas into a so called Mental Map. This map was used to name and prioritize desires of the village for spatial planning improvements in the village: e.g. were to build and where not to build some new houses, where to make improvements in traffic facilities, where to honour special places for the villagers into a nice place to be, search for new business or tourist opportunities.

2nd. Students are asked to explore the possibilities of the development of a new waterway in a small village called Zuidlaarderveen. This idea originates from a village scan, but it was more or less a wild suggestion. The students will perform a small search, together with the villagers into the physical, spatial, economic and social consequences and possibilities of this new waterway. They will present several alternatives and leave the decision to the villagers. When finished the villagers will formulate a proposal for a local government decision.

“BRUG Bridge to the future” project Zuidelijk Westerkwartier, Province of Groningen (Quoted and adopted from source 2)

The basic aims of the project are cooperation between knowledge institutes (Wageningen University and Van Hall-Larenstein University of Professional Education) and the spreading of knowledge and continuity in the relation with a rural development area in the Netherlands.

The number of people at the start of the project is relatively small: three scientific staff, eight students from different disciplines and one project leader.

The project has a time structure that anticipates both on the academic year and the developments in the area. There is an ongoing interaction, which is being organised and coordinated. For this two “anchor points are needed” that form the link between rural development in practice and rural development issues from a more scientific

Figure 2. Structure of the Bridge-project BRUG (Source Jifke Sol & Daan van der Linde, ALARPM, 2006)
approach. These points can be found in leg 1. and leg 2. In leg 1. we have the knowledge institutes, with A) a project team of 3-6 teachers, from different disciplines who understand the process of both rural development, the process of action research and they know and how to coach the students in formulating scientific research questions in this context. Also these teachers are willing to cooperate and to explore the latest developments in research and action. The students (B) in leg 1 are the learning actors, conducting research in the area. They are willing to explore the boundaries of their own knowledge and to learn in the field. They are interested and motivated. They are in at least their third year of study, starting the thesis period.

Leg 2. is the rural area. The working group (A) consists of water- and nature reserve organisations, agricultural groups with nature and tourism activities, culture- and history oriented groups and administrative representation from the province and from four municipalities in the area. Besides these there are particular members, such as inhabitants from the area. They participate on an irregular basis, depending on the issues at stake. The organisational structure is network-oriented and informal. There is tendency to grow towards a more professional project-oriented structure in order to be an even better vehicle for rural transformation. Theme’s B) that play an important role in the area are landscape and nature conservation, the production and utilisation of biomass, water conservation, the development of a regional identity and tourism and governance issues. The central question is: How can we preserve the landscape, how can we give farmers continuity, and how can we develop a vital livelihood? These questions are basic, multisectoral and integral. For instance: the landscape conservation by farmers (by way of maintaining the typical wooded fences) produces a lot of biomass material which can be burnt for local energy. The landscape is historically interesting and parcelated on a small scale, meaning intensive work for present day farmers and nature conservers. In the meanwhile this type of landscape gives a particular identity of the Westerwartier area and attracts tourists. All this together gives an impulse to regional development. The main difference between the BRUG-project and the Rural Development Workplace is that the BRUG-project has a long lasting relationship (now 3 years) with a rural representative body in which this body has evolved from a group of initiative takers to a real representative organisation with a respected position in rural development decisions for the region. You could say that the project helped this group of local representatives with empowerment. The methodology used can be described as action research. In the Rural Development Workplace there is a more service oriented approach (short term) for villages and local governments. In some instances these villages have empowered themselves to get their wishes on the local government agenda. The long term aims is to build a name as a trustworthy service organisation for anybody who needs advise in rural matters.

Lessons learned from these collaborative process projects:

Expectation management

All parties involved must express and discuss beforehand what they expect from the process. It is disappointing afterwards if expectations are not met. Involving students and teachers in real life stakeholder issues can be enriching for all parties (young persons opinions can be refreshing for an old debate), but also pose a thread. Unexpected outcomes could hinder a process later on.
Good preparation

- A good selection of projects beforehand. If too many risky decisions are involved (e.g., financial positions of individuals, old disputes between parties, too many sensitivities between parties) it is not wise to involve students. In some instances it is also clear that a project can be handled better by a professional consultancy firm, because it would be false unfair to disturb the advisory market with free or cheap student work with uncertain results.
- A good preparation of local government: if local government is still in favour of top down approach, than you should not provoke them with bottom up decisions from villagers. If local government or local civil servants are willing to listen to bottom up results (see number aims 1 and 2 from Elements of a CP process fit for the Real Thing), than you can start.
- Expert advise as a back-up and professionalisation: there must also be some sort of professional expertise brought in the process on the research methods / action research methodology (source 4) to get better and quicker results. The organisation or institute as a whole must learn continue to learn from these processes to get better and better at it. (See monitoring) Experts from scientific institutes as a back-up mechanism can also get some trustworthiness into the process. In return these scientists get a lot of experimental data on interactive processes. In the rural development workplace we use a lot of experts on cultural history, spatial planning procedures and process management to help teachers and students to get a better start.

Good facilities

- Extra time for teachers to get involved: being with students, citizen meetings, travelling long distances from school is very time consuming. In Van Hall Larenstein we try to fund these extra work hours with rural development subsidies.
- A suitable and inspiring place for students to work and live: students have many side jobs and a rich social life these days. That makes it a little difficult for students to be expected to spend many nights from home in some rural area. For this reason the facilities must be attractive enough and the data gathering is best concentrated in two or three day periods away from home. Most interactive sessions will be in the evening hours, so for this you will need a local place to stay.
- A coordination person who will tie people together: you really need a person who can do the preparation job in situ, talk to a lot of officials, take care of the facilities, look after continuity, etc. In the rural workplace we are happy to have a motivated coordination person, who is willing to do tasks behind the scenes. This person must also be able to think into the ratio of a school organisation as well as think is terms of local government or stakeholders.

Good motivation

- Motivated students who really want to be involved into interactive processes, with an open mind for the peculiarities of people. If you have doubts with the willingness of students to really put their minds to it you should better stop at an early stage. It is impossible to convince local people to share their ideas with unmotivated foreigners to the area.
- Motivated teachers who are willing to run an extra mile if needed. (Guide the process, but do not determine the process, to give room for students to learn)
• Motivated local government and local professionals who are willing to wait for sometimes unexpected results.
• Motivated experts who are willing to spend their time with local citizens, students and teachers.

Benefits from real life involvement of students in collaborative processes

• Students get insight in interactive processes and can get inside in the pros and cons of this bottom up approach.
• Students can get very internally motivated to because they are working for real people they can not disappoint.
• Teachers leave the school building and get deeply involved and motivated into the “real world of interactive planning” they are supposed to know so well.
• Students and teachers help local citizens to make better decisions based on better “local” data.
• Students can strengthen proposals and visualize alternatives with their knowledge of presentation software and techniques (GIS, PhotoShop, Video, etc.)
• Students bring in young visions and ideas into local decision making. In The Netherlands a lot of government decisions are very biased by middle aged and elderly people. Young voters are difficult to involve in local decisions.
• Students from all over the country can enrich a plan with ideas from other regions.
• Educational institutes can learn from these experiments like the rural development work place or the BRUG Bridge to the future project and develop into a real expertise centre for rural development issues. In this way they play a significant role in developing the countryside with better information for better decisions.
• Students benefit a lot from the real life experiences they gained doing a presentation for a real audience, writing a real article in the local newspaper, doing real negotiations with parties, etc. Most students mention this in their evaluation sheets: we remember more from these experiences than from all the other subjects that we were taught (see figure 1).

Conclusions

Doing the real thing for students in collaborative planning can be successful, as long as you are serious in your efforts and motivation and you are careful with the stakes and risks for the stakeholders involved. The concept of the Rural Development Workplace or the BRUG Bridge to the future concept can be useful for other educational institutes to explore.
Literature

2. Bridge to the future: embedding action research in rural development; Lessons from an educational university pilot a in the Netherlands aimed at regional development in the province of Groningen, Jifke Sol (SOL, Wageningen), Daan van der Linde (Van Hall Larenstein University of Professional Education), Contribution to ALARPM 7th & PAR 11th World Congress, Groningen, The Netherlands, August 2006
3. De aanpak van interactief beleid: elke situatie is anders\Pröpper, I.\Steenbeek, D.\1999

Workshop questions

1. Do you think this methodology could work in your country / situation?
2. Do you see threads or other objections that you fear from this method?
An Analysis of Environmental Management Elements of the Water Framework Directive and its Implementation Components

Agnieszka Holda, Walter Leal Filho, Dörte Krahn
TuTech Innovation GmbH
Harburger Schlosstrasse 6-12
21079 Hamburg, Germany
agnieszka.holda@nithh.de

Abstract

Published in the official Journal of the European Union on 22 December 2000, the Water Framework Directive (WFD) has been developed over the past 10 years, both as a result of the concerns of European Member States on the deterioration of water systems, as well as an outcome of moving towards integrated water management systems.

The WFD is a significant document, unique in its scope and a legislative instrument which, in contrast to earlier -mostly national oriented- laws encompasses the water system as a whole. Crossing the national boundaries, the WFD addresses the water as it flows through a river basin to the sea, thus applying its provisions to inland surface waters, groundwaters, transitional (estuarine) and coastal waters. In its broad view, the sustainable water management has its focal point not only in prevention of further deterioration of waters but what is more important in the enhancement of quality and preservation of the „good status” of aquatic ecosystems. In addition, alongside water quality, the Directive introduces the sustainable water consumption approach addressing the importance of water quantity - a crucial, though often neglected, parameter when dealing with groundwater management.

The WFD is a new, complex water management tool introduced on an international basis. Its success largely depends on the use of the best available technologies, as well as sound politics, information and education. Social aspects also need to be considered and integrated in the implementation process, hence overcoming administrative and national barriers.

This paper will: 1) analyze the environmental management elements of the Water Framework Directive; 2) discuss the implementation components of the WFD; 3) introduce some suggestions which could lead towards improved river basin management and facilitate the process of WFD implementation. This paper is prepared in connection with the Interreg IIIB Baltic-Sea “Watersketch” project, which involves five Baltic countries: Germany, Denmark, Finland, Lithuania and Poland.

Keywords: Water Framework Directive, River Basin Management, Programme of Measures

1. Introduction

Known as the EU Water Framework Directive, or shortly WFD, the “Directive 2000/60/EC of the European Parliament and of the Council establishing a framework
for the Community action in the field of water policy" was adopted on 23 October 2000 (WFD, 2000).

This innovative integrated water policy aims at preserving, protecting and improving the quality of the environment. To achieve its main objective of reaching good ecological status of surface waters and of groundwater until 2015, it addresses the precautionary principle, preventive action principles and the polluter pays principle as well as the principle of dealing with environmental damage, as a priority, at the source. The Directive takes into account the available scientific and technical data together with the diverse environmental, economic and social situations in the various regions of the Community, thus suggesting adopting different specific measures and solutions adjusted to the conditions of the EU Member States, with local responsibility for an action. The Commission recognizes that the success of the Directive strongly relies on close cooperation and coherent action at all administrative levels, both national and international, as well as on information, consultation and involvement of different sectors of interest including public and users. The WFD provides a common basis to countries for a continued dialogue and for development of strategies toward further integration of protection and sustainable management of water into other Community policy areas, such as: energy, transport, agriculture, fisheries, regional policy and tourism. At the same time it states that protection of water status within river basins will have a positive economic impact, resulting in, for example, benefits from coastal fisheries. In addition, the Directive seeks to make contribution toward enabling the members of various international agreements to meet their obligations.

Altogether the WFD establishes a framework of a common integrated river basin management system for the protection of inland surface waters, transitional waters, coastal waters and groundwater. The outcome of its objectives should contribute to achieving and maintaining sustainable, balanced and equitable water use, reducing groundwater pollution, and protecting territorial and marine waters thus helping in meeting international agreements.

2. Implementation components of the WFD

The implementation of the Water Framework Directive begins with its transposition to national laws in the member States of the European Union. For the original (i.e. old) 15 Member States, the deadline was 22nd December 2003, whereas for the 10 new Member States it was the 1st May 2004. The Directive sets out clear deadlines for activities that are to be carried on by the Member States, which overall creates an ambitious timetable leading to the achievement of ‘good status’ of water (see Table 1).

Table 1. Timetable for actions to be implemented at the Member State level.

<table>
<thead>
<tr>
<th>Article</th>
<th>Activity / Issue / Action at Member State level</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.1</td>
<td>Transposition into national legislation of EU-15</td>
<td>2003</td>
</tr>
<tr>
<td></td>
<td>Transposition into national legislation of new EU Member States</td>
<td>2004 May</td>
</tr>
<tr>
<td>3.7, 24</td>
<td>Identification of River Basin Districts and Competent Authorities</td>
<td>2003</td>
</tr>
<tr>
<td>3.8</td>
<td>List of competent authorities submitted to the Commission</td>
<td>2004 June</td>
</tr>
<tr>
<td>5.1-2</td>
<td>Analysis of the River Basin Districts: Characteristics of surface and groundwaters, review of the environmental impact of human activity, Economic Analysis of water use; Update by 2013 at the latest and review every 6 years thereafter</td>
<td>2004</td>
</tr>
<tr>
<td>6.1</td>
<td>Register of Protected Areas</td>
<td>2004</td>
</tr>
<tr>
<td>Article</td>
<td>Activity / Issue / Action at Member State level</td>
<td>Deadline</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>7</td>
<td>Register of waters used for abstraction of drinking water</td>
<td>2004</td>
</tr>
<tr>
<td>17.4</td>
<td>National criteria for groundwater assessment and the identification of significant and sustained upward trends (if no measures are adopted at the EU level) In the absence of criteria at national level, trend reversal is to start at 75% of quality standards applicable to groundwater in existing Community legislation</td>
<td>2005</td>
</tr>
<tr>
<td>2.22, Annex V</td>
<td>Carry out jointly with European Commission the intercalibration of the ecological status classification system</td>
<td>2006</td>
</tr>
<tr>
<td>8.2</td>
<td>Monitoring Programmes operational</td>
<td>2006</td>
</tr>
<tr>
<td>14</td>
<td>Start public consultation</td>
<td>2006 latest</td>
</tr>
<tr>
<td>16.8</td>
<td>Establishing Environmental Quality Standards and source controls for priority substances (if no measures are adopted by the EU level) Action by Member States on substances on subsequent priority lists, five years after adoption of the list</td>
<td>2006</td>
</tr>
<tr>
<td>14.1</td>
<td>Publication of a timetable and work programme for the production of the River Basin Management Plan</td>
<td>2006</td>
</tr>
<tr>
<td>14.1</td>
<td>Publication of an interim overview of the significant water management issues identified in the river basin</td>
<td>2007</td>
</tr>
<tr>
<td>13.6-7</td>
<td>River Basin Management Plans Published; Update by 2015 at the latest and review every 6 years thereafter (Public consultation timetable starts 3 years prior to the publication of the 2nd and subsequent plans)</td>
<td>2009 latest</td>
</tr>
<tr>
<td>11.7-8</td>
<td>Establishing Programme of Measures Operational Possible update by 2015 at the latest and review every 6 years thereafter</td>
<td>2009 latest, 2012 latest</td>
</tr>
<tr>
<td>9.1</td>
<td>Water Pricing Policies to promote efficient water use and to recover the costs of water services</td>
<td>2010 Jan</td>
</tr>
<tr>
<td>10.2</td>
<td>Setting Environmental Quality Standards and Emission Limit Values or Best Environmental Practices according to the Combined Approach</td>
<td>2012 latest</td>
</tr>
<tr>
<td>4.1</td>
<td>Restoration to good status without extension; Compliance with standards and objectives for Protected Areas</td>
<td>2015</td>
</tr>
<tr>
<td>13,14,15</td>
<td>Review and update plans</td>
<td>2015, every 6 y. thereafter</td>
</tr>
<tr>
<td>4, 13</td>
<td>First management cycle ends</td>
<td>2021</td>
</tr>
<tr>
<td>4, 13</td>
<td>Second management cycle ends, final deadline for meeting objectives</td>
<td>2027</td>
</tr>
<tr>
<td>16.6</td>
<td>Achievement of cessation or phase-out of priority hazardous substances at the latest</td>
<td>20 y. after adoption of measures</td>
</tr>
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</table>

Countries have to implement a number of required procedures such as:
- establish competent authorities to deal with WFD;
- outline the districts of River Basin Management, determine their characteristics, and current state;
- review on the human impact on environment;
- make economic analysis of water use;
- assess and report on the initial state of water courses, and estimate the success of achieving their “good status” until 2015. On the basis of those collected information, the competent authorities establish set of environmental objectives for the waters within river basin.
The definition of the objectives indicates not only what the status of the water body should be, but rather implies when this status should be achieved. It sets long-term vision of the River Basin District through goals and targets, which are important for the development of Programmes of Measures in later phase of the Directive implementation. The results of the assessment of the current status of water bodies are compared against the environmental objectives developed for those bodies in a process called gap analysis. When the examination of the water bodies is completed the competent authorities develop a Programme of Measures (POM), which is aimed at improving the situation in River Basins.

The River Basin Management Plan (RBMP) will serve as a summary of how the objectives set for the river basin (ecological status, quantitative status, chemical status and protected area objectives) are to be reached within the timescale required. After the publication of the final RBMP the implementation process enters to the phase in which the RBMP is followed and the Programme of Measures is applied. This phase is a continuous evaluation stage, in which the monitoring plays an important role and is extensively used to check the effectiveness of applied measures.

The specified tasks, however, are not arranged in a sequence of consecutive steps, where each activity has to be successfully finalized before the next activity can be carried out (see Figure 1). Instead, what makes this timetable challenging, is that several tasks have to be worked on simultaneously, this involve a non-linear iterative processes.

Thus, the effective implementation requires working on WFD tasks in parallel, at the earliest practicable time, implementing action at the river basin or sub-basin level rather than focusing on administrative levels, and in addition it requires basing the implementation process on the so called ‘good practice examples’. Certainly it is the result oriented output that shall be focused on, with initiation of the tasks at as early stage as possible.

Figure 1. Sequence of implementation process. Modified from: EC, 2003a

The WFD sets a demand for different water management methods and tools as based on the new, different way of thinking. The innovativeness of this Directive as compared to previous ones is described by its features aiming at:

• expanding the scope of the water protection to all waters, surface waters and groundwater as managed through a River Basin Management system on a Europe-wide scale, thus reflecting the situation found in natural environment;
• achieving the “good status” of water by a set deadline; -implementing the combined approach by setting emission limit values and quality standards objectives; -ensuring that the users pay the full price for providing, using and treating the water which shall reflect the true costs; -establishing the requirement for cross border co-operation in water management between countries and involved parties.

Last but not least, the WFD requires involving the public and interested parties in decision making process from the very beginning, at every step of river basin management.

a. Ecological and Chemical Objectives

The environmental objectives of the Water Framework Directive are the core of this EU legislation providing for a long-term sustainable water management on the basis of a high level of protection of the aquatic environment. The overall objective of the Water Framework Directive is to achieve a ‘good status’ of European Community waters, and that means ‘good ecological status’ and ‘good chemical status’ of surface waters and groundwaters, by December 2015. However, it is unclear and still an open question what a ‘good status’ means in practice. A separate Guidance Document (EC, 2003b) emphasizes the principle that if one of the physical, chemical or biological parameters fail to meet a given standard, the assessed water body fails to meet the ‘good status’ altogether, as a result. It should be also noticed that both for the surface as well as for the ground waters Article 4(4) of the WFD allows Member States to extend the deadline for achieving the ‘good ecological status’ by up to twelve years beyond 2015. Such extension is justified in case of adverse natural conditions, disproportionate costs and for the reasons of technical feasibility in attempt to reach the good quality status.

Surface waters

The Article 4(5) allows Member States to apply less stringent objectives for specific water bodies when they are so affected by human activity or their natural condition is such that the achievement of good status objective would be infeasible or disproportionately expensive. Those water bodies are to be identified and designated as artificial water bodies (AWB) and heavily modified water bodies (HMWB). For them, the principal environmental objective is the achievement of ‘good ecological potential’ and ‘good surface water chemical status’, by December 2015. The good ecological potential objective allows, thus, the anthropogenic impact on hydromorphological characteristics to remain, which lowers the standard for biological quality elements compared to ‘natural reference conditions’, nevertheless, the achievement of good physico-chemical status remains an unchanged objective (Lanz, Scheuer, 2001). Ho-
However, a potential problem arises from the fact of lower objectives applying for the AWB or HMWB, the knowledge of which might be used by Member States during classification of water body types.

In order to assess the conformance of meeting the provisions of good waters status objective the WFD requires consistent classification of surface waters into the status classes. For each of water body types the reference conditions have to be assigned, which will indirectly define the goal to be achieved by given water body. The proper use of reference system gives the possibility of comparison and harmonization of different national systems in Member States, which previously was not possible. As the point of reference the biological community parameters of undisturbed waters are taken, which will correspond to community with conditions of minimal anthropogenic impact. The quality elements applicable to artificial and heavily modified surface water bodies shall be those applicable to whichever of the four natural surface water categories that most closely resembles the heavily modified (HMWB) or artificial water body (AWB) concerned.

The WFD requires establishment of monitoring, the results of which shall be expressed as Ecological Quality Ratios (EQR) (see Figure 2) for the purpose of classification of ecological status. The ratio will be expressed as a numerical value between 0 (bad status) and 1 (high status). The idea of EQR evolved as a response to the likelihood that differing interpretations will be laced on the results of assessments, leading ultimately to different levels of ecological quality being classified as the same (Chave, 2001).

Next, Member States have to set their national class boundaries between high/good/moderate statuses, as the WFD does not provide any numerical guideline for them. Should then the EQR of 0.99 or 0.70 be taken as the high/good status boundary? And more importantly, what is the class boundary between good and moderate status, keeping in mind that with the moderate status of water body the objectives of the Directive are not being met? Answers to those questions are left to Member States’ judgment.

Finally, the results of monitoring and assigning a status to a water body will be aggregated into a color coded maps that will indicate which waters are of high and good status and thus meet the Directive’s objectives, and which not.

Figure 2. Principles for classification of ecological status based on Ecological Quality Ratios.
Source: EC, 2003c
Groundwaters

With respect to the groundwater the Directive aims at their adequate protection and their sustainable uses, together with protecting their quantitative status. Any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity must be reversed in order to progressively reduce pollution of groundwater.

The provisions of Article 7 of WFD require the identification of all groundwater bodies used, or intended to be used, for the abstraction of water for human consumption providing more than 10 m³ a day as an average or serving more than 50 persons. Identified water bodies follow both the initial as well as the detailed characterization. The first one assesses water bodies uses and degree to which they are at risk of failing to meet the objectives of good quality by 2015, whereas the latter one assesses significance and identifies measures to be undertaken, in case a water body was identified to be at risk. In addition the review of the impact of human activity on groundwaters, impact of changes in groundwater levels as well as impact of pollution on groundwater quality is to be carried on.

Similarly to the freshwaters, the groundwaters have to be monitored. Surveillance monitoring is to be carried on for the groundwaters which cross international boundaries, as well as for the bodies identified as being at risk. Operational monitoring is to be carried on at least once a year for bodies confirmed as being at risk, sufficient to establish the chemical status of the water body, and establish the presence of any significant and sustained upward trend in concentration of the pollutants. As a result of the characterization and monitoring with regard to the quality and quantity parameters, groundwater bodies are to be assigned to a status class. The classification of the groundwater status sets up only two classes, namely good and poor, marked for representation with color code green and red accordingly. If a groundwater fails to meet criteria of a good status, which takes consideration of both the quantitative as well as the qualitative status, it is assigned to a poor class. The WFD does not, however, give a precise list of pollutants specifying the discharge limit values, apart from relating to the nitrate and pesticide limit values. Therefore, also the trend reversal values can be calculated for the nitrates and pesticides only, with values of 37.5 mg/l and 0.075 μg/l for the nitrates and pesticides respectively. The specification only with regard to the two groups of pollutants raises concerns on the protection of chemical status of groundwaters.

Chemical protection

The overall chemical protection introduced by the Directive focuses on implementing of the combined approach by setting emission limit values and quality standards objectives, where the most stringent values must apply. With respect to the regulation of water pollution, the WFD requires action at Member State level and Community wide uniform standards for certain chemicals. At the Member State level, the countries are required to act about the pollution of waters by identifying environmental pressures, identifying which pollutants are responsible for given water quality problem together with implementing measures to comply with Environmental Quality Standards. On the other hand, the Community wide standards are referred to through relation to other EU established Directives in Annex IX of WFD. Also, at the Community level the list of priority substances as well as the list of priority hazardous substances is to be established. The Commission is in the process of preparing a proposal for community-wide environmental quality standards and emission controls for the first 33 priority substances. This current lack of the community-wide environmental
quality standards and emission controls values for the priority substances is causing uncertainties with regard to the monitoring and evaluating of water body status classes. Furthermore, the lack of numerical Community guidance may lead to lack of harmonization, different interpretations, treatment, and implementation procedures among Member States with regard to the control of the input and concentrations of substances to the aquatic bodies.

b) Integrated River Basin Management

In the scope of Integrated River Basin Management, the Water Framework Directive requires from Member States to produce for each River Basin District a Programme of Measures, with the use of which the environmental objectives set by the WFD shall be met, as well as the River Basin Management Plan. It has to be stressed once again, that all the planning, from the analysis and assessment stage via the objectives for the river basin to the respective Programme of Measures intended to achieve them, is undertaken at the river basin level. Member States are required to establish one competent authority for each river basin district which would be, among others, responsible for the development of the River Basin Management Plans.

Programme of Measures

When the examination of the water bodies is completed and appropriate environmental objectives are set, the competent authorities have the responsibility to develop, on the basis of collected information, the Programme of Measures (POM), which is aimed at improving the situation in River Basins. Later the developed for each river basin district Programme of Measures serves as an input to the River Basin Management Plan. POMs must include, for each river basin district or for the part of the country’s international river basin district, the so-called basic measures (minimum requirement) relating to requirements of other relevant directives and national legislations, such as measures to safeguard water quality, controls of abstraction of surface and groundwater. If the objectives are not met, the basic measures have to be complemented by supplementary measures (optional requirement), such as legislative, administrative or economic instruments.

Each country needs to ensure that measures are implemented and obeyed. Member States are required to determine enforcement agency and penalties applicable to breaches in the national provisions adopted for the purposes of the Directive. This in most of the countries is not a new concept. Also, with regard to the basic measures, the impact of introducing this requirement on Member States should be minimal, as the directives of concern should have already been transposed and implemented into the national environmental systems.

River Basin Management Plan

All the elements of the first river basin analysis must be set out in a River Basin Management Plan (RBMP) for each River Basin District lying entirely within their territory. Where rivers cross international boundaries within the Community, a single international RBMP must be produced through coordination between States. The plan is a central administrative tool of the WFD, and a detailed account of how the objectives set for the river basin are to be reached within the timescale required. The competent authorities of the Member States will also have to explain how the adopted
programmes of measures apply the WFD rules to the river basin district and how they are expected to achieve the quality objectives specified under Article 4 of the WFD.

The strength of the RBMPs lies in the move toward forward planning for water protection and enhancing of its quality and quantity statuses while integrating different water problem causing fields, instead of dealing with individual issues separately.

**c. Water Pricing under WFD / Cost recovery of water services**

The need to conserve adequate supplies of a resource for which demand is continuously increasing is also one of the drivers behind one of the Directive’s most important management components - the introduction of pricing. Member States under WFD Article 9 are obliged to take into account the principle of full cost recovery of water services, including environmental and resource costs by 2010. It has to be ensured that the price charged to water consumers - such as for the abstraction and distribution of fresh water and the collection and treatment of waste water - reflects the true costs (EUROPA, 2004). The integration of water uses and water services within the requirements of the Directive is presented in Figure 3.

![Figure 3. Relationship between water uses and services. Source: EC, 2003d](image-url)

However, derogations to compliance with this WFD obligations are possible taking into account social, environmental and economic effects as well as geographic and climatic conditions, e.g. in less-favored areas or to provide basic services at an affordable price. Member States can also decide not to establish water use activity under the condition that this does not compromise the achievement of the Directive’s objectives (Lanz, Scheuer, 2001).

There are different types of costs associated with water services that are to be considered under the WFD, as depicted in Figure 4. The costs of using the environment, or of causing damage to ecosystems, are not easy to determine and to include within a cost recovery or charging scheme. The Guidance Document on Economics and the Environment (EC, 2003d) presents procedures to assess the economic value of environmental damage by such techniques as contingent valuation methods, cost-benefit analysis, and hedonic pricing.

In addition, to ensure efficient water resources usage several economic incentives may be used, namely: charges, subsidies, deposit refund systems, market creation, and enforcement incentives. Further, there are costs associated with implementation of the WFD and moving towards meeting its good waters status objective. These costs
include administrative costs and the costs of setting up competent authorities to enable river basin districts to operate; the annual operating costs including preparing of the river basin plans; monitoring costs, and costs involved in running the authorization and abstraction registration procedures (Chave, 2001). It has to be ensured that those costs are included in the water price together with all associated costs that are needed in order to reach the good status of waters, the main WFD’s objective, and not only the costs associated with providing and treating the water.

Since water is not just a commercial good, and since market forces are not easily applicable, the economically based calculation of environmental costs is therefore complicated. But if the polluter pays principle must be taken into account then the inclusion of environmental (damage) or resource costs is a crucial precondition (COM, 2000).

d. Public Participation

WFD recognizes that in getting the waters clean, the role of citizens and citizens’ groups will be crucial. Public participation can generally be defined as allowing people to influence the outcome of plans and working processes. It is a mean of improving decision-making, to create awareness of environmental issues and to help increase acceptance and commitment towards intended plans.

There are two main reasons for an extension of public participation. One is that the decisions on the most appropriate measures to achieve the objectives in the river basin management plan will involve balancing the interests of various groups. The second reason concerns enforceability. The greater the transparency in the establishment of objectives, the imposition of measures, and the reporting of standards, the greater the care Member States will take to implement the legislation in good faith, and the greater the power of the citizens to influence the direction of environmental protection, whether through consultation or, if disagreement persists, through the complaints procedures and the courts (EUROPA, 2004). The WFD does not use the phrase ‘public participation’, however, three forms of public participation with an increasing level of involvement are mentioned (see Figure 5) (EC, 2003e):

![Figure 4. Different types of costs. Source: EC, 2003d](image-url)
• **Access to background information**, no active dissemination is directly required by the WFD, it is however essential to make the prescribed consultation and active involvement work;

• **Consultation** at every stage of the planning process. Administrative bodies consult people and interested parties (stakeholders) to learn and develop solutions from their knowledge, perceptions, experiences and ideas. Reports, scenarios or plans are presented and people are asked to comment. The process does not concede any share in decision-making, and professionals are under no formal obligation to take on board people’s views. One can distinguish between two types of consultation, namely the written and oral one;

• **Active Involvement** in all aspects of the implementation of the Directive, especially encouraging the public participation in the development and implementation of plans, as well as by discussing issues and contributing to their solution.

It should be also added that the different participation levels are not exclusive, but rather than that they built on each other.

Public participation is characterized by the management of expectations, a two way communication, by feedback to the participants, by no predetermined outcome, by expanding rights and responsibilities, and by creating win-win solutions. It can take the following techniques: the problem and cause analysis, communication planning, interaction and communication tools, interviews, active listening, workshops, creative sessions, citizens’ jury, interactive Geographic Information Systems (Web GIS), public hearings, monitoring and participatory evaluation, as well as computer tools for processing public comments (EC, 2003e).

It must be stressed, that public participation should be ensured from the earliest stages of WFD planning and running throughout the process to ensure continued engagement, and should include different stakeholders at different stages of the Directive’s implementation.

*Figure 5. Levels of public participation. Source: EC, 2003e*
4. Conclusions

Overall, the Water Framework Directive is a unique, new river basin based water management legislation that will certainly lead to improvement of European waters quality. Many issues and water related aspects, which were previously not tackled with, will receive their attention and be at the spotlight. In addition, providing the basis for information sharing, the Directive will lead to establishment of cooperation not only of all national administrative levels, but also international ones. However, due to the lack of common understanding of some of the WFD’s requirements as well as due to the lack of Community-wide environmental quality standards and emission control values for the priority substances, it is unlikely and not feasible that the main objective of the WFD of achieving good water status by December 2015 will be met.

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A Tool for Participatory Land-Use Planning and River Basin Management

Jan Staes¹ & Patrick Meire²

¹Ph.D student, Ecosystem Management Research Group, University of Antwerp, Dep. Of Biology
jan.staes@ua.ac.be
²Prof., Institute for Environmental Sciences, Chair of Integrated Water Management, University of Antwerp,
Address: Universiteitsplein 1, 2610 Wilrijk, Belgium
Email address: patrick.meire@ua.ac.be

Abstract

Many problems in water management originate from unfortunate choices in spatial planning and land-use. An increased technological ability to alter the natural system has contributed to the detachment of land-use development from the physical system. The spatial analysis tool (SPAN) is part of a general methodology for the elaboration of river basin management plans and analyses the compatibility of land-use with the natural physical conditions of the water system. At the same time land-use management options are derived that can be used for integrative negotiations with stakeholders. SPAN can be categorized as a PPGIS-tool (Public Participation Geographical Information Systems) in which geographical mapping is embedded in the participation processes. Each land-use type is assessed from the perspectives of respectively the stakeholder, the water system and the policy maker by a top-down gradual aggregation and valuation of the available maps into suitability maps for each perspective. The combinations of these maps are used to explore stakeholder positioning towards land-use change and management opportunities for river basin management.

Keywords: River Basin Management, Land-use Change, Ecosystem Services, Participation, Land-use planning, Collaborative Planning.

Introduction

Many problems in water management originate from unfortunate choices in spatial planning and land-use practices. Land-use patterns that reckon with the physical properties of soil and hydrology cause less interaction with the water system whilst a high discrepancy between actual land-use and physical suitability urges a more intense adaptation of the system and thus to a higher impact of land-use on the water system. These impacts can be drainage, irrigation, land elevation and fertilizer use. An increased technological ability to alter the natural system has contributed to the detachment of land-use development from the physical system. The fragmented land-use that resulted from this has put a mortgage on future developments of any kind and has significant impact on hydrology and ecological functioning. The basin management plans need to address a long-term vision on spatial planning, water demand management and water treatment. Often there is a lack of integrated management, as well for water management as for the other policy issues. The interaction between socio-economic activities and the environment is obvious. This results not only in
deteriorating environmental quality, but poses problems towards the socio-economic functions provided by the environment. To narrow it down to water management it is seen that there are both large-scale and local conflicts. Large-scale conflicts occur between upstream and downstream functions, when upstream pressures are not compatible with downstream needs for safety, water quality etc. But also many local conflicts occur between land-uses that address different requirements of its physical environment. Since fragmented land-use increases the conflict surface between the various land-uses, fragmentation increases these issues significantly. The hydrological and ecological functioning of the basin is affected because land-uses are made possible at places, which are physically unsuitable. In addition there is an increasing pressure on the remaining open space for implantation of new infrastructure (such as roads, industrial sites or housing-projects). The strong opposition to these projects and the political sensitivity for the public opinion puts an impetus on a strong and consequent spatial policy. As pressures on land-use and water resources rise, they do not only interfere with each other on a local level, but there is also a longitudinal conflict. To provide a long-term sustainable use of the water system, there is a need to define limits to protect the carrying capacity to restore a balance at between the upstream supply of goods and services and the downstream use of goods and services. An imbalance results in an unsustainable situation as the downstream activities and functions are endangered. To balance supply and demands there is a second tension field between the ecological and societal use of system resources. Often it is neglected that these systems need specific conditions to maintain their functioning (e.g. water quality, quantity and dynamics). Still unacceptable efforts are made to maintain all these user-functions in their fragmented and conflicting constitution. The maintenance of this policy requires an intensive management and control of the natural environment and results in further deterioration of the water system functioning. A well considered spatial planning is the basis for a cost-efficient management in the long run.

Study area

The Nete catchment has a total surface of 1.673 km², has an average population density of 350 inhabitants/km² and a total length of 2.224 km of streams. The main part of the basin is situated in the province of Antwerp, close to the Dutch border (fig. 1). The Nete basin is one of the 9 sub-basins of the Scheldt river that has a total area of 21.000 km² and crosses three different countries. The region has a predominant sandy soil coverage with the presence of parabolic sand dunes in the upstream parts. These sand dunes were shaped during the last ice age by intense northern winds that brought in sand from the empty seas. They also create a distinctive gradient in the soil hydrology with areas of intense infiltration and seepage. In the lower parts there are wide alluvial plains with shallow groundwater and distributed seepage.

Although the Nete basin is one of the best-preserved river basins in Flanders and the water quality is fairly good in most of the streams, there are several problems with industrial discharges, diffuse pollution by households and agriculture, a large historical pollution with heavy metals and the occurrence of inundations (Vlaamse Milieumaatschappij 2001). Figure 2 shows us typical land-use distributions for the Nete basin. Agriculture is the dominant land-use. Scattered relicts of forest and wetlands remain but have low connectivity. Urbanization has typically spread along main exit roads of the town center. Here we can also notice that large parts along the streams are dominated by recreational land-use. These areas have mostly some ecological value but are stricken by drainage ditches, weekend cottages and excavated fishponds. Spatially distributed urbanization can be seen along the road-infrastruc-
ture. This increases investment and maintenance costs for connection to sewage treatment systems. The numerous kilometers of sewage infrastructure increase the risk for inflow of parasitic water. Beside the increased run-off water from roads and housetops, there is inflow from ditches and drainage-systems. This dilution decreases treatment efficiency and causes hydraulic instability during intense rainfall events and congestions during dry periods. Specifically, rainfall events that follow dry periods result in a significant load towards receiving surface waters by sewage system overflow events. In many cases it is seen that the connection of additional housing development sites to the existing sewage system results in increasing problem of hydraulic capacity and stability.
Concepts for sustainable Land-use management

The physical system needs to be considered as a structuring factor in land-use planning. Social and economic activities in the drainage basin have to be consistent with the hydrological and ecological needs for human well-being (Lundqvist and Falckenmark 2000). Proper attention must also be paid to the impacts of these factors on ecosystems further downstream. The ability to use land for various activities is on its own a “good or service” that is provided by the catchment ecosystem albeit in a long-term perspective. However these activities often destroy the capability of the land to generate goods and services to neighboring and downstream land-use. This is increasingly true for land-uses that destroy ecosystems, soil hydrology, morphology and composition of the soil. Water system processes have shaped the catchment morphology and many water driven processes have been crucial in formation of soils. Local hydrological properties can only provide “services” (benefits) if the land-use or activity makes efficient use of these properties. More often the local hydrology is far-reaching adopted (cost) to serve a specific land-use that requires different conditions. Since hydrological flow interconnect through numerous processes and balanced, these alterations of hydrology result in impact on local and basin wide scale (external cost/damage/impact). The benefits of altered hydrological regimes might only be temporary until a new equilibrium is reached (Erosion, mineralisation of organic content, phosphorous accumulation etc..). The optimization of land-use on a catchment scale can relief stress on the water system and reinstate a balance between economic and ecological services with minimal alterations of land-use balances on a larger scale. In this aspect, the influence of land-use patterns is more important than land-use balances. These patterns should be determined by groundwater flows (regime and quality). The smart placement of land-use can thus provide an important element for river restoration and provide goods and services itself. A sound diversification of land-uses and patterns provide a more stable and redundant system, whilst a fragmented land-use requires a strong control of the water system and results in conflicts between the different land-uses at the patch boundaries. Agro-ecological research, focused on developing future sustainable land management practices, should not be held ransom to current economic conditions (Pieri 1995).

Several concepts have been established in respect to land-use patterns and functionality such as Land Quality (Bouma 2002; Bouma 2006), Leakiness Indices (Karlen, Mausbach et al. 1997; Doran and Zeiss 2000; Dumanski and Pieri 2000) and the Dissipative Ecological Unit (Ripl 1995; Ripl 2003). Shared by these approaches is that fluxes of water and substances determine the sustainability at certain locations given a certain land-use. Hot spots occur where hydrological flow paths converge with other flow paths or substrates containing complementary reactants. These biochemical interactions are often enhanced at terrestrial-aquatic interfaces (McClain, Boyer et al. 2003) where system processes are more intense and provide an important functionality to local and downstream environment. The occurrence and extent of these hotspots is primarily dependent on morphology and soil characteristics but also require functional ecosystems (self-organizing & adaptive) to provide the services in regulating water and nutrient cycles. Restoring these elements within landscapes would provide an increased resilience to system disturbances. In this approach, small scale wetlands within urban and agricultural landscapes are equally important in regulating the water system. These small-scale potential wetlands can be detected by analysis of morphological properties such as wetness indices (Merot, Hubert-Moy et al. 2006). Although wetlands provide diverse valued services to humans, the incentives that private property owners have to protect wetlands may nevertheless remain low. Wetlands owners can neither easily capture the social benefits that accrue when
wetlands are not protected nor produce those benefits independent of the cooperation of many others in pursuit of the same goals.

Land quality is defined as “the fitness of a specific kind of soil to function within its capacity and within natural and managed ecosystem boundaries, to sustain plant and animal productivity, maintain air and water quality and support human health and habitation” (Karlen, Mausbach et al. 1997). As Doran (Doran and Zeiss 2000) points out: “indicators of soil health and strategies for strategic management must be linked”. Any “fitness of a specific kind of soil to function” depends strongly on climatic conditions, which varies among climatic zones but the weather also varies at any given location during the year. To consider “soil” without climate, when defining quality, is not realistic. We should, therefore, preferably speak about “land quality” rather than “soil quality” (Pieri 1995). LQs, discussed so far, were derived for individual pieces of land corresponding with a certain soil series and are implicitly focused on the farmer or local land user. The definition of soil quality (Karlen, Mausbach et al. 1997) is focused on a “specific kind of soil” and has, therefore, a built-in spatial scale dimension. But the LQ concept not only relates to plots or fields where single kinds of soil occur, but also to larger areas such as communities, regions, countries and even larger entities where many different soils occur. Because of the relatively high capital expenditure associated with building activities, LQ’s for land in a given area when considering such activities is bound to be relatively unimportant. Artificial drainage or land-elevation is financially no problem for high value industry or housing projects. Local conditions of the land are very important in determining water, nutrient and temperature regimes that govern occurrence of natural vegetations but that also increasingly have an impact on types of agriculture that are ecologically balanced. The approach to take, therefore, would be to define LQs for agriculture and nature for land occurring in the area to be considered and to introduce this in time into the broader land-use planning process. Ripl (1995) states that restructuring of land-use is crucial in restoring the landscape as functional dissipative ecological units (DEU) at various scales. Each sector of society with their own overspecialized approaches and tackling problems detached from space and time considerations, give no insight or understanding to problems. In contrast, a functional spatial-temporally related consideration of the different uses and their consequences on the water system would result in consistency in land planning to a point where the water system supports land-uses in a natural way rather than a water management fighting the natural fluxes and regimes (Ripl, 1995). A functional landscape will be capable of optimizing its use of natural resources, whilst a dysfunctional landscape will not make optimal use of water and nutrient flows through the landscape. Structures within the landscape can retain or transform water, soil, and nutrients. The absence of these structures (ecosystems) results in a loss that will need to be compensated within time by active management (irrigation, fertilization).

Methodology and application

The spatial analysis tool is part of the general methodology for the development of river basin management plans (RBMP), which has been developed for the Flemish environmental administration (AMINAL - Afdeling Water) by the Ecosystem Management Research Group (ECOBE) at the University of Antwerp and ECOLAS. The 2-year project included a test case application on the Nete catchment and started in July 2002.

The European Water Framework Directive (EWFD) considers public participation as a necessity (EU 2000) as well as many recent publications reflect this increasing attention for participation and democratization of planning processes (Vari and Kis-
gyorgy 1998; Herrmann and Osinski 1999; Abels 2002; EC 2003; van Ast and Boot 2003; Lubell 2004; Nanz and Steffek 2004; Broderick 2005; HarmoniCop, et al. 2005; Koontz 2005; Tippett, Searle et al. 2005). Yet there are numerous types and forms of participation and the practical implementation of it is mostly not that straightforward (EC 2003). The developed methodology shows great attention to participation, but within a clear framework for plan design, by which the tools and strategies for participation are chosen and adapted to the stage of plan design, the objectives of the participation and the involved partners (Staes, Meire et al. In press.). A stakeholder questionnaire and interviews (Aminal 2000) in the early stage of the project revealed that many of the issues were related to improper land-use or the consequences of it. Therefore we needed a tool that could address these issues spatially and involve stakeholders and water managers. PPGIS joined the arena relatively recent and shows an equal diversity in tools, concepts and methods (Gayathri 2000; Ball 2002; Harrison and Haklay 2002; Sieber 2003; Elwood 2006). The success of Decision Support Systems (DSS) in general and thus also PPGIS, depends on various factors (Newman 1999). First of all the quality of the input data and the model itself will determine if the model shows adequate and credible results. Secondly the system needs to be trusted and understood by stakeholders and end-users (Sieber 2003; Elwood 2006). Some criticism suggests that the use of (PP)GIS is restrictive, elitist, and antisocial (Clark 1998; Elwood 2006). Early involvement stakeholders and transparency are essential factors of the success of a DSS. SPAN can be categorized as a PPGIS-tool since it uses geographical mapping in a participation process (Ball 2002; Harrison and Haklay 2002).

The scheme of figure 2 illustrates the general concept. For each land-use type we would draw up suitability maps by a top-down gradual aggregation and valuation of the available maps into the perspectives of respectively the stakeholder, the water system and the policy maker in order to explore realistic land-use management options that would comply more to the natural system. The spatial analysis has been conducted on 4 types of land-use and 3 aspects of water system functioning. This tool explores both opportunities and conflicts of actual and desirable/future land-use. By confronting a land-use claim with the physical suitability for that claim we want

![Figure 2. General scheme of SPAN methodology.](image-url)
to detect potential and actual conflict areas. By confronting these potential conflict areas with their juridical legitimacy, we can explore options for protection, restoration or mitigation measures and indicate the appropriate strategies for negotiation. Stakeholders also benefit from the approach, as there is now a tool that can be used for site selection, by which the least contested locations (low PSM-score) should be explored first.

We contemplated 4 stakeholders and 3 water system functioning aspects for SPAN. Other land-use types have not been included due to their less prominent presence within the basin and because of their heterogeneity. Since the importance of an identifiable stakeholder group for participation was important to the success of the methodology.

4 types of stakeholder-claims
- Nature and forestry (in function of protection level)
- Agriculture (in function of intensification/importance of agricultural practices)
- Housing and urban development sites
- Industrial development sites

3 aspects of water system functioning
- Inundation areas (floodplain protection and restoration)
- Water conservation (wetland protection and restoration)
- Infiltration, run-off and erosion (protection, restoration and mitigation)

The first step was to develop physical suitability maps or (MOP’s). A map of opportunities (MOP) shows where the physical system can fulfil the needs of a stakeholder in the most sustainable way with minimal impact on the water system’s functioning. A gradual physical suitability map for sector-specific stakeholder activities, based on water system, soil and topographical characteristics. For restoration assessment they show where the natural, physical system enables opportunities for a certain water system function. The MOP’s do not take any possible technical solutions or the actual situation into consideration. The MOP’s and guiding models were drawn up in expert workgroups and are based on Tjallingii’s guiding models (Tjallingii 1995), recurring issues from the stakeholder-analysis and several concepts for sustainable land-use. The guiding models give a schematic representation of possible interactions that may take place between the stakeholder activities and the water system (fig. 3) and are an excellent tool for site-specific analysis and stakeholder communication. Depending on local conditions, some of these interactions may be of no concern. The stakeholders (or water managers) were invited to bilateral meetings where they were asked to derive a representative vision on their future land-use claim to draw up a Practical Suitability Map (PSM). A PSM shows where the stakeholder is present or wishes to develop its activities in the future. It expresses the relative importance of the claim or to which extend the stakeholder is willing to consider the water system. A PSM (or MOP) is created in three steps. First a set of base maps is provided and/or selected by the stakeholders, water managers (or experts). The selection and use/purpose of the maps is to be discussed in a first bilateral meeting to which a broad selection of stakeholders is invited. Secondly, the combination of legend categories is visualized in an overlookable cross-table (each base-map has its unique legend categories). The stakeholders can value each combination of legend categories independently and can thus create a single, numerically graduated output layer. For each combination of legend categories, an estimation of its importance has to be expressed numerically in a range from 0 to 10, expressing a level of importance to the claim. A low score implies that the area is not or less important to the stakeholder. To assist in this task and to set the train of thought, a provisional proposal was prepared that subsequently could be adapted or fully rejected by the stakeholder.
The overall feeling of contentment on the participation process by the participants was monitored. Each participant was asked to fill in a short inquiry after each session. It posed questions about the moderator’s performance and neutrality, if the participant considers his presence to have added value to the outcome of the discussion, whether he had sufficient background information or knowledge on the subject, if he had obtained new insights or information during this session, etc. The maps that were developed for the spatial analysis turned out to be very sensitive material. There is a fear that maps can be used outside its context to be abused when it’s supportive to ones goals. Maps tend to have a certain power and have also a strong psychological effect. A map can give people the feeling of being a threat that locks in future possibilities. The fear that this map is the endpoint of debate makes it extremely sensitive material. This is described by Harley (Harley 1988) Van Eeten (Van Eeten 1999) and Rein and Laws (Rein and Laws 1999) who speak of unconsciously perceiving ‘hidden messages’ within maps and the framing-effect. Detailed visualizations can easily lead to endless discussions about spots and lines, even resulting in strong polarization, mistrust and a completely blocked participation process. It is thus indispensable that stakeholders, experts and facilitators have insight into the different map-types and their function in the (whole) planning process. This has been felt very clearly during the elaboration of the “stakeholder claim maps” for the spatial analysis. Some participants were very anxious to lose even one square meter out of sight, complaining even about the resolution though there was no intention to delineate at a parcel level. At first it resulted in the creation of unrealistic maps. Example: although agriculture is to be declining in the spatial balance they even claimed all unbuilt up areas in the suburban areas. The use of a wrong legend due to hasty work was the cause for high tension with allegations of having hidden motives and framing. Some stakeholders strongly hesitated to differentiate the strength of their claims on land-use, although it would be in their interest that the plan could differentiate its actions in consistence with the local agricultural practices and its value. Only after intensively explaining the concept, a differentiation could be made on land-use, destination, soil properties and socio economical status.

Figure 3. Guiding model agriculture.
The combination of the stakeholder claim map with the water system opportunity map results in 4 main quadrants of suitability (fig 4). Stakeholders are confronted with the result of the suitability map during a second round of bilateral meetings. During these bilateral meetings, claim maps can be adjusted, errors could be detected and agreements could be made about solutions (mitigation, compensation, etc.) for the potential conflict areas. After attaining an acceptable bilateral vision on the area, it might be necessary to discuss some conflict areas in the multi-stakeholder workgroup. Especially evaluation areas are of interest to both stakeholders and water managers as these are claimed by a stakeholder but have low physical suitability. Additional information on the credibility of a claim is desirable for evaluation purposes and is determined by four main factors (actual land-use, spatial destination, juridical restrictions, environmental restrictions). These factors each have gradual scoring and are brought together in a single credibility index. The combination of the credibility-status and the suitability analysis is a powerful tool for both water managers and stakeholders.

A simplified table-analysis (table 1) illustrates how the spatial analysis information can be used to analyze stakeholder positions, threats and opportunities in order to maximize integrative negotiations (Beersma and De Dreu 2002; da Conceicao-Heldt 2006; Warner 2006) and derive realistic scenarios for land-use change and management. Issues can be evaluated from multiple viewpoints (water manager, stakeholder and the water system). This is especially interesting when stakeholder viewpoint conflict-situations are combined with the claims of the water management for protection and restoration of wetlands, floodplains or infiltration areas. The course of discussion between stakeholder and water manager will be set by the combination of the actual situation and the conflict viewpoint. After the bilateral meetings, multiple stakeholder conflicts and discussions on future land-use then were to be discussed in multi-stakeholder workgroups.
Results

The implementation of the entire methodology resulted in over 30 multi-stakeholder workshops, 3 large information sessions and over 20 bilateral meetings with stakeholders for the drawing up of PSM-maps. Specific results and conclusions on the participation were previously documented (Staes, Meire et al. In press.). The methodology has also been successfully applied in the other 9 basins in Flanders. Land-use planning is not an authority of the River Basin Management and the implementation of recommendations and conclusions depends on cooperation among all involved administrations and the administration of Spatial Planning. Long-term vision maps for several water management aspects resulted from the work in the bilateral meetings and multi-stakeholder workgroups. The tool was also used effectively in a multi-stakeholder workgroup for the site selection of controlled floodplains in order to protect downstream urban areas. The tool is also applied in the pre-assessment of building-permit applications. At last it can be stated that the entire process had a high learning–effect and resulted in an increased common understanding among stakeholders and water-managers.

Results are illustrated by the results from SPAN for intensive agriculture are documented in table 2 and 3. The matrix analysis for intensive agriculture shows that about 50 % of the basin-area is claimed for agriculture, of which 28 % is assumed to be located in unsuitable areas (0-4/10) for intensive agriculture. In these areas, it might be necessary to adopt agricultural practices to the water system. The more
severe conflicts, where the land has a very low suitability score (0-2/10) for intensive agriculture, makes about 10% of the claimed land.

Table 2. Actual land-use, spatial destination & suitability quadrants.

<table>
<thead>
<tr>
<th>Presence</th>
<th>Suitability</th>
<th>Destinated</th>
<th>Not destinated</th>
<th>Total</th>
<th>% of basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>4,122</td>
<td>1,032</td>
<td>5,154</td>
<td>3.1%</td>
<td></td>
</tr>
<tr>
<td>Consensus</td>
<td>10,817</td>
<td>2,817</td>
<td>13,634</td>
<td>8.2%</td>
<td></td>
</tr>
<tr>
<td>No claim, no opportunities.</td>
<td>1,293</td>
<td>28,985</td>
<td>30,278</td>
<td>18.1%</td>
<td></td>
</tr>
<tr>
<td>Opportunities</td>
<td>2,615</td>
<td>42,093</td>
<td>44,709</td>
<td>26.8%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total not present</th>
<th>18,848</th>
<th>74,927</th>
<th>93,775</th>
<th>56.2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>16,476</td>
<td>2,108</td>
<td>18,584</td>
<td>11.1%</td>
</tr>
<tr>
<td>Consensus</td>
<td>43,252</td>
<td>4,308</td>
<td>47,56</td>
<td>28.5%</td>
</tr>
<tr>
<td>No claim, no opportunities.</td>
<td>671</td>
<td>1,822</td>
<td>2,493</td>
<td>1.5%</td>
</tr>
<tr>
<td>Opportunities</td>
<td>1,621</td>
<td>2,968</td>
<td>4,589</td>
<td>2.7%</td>
</tr>
<tr>
<td>Total present</td>
<td>62,019</td>
<td>11,207</td>
<td>73,226</td>
<td>43.8%</td>
</tr>
<tr>
<td>Totals</td>
<td>80,867</td>
<td>86,133</td>
<td>167</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 3. Credibility aggregated.

<table>
<thead>
<tr>
<th>Credibility</th>
<th>Very high</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
<th>Very low</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>13.983</td>
<td>2.450</td>
<td>4.458</td>
<td>1.893</td>
<td>966</td>
<td>23.753</td>
</tr>
<tr>
<td>Consensus</td>
<td>40.035</td>
<td>3.286</td>
<td>13.875</td>
<td>1.666</td>
<td>2.428</td>
<td>61.291</td>
</tr>
<tr>
<td>Grand Total</td>
<td>54.019</td>
<td>5.736</td>
<td>18.333</td>
<td>3.559</td>
<td>3.395</td>
<td>85.044</td>
</tr>
</tbody>
</table>

Half of the basin area is designated for agricultural use. The credibility analysis reveals that approximately 10.735 ha (or 6.6% of the total basin) agricultural land-use is situated outside the designated areas. On the other hand there is also 18.848 ha (or 11.3% of the total basin) nonagricultural land-use in agricultural destinations. This information can be used to resolve claim issues. Approximately 85,000 hectares are claimed of which 28% has possible conflicts with the water system functioning. If we look at land-claims with low or very low credibility (0-4/10), it can be seen that there are 4,000 ha of low credibility claims within consensus area, whilst there are 3,000 ha of low-credibility claims in conflict areas. These areas would therefore be the first choice to look for negotiation opportunities in land-use trade.

Secondly there is a whole range of opportunities in adopting land-use management practices such as stream buffer strips, adapted crop-choice (e.g. no late harvest or water resistant), decreased or controlled drainage, allow winter flooding. The necessary information can immediately be derived from SPAN, since all the information of the base maps is traceable and can be aggregated for a site. A top-down aggregation to identify areas of interest on a basin scale is accordingly followed by a site-specific analysis on the selected areas before the stakeholders are involved.
Conclusion

The spatial analysis tool proved to be very useful in basin management planning. Participation in its current status does not allow real decisional power and does not go beyond the exploration of different opinions and viewpoints through discussion. The current shortcomings reveal that attributing a higher level of decisional authority is presumably not desirable nor achievable. The non-binding voluntary character of the participation resulted in unstable stakeholder representation, setbacks and changing viewpoints. As integrative negotiation strategies prove to be more successful, more efforts should be put forward in analyzing stakeholder positioning and the creation of incentives for participation. Ongoing participation and cooperation on both policy and stakeholder level is a necessity to grow towards an adaptive and integrated water management.

The delineation of land-use is a sensitive matter and held in a political deadlock. To provide a clear land management strategy, at least three types of function priorities should be delineated on river basin level.

1. Areas in which anthropogenic functions are eminent: The management challenge is to manage system behavior to provide the needed goods and services. Secondly, there should be measures taken to minimize and control the impacts of the activities.

2. Multifunctional areas: In these areas there should be an interaction between the exploitation of goods and services and the water system/ecosystem functioning. Multiple anthropogenic functions should be consistent with a certain extent of system behavior and with a minimum of command and control. The window of allowed activities should be defined and maintained in respect to the physical suitability of the area. Practical and managed river restoration measures can be applied to minimize impact.

3. Areas for ecosystem service generation: Natural ecosystem behavior and dynamics should be allowed in these areas. The evolution within these systems can serve as indicators for impact management of activities in type 1 areas. Challenge is to make a break with command and control (Holling and Meffe 1996; Briggs 2003) and to restore a balance of ecosystem service generation and exploitation (Lundqvist and Falkenmark 2000; Enderlein and Bernardini 2005).

The methodology could be improved and expanded by adding a basin perspective to it as already suggested by the concepts of Lundqvist and Falkenmark (IWRA, Agarwal et al. 1999; Lundqvist and Falkenmark 2000). This principle can be used to balance the need and benefits for additional measures in upstream areas with respect to their effect on mitigating the downstream system vulnerability for not meeting ecological or function related objectives. To take geographically optimized actions & measures, they need to be taken upstream from where desired criteria cannot be met (observed/indicated). It is by that way measures can be distributed spatially in a cost-effective manner. The future research will focus on using this information in a basin perspective approach. To apply geographically optimized actions & measures, an indicative assessment of the cost-benefits can be made by comparing the indicated costs of upstream measures with the indicated benefits of reaching downstream criteria that are desirable for both ecological quality and socioeconomic needs.
Acknowledgements

The authors wish to acknowledge AMINAL water (Mrs. Devroede, Mr. D’hont, Mrs. Stalpaert, Mr. Van Den Belt) for their support and contribution during the project, under their supervision, of which results are presented in this paper.

References


Local Participation as a Prerequisite to Social Sustainability in the Development and Planning of Tourist Centres in Finnish Lapland

Ilona Mettiäinen, M.Sc.
External researcher, Finnish Forest Research Institute, Rovaniemi
Address: Eteläranta 55, 96300 Rovaniemi, Finland
E-mail address: ilona.mettiainen@gmail.com

Abstract

Tourism is regarded extremely important and often the only growing industry in peripheral regions. The municipalities that are engaged in tourism development and have tourist centres in their areas have in many ways been winners in regional development. Thus, it is natural that the local and regional authorities are eager to enhance tourism development. For the local population, however, extensive growth of tourism is not only a positive circumstance. People in such areas as Finnish Lapland are bound to move from traditional natural resource based occupations at least in some extent to the field of tourism. Tourism also changes drastically the physical environment as well as the ways of using it.

The ideal of socially sustainable tourism focuses on ensuring that the benefits of tourism are spread as widely as possible throughout the host community. Also, the local communities should be heard and taken into account when altering the places into tourist resorts. However, the real growth of tourism centres has not followed the ideal.

The geographical focus of this article is in two ski tourism centres in Finnish Lapland, Levi and Ylläs. Both of them are situated in areas with remarkable amenity values. Ylläs is located beside the most visited national park in Finland. National parks and other areas of wilderness nature – fells, forests and bogs – are an important resource for the nature-based tourism. These centres have extensive plans for further growth in terms of customers, seasons and areas required. A general problem of the growing tourism centres is balancing the aims to promote economical and regional development through excessive tourism investments and the fragility of both the northern European nature and local communities.

This article evaluates the planning processes from the viewpoint of local participation. There has been a major change in possibilities to participate and affect the local development and land-use, as participative planning was implemented to Finnish legislation in 2000 partly due to the European Union. The new legislation demands that the “people involved” should be heard in every land-use situation that affects their environment. The reality is unfortunately not that simple. In the planning of tourist centres, urban planning meets the planning of landscape and natural resources and it can be difficult to find a balance between competing interests. Onother question deals with the definition of “people involved”: to what extent are for example second home owners or seasonal workers considered locals that should have a say in the planning processes. Among the biggest structural problems until now have been that there is unfamiliarity with the new kind of planning processes and planning language among local actors. This can lead eg. to participating too late regarding the planning
process or expecting to see “something on map” too early, or too high expectations for the effectiveness of a single opinion in the planning process.

In this research the data has been collected by focus group interviews both among the local population and among authorities and such in-between groups as second home owners and recurrent seasonal workers. The total amount of the interviewees is about 75.

**Keywords:** local participation, planning, sustainable tourism, local community, tourist centre, Lapland

**Introduction**

Tourism is regarded a very important source of livelihood and often the only growing field of business in peripheral regions such as Finnish Lapland. The municipalities that are engaged in tourism development and have successful tourist centres in their areas have been winners in the regional development in many ways. While peripheral regions often suffer from unemployment, lack of services, low level of education, outmigration and demographic aging, in villages close to tourist centres such as our study area villages, Ylläsjärvi and Äkäslompolo nearby Ylläs tourist centre and Sirkka next to tourist centre Levi, the development has been the opposite (Hakkarainen 2005). Hence, it is natural that local and regional authorities are eager to enhance the further development of tourism.

Wall and Mathieson (2006) define social impacts of tourism as the changes in the quality of life of residents of a tourist destination that are a consequence of tourism in that destination. In addition to positive effects on regional development and economic profits coming to the destination areas tourism can also for example strengthen communities, reduce emigration from rural areas, help to protect the local cultural heritage and natural environments, increase the demand of local handicrafts and foods and improve services and infrastructure in the destination areas. Negative social impacts include themes like cultural erosion due to the commodification of cultural goods and practices, irritation due to tourist behaviour, pollution and litter in the environment and increase of social problems. Also the economic benefits of tourism can leak outside the destination area due to seasonal workers that don’t pay taxes to the destination area (UNEP 2002).

In areas like Finnish Lapland, people are bound to move from traditional natural resource based livelihoods such as reindeer herding, agriculture and forestry at least in some extent to tourism. Tourism also changes the physical environment and the ways of using it. For example local inhabitants’ traditional ways of using the nature around their villages (berry picking, hunting, fishing) and areas available for the traditional use may be reduced or harmed due to the growing demand for touristic land use. In addition, the fastest growing tourist centres tend to expand to the village areas, eg. fields, thus diminishing the village areas and threatening the traditional rural landscapes (see eg. MacLeod 2004; Mettiäinen 2007).

As tourism grows nowadays faster than ever, also the impacts of tourism increase and there is a need to conserve the natural and landscape values of natural areas and to manage the tourist flows using them by for example establishing routes (Siegrist et al. 2006). Since it can be regarded as a prerequisite for successful tourism that the local population of the destination area regards tourism in a positive way, it is important to consider also the effects of tourism into the local population of the tourist destinations (Järviä 1993).

As a synthesis of several definitions in the literature, the definition of socially sustainable tourism in this research consists of three major viewpoints:
This article concentrates on the first principle of socially sustainable tourism and discusses the ways the different actors of tourist centres Ylläs and Levi have participated in the development and planning of the tourist centres. Also the ideal ways of participation, the effects of the growth of tourism in local communities and the special character of tourist centres as planning issues are discussed.

This research has been conducted at Finnish Forest Research Institute (FFRI), Kolari and Ro-vaniemi research units in the project Tourist Destinations as Landscape Laboratories – Tools for Sustainable Tourism (LANDSCAPE LAB) (2004-2007), task 3 / LABSOC – Social and cultural dimensions of tourist centres. LANDSCAPE LAB project is coordinated by the Arctic Centre of the University of Lapland and financed by EU LIFE Environment programme. The qualitative data was collected by 11 focus group interviews among local actors of tourist centers: local inhabitants of the three fell side villages, municipal authorities and politicians, regional authorities and such inbetween groups as second-home owners and recurrent seasonal workers (see Mettiäinen 2007a). The total amount of the interviewees was 74, of which 34 were local villagers. The discussion topics included the possibilities of the local inhabitants and other actors to affect the development of the tourist resort in its different stages, and history and future prospects of the tourist centers. In addition, cognitive maps were used to gather location-tied information about the local actors’ viewpoints on the tourist centre environment and as a means to encourage people to discuss the research topic. The qualitative data was analyzed using QSR NVivo program. GIS tools (MapInfo) were utilized for combining the maps of a focus group and then for comparing them with the other groups’ maps (see Mettiäinen 2006a,b, 2007a).

The geographical objects of the project are the tourist centres Levi and Ylläs in the North-Western Lapland, Finland. Ylläs is located in the municipality of Kolari and Levi in the municipality of Kittilä. Both of the tourist centres are situated in areas with remarkable amenity values, and Ylläs is located beside Pallas-Yllästunturi national park, which is the most visited national park in Finland. The two tourist centers are among the biggest and most successful ones in Finnish Lapland. Both Ylläs and Levi can accommodate around 20 000 tourists and both have a variety of tourist services.
from husky, reindeer and snow mobile safaris to ski slopes, spas and cross-country-skiing facilities. The centres have extensive plans for further growth in terms of customers, seasons and areas required and great investments are taking place during the next few years. As a response and attempt to manage the fast growing tourism, local master plans are being made to both centers (Levi 2005/2006 - 2007, Ylläs 2006 - 2007). In these two tourist centres, the presence of local communities is a special character compared to many other tourist centres in Lapland. In Ylläs, Äkäslompolo village with approximately 370 inhabitants is located on one side of the fell Ylläs and Ylläsjärvi village (200 inhabitants) on the opposite side. Sirkka village (nearly 800 inhabitants) is located next to the tourist centre Levi. (Hakkarainen 2005). The two tourist centres are located rather close to each other; the distance between Levi and Ylläs is only 50 km. Levi is very popular among young people, whereas Ylläs is preferred by families and cross-country skiers.

Nature-based tourism – wilderness nature, rural villages and urban centres

Especially in Finnish Lapland national parks and other areas of wilderness nature – fells, forests and bogs – are an important resource for nature-based tourism. The ideas of wilderness nature include often such characteristics as being large uninhabited areas remote from human settlements and roads, although some signs of human action like causeways or old wooden huts are allowed (Hallikainen 2001). Also tourism marketing often emphasizes the wilderness images. However, tourism centres are located in an environment that has also local social and functional meanings from before, as people have lived in rural villages by the fell sides for centuries, and also these meanings should be taken into account in the planning of nature-based tourist centres. The traditional social structures and land-use purposes of the rural village may also collide with the new land-use interests and “locals” of the tourism city.

In our interviews, tourist centres and their environment was seen as consisting of or a meeting point of rural village, urban tourist city and wilderness nature (see picture 2). Hence, in the planning of tourist centres, urban planning meets the planning of landscape and natural resources. A general problem in the planning of the growing tourist centres is to balance the aims to promote economical and regional development through excessive tourism investments and the fragility of both the northern European nature and local communities.
In the model, the three elements describe the experiences and expectations people have of certain kind of environments and the interaction of the different elements in tourist centres. The three elements are located in different ways on the continuum between the nature completely outside human action and environment fully built by people (Repo 1990; Järviluoma 2006). In the tourist centres in Finnish Lapland, such environments are characteristic for the landscapes as fells, old trees, large forests, bogs and in some cases also small villages. The tourist centres themselves have traditionally consisted of slalom slopes on the fell sides, cross-country skiing paths in the forests and wooden cottages, but nowadays the tourist centre core areas have become more or less urban, often with alpine style houses. In addition to the physical characteristics of the three elements, also the social aspects of environment such as people’s relationships to the physical environment and symbolic meanings (see e.g. Repo 1990) are considered in the model. The model hence illustrates the areal competition and various interests of land-use in the tourist centre environment.

For the rural village element, such characteristics like fields and small, often wooden houses are typical. In addition to architectural characteristics, also the local community is important. According to Lüthje (2005) forests with signs of human influence belong to the rural element, whereas other natural areas are regarded as wilderness nature. The urban tourist centre core, tourism city, is formed as a result of the fast growth of tourist centres and the need to build more densely in the centres. The tourist city has urban level services and urban structures such as high buildings and walking streets. In growing tourist centres, the urban element often aims to grow to the areas of the other two elements and thus expand the tourist centre to the areas of rural village or wilderness nature elements, or to push them further away (Mettiäinen 2007b). Often former agricultural land in the villages is changed into touristic land-use purposes as the rising price encourages the locals to sell land (McLeod 2004).

The element of wilderness nature includes multiple-use questions of natural areas close to tourist centres. In Finnish Lapland, there is competition and sometimes even conflicts between such strong land-use forms as forestry, reindeer herding, nature protection and tourism (see e.g. Mettiäinen 2007b). Growing tourist centres have more and more influence on the nature use in the immediate surroundings. In nature use policies tourism has started to subdue traditionally strong forms of land-use such as forestry. Growing tourism both threatens and supports the existence of rural villages nearby the tourist centers by, on one hand, providing local inhabitants with better services, employment and infrastructure, and on the other hand by competing of the use of forests and the agricultural lands of the rural villages. The wilderness-like nature should be easily and fast accessible from the urban tourist centre core.

As tourism changes the land-use and everyday lives of the locals, it is important for the local inhabitants to affect the development in the tourist destinations. The need to participate and influence the planning of tourist centres is nearly self-evident for the local inhabitants. How about tourists or second-home owners, seasonal workers of the tourist centres or other inhabitants of the tourist centre municipalities?

The locals’ role in the development of tourism in Ylläs and Levi

Local inhabitants of the tourist centre villages nearby Ylläs and Levi have not been only bystanders of tourism development, but they had an active role especially in the early development of tourism in their villages. Tourism was started in the villages by the local inhabitants: first as an additional livelihood to agriculture, and then gaining a remarkable role in the local sphere of livelihoods. In Richard Butler’s tourism area life cycle theory (1980/2006) the development of a tourist destination is
divided into five phases: exploration when the destination is found and no specific infrastructure or services for tourism exists yet, involvement during which the tourist flows increase slowly, development when local small-scale services are substituted by services and amenities built by remarkable investments, consolidation when most of the local economy is bound to tourism and there are more tourists than locals, and finally stagnation during which the tourist flows have reached the maximum, there is overcapacity in the accommodation business and the popularity of the destination is slowly decreasing. After the stagnation phase, the development process can continue as either decline, rejuvenation or stabilisation.

In our study area, the local inhabitants’ influence on tourism development has varied during these different stages of tourism development. As shown in Butler’s theory, the locals of the villages had the strongest influence in the very beginning and early development phase of tourism, involvement. In Ylläs and Levi tourism centres, the involvement phase took place approximately in the 1930-1960’s (Tuulentie & Mettiäinen 2007). As the villages lacked even such basic infrastructure as a road there, the first tourists from Southern Finland arrived by horse or reindeer sledges via nearby villages. Tourism was first an additional livelihood to agriculture, reindeer herding and forestry. During this phase, the tourists were visitors in the local homes and enjoyed the usual hospitality of the villagers. The first tourists encouraged the villagers to invest in tourism and taught them to set a price on accommodation and other touristic services. At this stage of tourism development, the influence of the locals was direct and undoubted, even if they answered to the demand expressed by the tourists. (Tuulentie & Mettiäinen 2007; Mettiäinen 2007a).

The phase of fast development and growth in Ylläs and Levi took place in the 1970-1990’s (Tuulentie & Mettiäinen 2007; Mettiäinen 2007a). The locals’ direct influence on tourist development became more or less marginal as remarkable investments in tourism facilities took place in the tourist centers and important investors, the so called “big money” started to rule. Especially in the 1980’s there were remarkable investments in the tourist centres such as hotels, spa, slalom facilities and airport. As it was put in the interviews of the local villagers, the tourist centres exploded in the end of the 1980’s. It was even discussed whether tourism actually began in the villages in the 1930’s or in the 1980’s. The role of tourism was somewhat doubted in the municipalities at this point and some public investments like a sports hall made in the tourist centre villages were strongly criticized in other villages of the municipalities. On the other hand, the locals of Äkäslompolo village pointed out their crucial role in building tourism facilities: for example skiing routes in Ylläs were built during this phase without public support.

As the growth of tourism in the areas came partly as a surprise also to the local politicians or authorities in the development phase, tourism was often allowed to grow on market demand and it wasn’t sufficiently planned. The local inhabitants said in the interviews that when the investors arrived to the tourist centres, the villagers’ role diminished and their voice was often left unheard. The interviewed villagers felt they weren’t asked for opinions at all as the former law on land-use and building did not require wide hearings of all locals but mainly landowners and special groups such as reindeer herders. The village areas were mainly owned by the villagers until the recession, so that the locals could affect the land-use through their own decision-making. The 1990’s started with an economic recession which slowed the tourism investments in Ylläs, whereas Levi continued its growth. Surprisingly, during the economic recession in the early 1990’s the locals’ influence in Ylläs grew as they cooperated by arranging a series of round-table discussions. The effects of this cooperation has been strong until last few years. (Tuulentie & Mettiäinen 2006, 2007; Mettiäinen 2007a).
Currently, Levi and Ylläs tourist resorts are in the consolidation stage (Tuulentie & Mettiäinen 2006, 2007). Remarkable investments are in progress and tourism has a very important role in the economy of the municipalities. The first large planning processes since the new legislation were about to be started by the time we conducted our interviews. In these processes local master plans are being made for both tourist centres. In the interviews, the local villagers of the tourist centers expressed high hopes that they will be heard in the on-going participatory planning processes. However, the planners’ and municipal authorities’ willingness to develop the tourist centre in accordance with also the local inhabitants’ needs was doubted due to negative experiences in the past. The villagers’ role has changed. Often the development of the tourist centres takes place in the participation meetings of planning processes. Village associations are active in many issues, but there are also difficulties in recruiting new people into them. In Ylläs, the second-home owners have established their own association which aims to influence the development of Ylläs. Some tourists have had a decades long visiting history in the tourist destination and many of them were rather committed to their tourist centre. Other tourists, though, would vote with their feet (Mettiäinen 2007a).

**Participation in the tourist centres today**

There has been a major change in the possibilities to participate and affect the local development and land-use, as participative planning was implemented to Finnish legislation in 2000 partly due to the European Union. The new legislation, the Land Use and Building Act, demands that the “people involved” should be heard in every land-use situation that affects their environment. The new law aims to guarantee people involved a right to have a say in the planning processes. However, it is argued that the new legislation did not add the involved’s rights to have their opinions come true in the plans (e.g. Leino 1999).

Staffans (2004) argues that in addition to participating in planning processes e.g. in public meetings, also local long-term cooperation and associations should be taken into account when examining local participation. In our focus group interviews, the participants were asked how they have participated or would like to participate in the planning and developing of their tourist centre. Both participating in planning processes and more informal but continuous ways of influencing such as local associations were examined. The results are shown in table 1.

The table shows that all of the groups of local actors have been reading about planning and developing projects of the tourist centres from newspapers and discussed them privately. Contacts to municipal authorities and activity in village associations were also very popular forms of participation. In addition to the local inhabitants of all the three villages, the second-home owners of Ylläs were the most active group in participating and influencing the development plans. It is very interesting that all groups except the second-home owners and seasonal workers in Ylläs had at some point felt that they did not have (enough) possibilities to affect the development of the tourist centres. The interviewed seasonal workers’ groups had very little interest in participating, so they hadn’t missed any possibilities. The second-home owners of Ylläs, on the contrary, are very active and experienced in participating different planning processes and they felt that their association has successfully influenced the developing of Ylläs. In addition to participating in official planning processes, the local inhabitants have several other ways of affecting their environment, such as pleas and initiatives, social networks, writing to local newspapers, municipal democracy and cooperation in local associations. A popular suggestion for a new participation forum was a recurrent seminar on land-use and tourism development issues for all
stakeholders. The seminar in Ylläs in 2005 on land-use issues and the Island Committee of the Finnish archipelago were presented as exemplars.

As the participants in our interviews were probably somewhat more active in participating different planning processes, municipal democracy and local associations than the actors of the tourist centres in general, these results should not be regarded as fully generalizable. It must also be remembered that in focus group interviews different opinions are allowed within each group and there is no aim to reach consensus, although consensus in some issues may occur as a result of collaborative learning.

<table>
<thead>
<tr>
<th>Participation methods</th>
<th>Åkäslompolo villagers</th>
<th>Ylläsjärvi villagers</th>
<th>Sirkka villagers</th>
<th>2nd home owners in Levi</th>
<th>2nd home owners in Ylläs</th>
<th>Seasonal workers in Levi</th>
<th>Seasonal workers in Ylläs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participating in public meetings of planning processes</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contacts to municipalities, planners and regional authorities</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Keeping an eye on planning processes through media</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Complaints and objections in planning processes</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-starting action and cooperation in a single matter or (planning) project, work party</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village associations and other continuous local activity</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholder activities, e.g. school board, annual general meeting</td>
<td></td>
<td>x</td>
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Challenges to planning and participation

Many of the problems in the participatory planning of tourist centres are common also to other planning cases: for example the middle-aged (esp. men) are too strongly represented and public meetings lack young people. Also lack of interest in participation, lack of confidence and strong groups dominating the public meeting discussions are present also in the planning of tourist centres (see e.g. Wallenius 2001, Päivänen et al. 2002). Special challenges related to the tourist centres include themes such as wide range of land-owners and foreign interest parties involved makes it difficult to reach sufficient and representative participation.

One question in the context of the special character of tourist centres deals with the legitimate definition of “people involved” – to what extent should for example second home owners or seasonal workers have a say in the planning processes. A sense of being at least partially local seems to be a synonym for being involved and an important prerequisite for being interested in participating. The study shows that the more the different actors of tourist centers feel attached and committed to the place (= local), the more they are interested in participating in developing the centre. Many second-home owners considered themselves at least semi-local and were actively participating in the development planning of their tourist centre. Amongst the second-home owners, also future plans to be-come permanent resident were expressed in the interviews.

Both the tourists’ and villagers’ focus groups emphasized the same aspects when considering the criteria of localiness of the tourists or second-home owners. A long visiting history in the area and often, but not necessarily, ownership of a second-home was considered one of the criteria. However, ownership of a second-home was not considered sufficient alone, but interaction and connections to local villagers and sometimes also interaction with other second-home owners of the tourist destination and reading local newspapers were emphasized. In a way, being interested in the current events and recent plans in the tourist centre also builds up localiness of the tourists in the eyes of the villagers. In the seasonal workers’ focus groups few participants considered themselves more than visitors in the centers and only few had previous holiday history in the tourist centres. Some seasonal workers were actually interviewed in the villagers’ focus groups, i.e. some villagers worked as seasonal workers in tourism business. Some non-local seasonal workers pointed out their role as future tourism professionals as a possible motivation for participation.

According to our interviews, among the biggest problems in the planning of the tourist centres have been that there is unfamiliarity with the new kind of planning processes and planning language among local actors. If local inhabitants (and as argued, also municipal politicians) had little knowledge in the planning language in the 1980’s, today the new planning process sets challenges to participation. It is often feared in scientific literature concerning collaborative planning that unfamiliarity with the new planning process would lead to participating too late regarding the planning process. However, in our interviews it was expressed both among the municipal authorities and planners and local villagers that the need to participate and influence in time is widely recognized. As the growth of tourism and hence changes in the environment and everyday lives have been remarkable and large scale investment plans are published often, the need to affect the land-use plans in time is clear to the participants.

Actually, people have been expecting too much on paper too early regarding the stage of the planning process and with nothing to show yet, the aims of the planners and municipal authorities have been doubted. As the planners put it: while some people wish to see “something on map” before they feel they can participate and give comments, others consider even the most preliminary suggestions as limita-
tions to their possibilities to affect the plans. This is a challenge for the planners of the municipalities.

Both municipal and regional authorities pointed out that people have too high expectations in what comes to the effectiveness of a single opinion in the planning process. Lack of confidence can as well, to some extent, be noticed as a problem in the planning processes partly due to local inhabitants’ negative experiences in the past. The role and effectiveness of participation was doubted and such expressions as “they don’t ask us” or “it’s no use to participate” were heard during the interviews. Some villagers even felt that the municipal authorities would rather have them move further away from the village in the favour of tourists and second-homes. Local inhabitants can develop their village from their own standpoints in for example village associations and other continuous, self-starting action and cooperation. In land-use planning the questions are typically not set by the locals but by planning officials and thus only limited issues can be discussed (cf. Wallenius 2001, Staffans 2004). As tourism is eagerly enhanced in the municipalities, it can be questioned whether it would actually be possible to alter the touristic land-use goals as a result of participation.

It has been argued (see e.g. Päivänen et al. 2002) that quality can suffer in planning, i.e. less effort is put on quality aspects such as aesthetic values, as opponents are often the most active group of participants. Also in our interviews it was expressed that the urgent need to build more tourism facilities such as routes in growing tourist centres can lead to lesser quality in the planning results as land-use planning is quite slow due to disagreeing land-owners. For example in the snow mobile route planning the quality of landscapes have gained less attention as there has been enough work to establish the route in the first place. But should participation be considered only as resistance and criticism? Our interviews show that as a result of successful participation people commit themselves to the planning results.

Environmental challenges of planning the tourist centres include themes as multiple-use of natural areas as the wilderness(-like) nature next to the tourist cities is a resource for both tourism and villages and the touristic use and local inhabitants’ traditional ways of using the nature may collide. Wilderness(-like) nature should be easily accessible from the centre of the tourist centre, but the growing amount of tourists and second-homes leads to a need to build more cottages, which can push the wilderness-like nature further away from the tourist centre core. Excessive building of cottages in forests or high on the fell sides were considered as threats as well as erosion and crowding of trails. Also the rural villages should be maintained as villages. In our interviews, semi-urban dwelling was not considered attractive but the local residents wished to live in rural landscapes with fields and openness.

There is a need to manage tourism flows in the nearby recreational areas, to maintain wilderness-like nature accessible from the densely built, urban(izing) tourist service centers (the three elements model of tourist centre environments see Mettäinen 2007a) and to take also local inhabitants into account. In regard to the new Land Use and Building Act from year 2000, there is still a lot to learn and develop in the tourist centres. The tourist centre municipalities have encountered deficiencies in the Land Use and Building Act in planning of tourist centres, although the regional authorities claim the problem lies within the implementation in the municipalities, not the law. The new law gives some good tools to planning for the municipalities, but tourist centres as special places would need something more. Also better instructions for planning tourist centres were hoped for. As a municipal authority put it, there are no official instructions on how to plan a tourist centre.

There are already some examples of good planning processes such as the Maisematie landscape road project in Ylläs and the snow mobile route planning process in Kittilä, in which the local inhabitants have affected successfully. The new legislation has given more hope for the locals that their opinions will be truly taken into account.
in the planning and developing of tourist centres in the future. This is an important
goal and prerequisite also for socially sustainable tourism.

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A Model of Collaborative Planning  
Developing Sustainable Settlements  
in the Schorfheide-Chorin Unesco-Biosphere Reserve (Germany)  

Jürgen Peters, Prof. Dr.  
University of Applied Sciences Eberswalde  
Chair in Landscape Planning and Regional Development,  
Address: Friedrich-Ebers-Str. 28, 16225, Eberswalde Germany  
E-mail address: jpeters@fh-eberswalde.de  

Abstract  

After the German reunification in 1990 most of the communities in Eastern Germany designates a lot of new business and residential areas outside the old village limits. This caused an ongoing loss of open space even though in a period of zero population growth. Today there is a daily rate of 90 ha built-up area in Germany. This problem is not only significant in a statistical manner but also in the landscape itself.  

A wide range of modern style architecture and building materials has been pushed into the East-German market. The new styles have transformed the region’s typical style of architecture. Hence the villages are threatened to lose their special character. This problem applies accordingly to the protected areas, although there are a lot of legal requirements.  

With an area of 1.291 square km the Schorfheide-Chorin Unesco-Biosphere Reserve is one of Germany’s largest protection areas. The reserve’s objective is to manage the diversity, individuality and attraction of a cultural landscape which is unique in Central Europe and to bring the trend towards settlement spreading to a halt.  

In order to recollect the typical elements of villages the “working group for sustainable development of settlement” was founded at the University of Applied Sciences Eberswalde in 2002.  

This working group is organized by the project group campus.rurale of the University of Applied Sciences Eberswalde. campus.rurale is a platform for the transfer of know-how on sustainable rural development. The activities focus especially on the North-Eastern part of the Federal State of Brandenburg.  

Sustainability has been a vital guideline since. In particular the working group focuses on protection of region’s typical architecture and ecological design elements by applying participatory planning methods. Group members are landscape planners, architects, representatives of building authorities and the Biosphere Reserve as well as researchers of the University.  

Themed “Looking over the neighbour’s shoulder” there has been five field trips to different villages and several meetings with special questions on sustainable rural development of settlement since then. Issues such as constitution on designing buildings, typical natural stone streets or ecological design had been discussed. Usually the village’s mayor guides an inspection through the village. campus.rurale and the working group offers solutions by transferring know-how or by initiating and coaching student projects. At the same time the University benefits of the exchange of experiences as it obtains new impulses for education.
Introduction

The article deals with the subject of settlement development in the federal state of Brandenburg in North East Germany. The density of population is, compared to other regions in Germany, very low (28 Inhabitants per square kilometer). 30 % of Brandenburg is a protected area. The main task is the conservation, management and development of the notable character of this landscape formed by the Ice Age 10,000 years ago. One of the tasks is to guarantee a sustainable development of the settlements. This means for example inner compacting before outer development.

A cooperative action research-project between the University of Applied Sciences Eberswalde and the Unesco-Biophere Reserve “Schorfheide-Chorin” (BRSC) tried to answer the question of how to stop the uncontrolled development of settlement areas. The project was initiated in 2001 and it is still under way. The aim is to find the right balance of “hard” steering instruments, such as land use plans and “soft”- steering instruments such as discussion forums and consulting services.

![Figure 1. The location of Biosphere Reserve “Schorfheide-Chorin” in Brandenburg.](image)

Development of settlements

The figure 2 shows a characteristical village in Brandenburg. Most of the villages in the region have been constituted during the period of inner colonisation of Brandenburg between the 13th and 17th centuries. These villages are divided into a compact building area and a belt of gardens. The farmers who live here came from all over Europe (Netherlands, France etc.). A characteristic feature is the meadow in the centre of these villages – with the church, a pool, the school, the smithy and other public buildings. In former times there existed a pasture for the cattle and other animals.

In the 19th century lime trees and oaks were planted here, as shown in the picture, on the right hand side.
Figure 2. Villages with central meadows and manor villages.

Friedrichwalde

Hohenfinow

Marwitz (Oberhavel)
In figure 3 there is a typical courtyard farm composed of three parts: the farmstead near the road, the stable and the barn in the rear.

As an interface to the landscape are the large stretched kitchen-gardens. This ensures a harmonic integration of the village into the surrounding. This is a typical setup of traditional farm houses. But what happens now? What is the recent trend in constructing residential areas?

**Parcel structure with trees**
- **economic function**
  - fruits
- **ecologic function**
  - shadow against wind
  - fauna
- **social function**
  - front garden as room for social contacts

![Figure 3. Courtyard farms in villages Federal State of Brandenburg.](image-url)
The new settlements are totally different from the traditional ones. They are standardised with orthogonal small parcels, no reference to the traditional patterns or the nature; these settlement areas are totally separated from the traditional village (figure 4). Along time, the image of the villages is changing considerably.

In some of the villages it seems as if everybody is allowed to build whatever they like. Building components and materials that were not available in times of GDR are tested now, with negative effects for the appearance of a village (Fig. 5a, b, c). On the basis of the constitutional law the communal planning authority has a high influence in the system of spatial planning. Rarely does a mayor want to regulate building, because they want to be re-elected. Therefore, rules of aesthetics do not seem to exist.

Figure 4. Development of the village.
Figure 5. New appearances of villages in Brandenburg.
The reality of settlement development is not only an aesthetical phenomenon but the other problem is the urban sprawl (Fig. 6). Brandenburg has a low density of population, but even here the daily rate of changing farmland to building area goes further on. 90 hectares per day are absorbed by building areas. Within only one year a town with 200,000 inhabitants can be newly built!

If one talks about the connection of the development of settlement and architecture on the one side and development and protection of the landscape on the other side, one can do this on two levels:

- one level is the uncontrolled development of the urban sprawls
- the other level is quality, that means the design of buildings and the appearance of the village on the whole.

Contingent of settlement and transportation area in %

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Reference:
Bundesamt für Bauwesen und Raumordnung in Landesamt für Umwelt, Naturschutz und Geologie (LUNG 2001)
Mecklenburg-Vorpommern: Freiraum Landschaft - Der stille Schatz, 5. Broschüre

Figure 6. Urban sprawl.
This is the reason a national strategy for sustainability in the item of settlement development has been adopted in Germany. The National strategy of sustainability aims at decreasing the claim of new settlement and traffic area from 90 ha to 30 ha per day in 2020. To reach this goal there are the following sub-goals:

- 30-ha-aim for reduction as a guideline for the level of the Federal Republic and the Federal States
- inner development as a guideline for the regional and communal level, inner development priority compared to outer development,
- Protection of soil with special ecological and economical functions.

What does this mean on a regional level?

The trend of uncontrolled development still exists, despite elaborate regulation of town planning, landscape planning and stagnating growth of population. Regardless of a massive vacancy of accommodations the demand on newly built living space is high. There are two main reasons for that:

- a mistaken policy of advancement, with a bonus for every kind of privately owned home
- the phenomenon of prosperity: the need of living space has increased per inhabitant.

The previous discussion with just one quantitative indicator is very blanket and not sufficient. Indicators for the assessment of qualitative chances in the claim of space are totally missing. The progress report of the national strategy of sustainability aspires this. The further development of key indicators for the quantification for the claim of space is therefore an important task.

The map (Fig. 7) shows the development concept for the BRSC. In the landscape framework plan for this region the aims for the sustainable development of settlement are fixed. These aims are footing on a all-embracing analysis of ecological and landscape aesthetical deficits but the problem is that the landscape framework plan is an informal plan, it is not binding and hence the aims are not taken over by the communities. That means the landscape planners work with this plan, but the mayors of the communities do not. They follow the guidelines of the land use plan.

So there are a lot of conflicts between the actors in this region. Facing this problem, the BRSC and the University of Applied Sciences Eberswalde decided in 2001 to find new ways to reduce these conflicts.

In 2001 the pilot scheme “working group for sustainable settlement development” was created at the University of Applied Sciences in cooperation with the Kulturlandschaft Uckermark e.V. (KLU), as the development association of the BSCR. The aim is to reduce barriers between political players, administration and the economy and to agree on common action. Problems and solution strategies concerning the area of conflicts between nature protection, settlement and economic development are discussed at regular intervals. Until now a network of policy makers, administrative officials, scientists and citizens have been established. The activities are organised and coordinated by the University of Applied Sciences Eberswalde and by the KLU (Fig. 8).
Figure 7. Landscape framework plan Biosphere reserve Schorfheide-Chroin-development concept 1.

Figure 8. Working party of sustainable rural development.

- Open discussion forum
- Mutual development of mission statements
- Exchange of experiences
- Organisation of professional field trips
Soft and hard steering instruments

Actually the communities have a comprehensive set of instruments for the management of the development of their area.

The instruments can be classified in “soft” and “hard” steering instruments.

“Soft” steering instruments are:

- Exchange of experience / discussion forum (best practice)
- Field trips
- Education / further Education
- Consulting service - Design Brochure
- Competition / House Builder’s award
- Tourism

“Hard” steering instruments includes:

- Policy of support / Reduction of Subsidies
- Land Utilisation Plan
- Legally Building Land-use Plan / Text legally Building Land-use Plan
- Preservation and Development Statute

Both instruments – the “soft” steering instruments and the “hard” steering instruments - complete each other: the hard steering instruments set the framework for the soft ones. Besides the following soft steering instruments serve to enhance the awareness for questions of the development of settlement. The rural tourism inhere a showcase function, in which the regional character is imparted to the guests. In reflection the appreciation for the typical regional character is supported by the community to a greater extent. The test question of every mayor should be: What will represent the recognition of the village in 20 years?

Field trips, as part of the soft steering instruments, are organised periodically by the University of Applied Sciences Eberswalde (Fig. 9). Not only students take part, but also majors and experts from planning offices. Field trips are a very useful method to look at what happens in the neighbour community and to discuss whether it could be transferred to other places.

Competitions are another soft instrument to raise awareness for sustainable development.

The competition “Regional Building in the Biosphere Reserve” took place in 2003. The result shows that there are many good examples of buildings that are adapted to the regional character. This is a good opportunity to increase the attention of good practice.

Meanwhile two brochures have been printed. Both brochures “Regional typical building” and “Green in the village” published in 2006 were demanded by building owners, architects and communal representatives of authorities.

The key factor for the success is the distribution, not by the “green authorities” as the biosphere reservation, but by the building authorities so that the building owners get guidance right from the start for designing their houses and gardens.

The great demand of the publications shows that the theme “regional development of settlement” is coming up again. For the success of a sustainable village developing process it is essential to supplement the formal instruments, like a preservation or developing statute, with strategies of the perception of the landscape and a public debate about cultural landscape.
Figure 9. Field trip.
Collaborative planning requires compromises. In the majority of cases historical cobbleroads require a compromise between preservation of the historic heritage and the functionality for example bicycles. With the help of the working group “development of settlement” it succeeded at least in some cases to displace the method of “clean sweep” like asphalting of historical natural cobble roads with a more careful reconstruction (Fig.10).

Here the typical natural stone pavement is at least further used in composition with a “modern” concrete material (Fig.11). Aesthetical and functional requirements should be combined as often as possible. This is an example of how sectoral aims can be combined with landscape aesthetical aims.

Figure 10. Alley in Himmelpfort (Uckermark).

Conclusions

Now we come to the conclusions. The experience of the last 6 years within this field of collaborative Planning has shown that:

- the Planning processes should be consequently collaborative and orientated on common objectives
- “hard steering instruments” have to be complemented with “soft steering instruments”
- “best practice”- examples are more convincing than theoretical objectives
- Ecological and landscape aesthetical objectives have to be connected with economic objectives
- Tourism is an economic sector with a strong integrative power.

That means all participants should agree to the goals. Logical Framework (Log-Fram) can be a useful tool to stimulate a broad agreement. The local players have to be involved from the agreement on objectives until the utilisation. Field trips are the best way to get to know the real situation.

What are the consequenses regarding the education of village Planners?
As a matter of fact they should have a funded basic knowledge in:

- Urban Planning, Architecture and Monument Conservation, also in the Filed of
- Landscape planning, Nature Conservation and
- Traffic planning.

In addition to these competences they will need the above mentioned conceptual skills to organize a long process of collaborative planning.

References


Participatory and Regional Approach in Forest Planning

Present state and an ideal model for private land in Finland

Jukka Tikkanen & Mikko Kurttila
1Researcher, D.Sc (For.), Finnish Forest Research Institute, Joensuu research unit jukka.tikkanen@metla.fi
2Acting Professor, University of Joensuu, Faculty of Forest Sciences, Finland mikko.kurttila@joensuu.fi

Abstract

A regional approach is one of the main challenges facing today’s forest planning practices. Both ecological and social sustainability call for planning that crosses estate-boundaries. In regional planning forest owners also take into account, except for their own holding’s specific objectives, objectives set for the larger entities, defined by ecological, geo-political or other equivalent criteria. Such an approach presumes co-operation between forest owners and local stakeholders. Even though regional thinking has many advantages practical progress has been minimal in private forestry. Reason for scepticism might originate from the lack of versatile concepts to discuss participation. If any regional participatory process is to be launched for private forests, it should take into account the undivided right of forest owners to make decisions on their own forest properties, but still motivate them to widen their perspective over the estate boundaries.

The theoretical framework used in this article recognises optional participation procedures based on (1) intensity; (2) openness and transparency of the participation; and (3) the main principle of organising participative actions. Using the framework the article first gives an overview on the Finnish forest planning system in private forests, and participation therein. Then an “ideal process” on the systematically defined regional informing and planning process will be given, to encourage consideration about this politically sensitive issue. The article is a synthesis of several original articles, most are published in Finnish.

Keywords: planning, forest, participation, collaboration, regional, landscape ecology

Introduction

In Finland there are about 400 000 forest owners and the average woodlot has 24 ha of productive forest land (Metsätilastollinen 2006). State-owned forests are located mainly in the north and east. In southern Finland the forest landscapes are fragmented by hundreds of individual estates, in such a way that it is problematic from a regional objectives´ view. For instance, from an ecological perspective an individual woodlot is not self-contained: a stream may flow from one property to the next; from the regional entrepreneurship view forestry operations conducted near tourist resorts have an essential importance (Pykäläinen et al. 2006).

Regional perspective calls for a somehow organised co-operation between forest owners. Stevens et al. (1999) suggests “co-operative-management” and Kurttila et al.
(2005) “group decision-making” as potential solutions to the problems posed by forest fragmentation. Furthermore, planning studies and experiences with a regional focus have emphasised even public involvement in the planning process (Galindo-Leal and Bunnell 1995; Hallman et al. 1996) to achieve a confident basis for decision making.

Regional planning schemes have been consistently developed for the planning of state forests. For that purpose Metsähallitus (The State Forestry Company in Finland) has adopted the concepts “Participatory Natural Resource Planning” and “Landscape Ecological Planning” (Wallenius 2001, Hallman et al 1996). In private forests there has been good progress in many ecological perspectives: key biotopes, retention trees, riparian zones, water quality management, etc., have been emphasised during recent years, but without a regional focus (Rakemaa 2003, Kurttila et al. 2005). The motivation to develop a regional planning procedure has been rather minimal (Pykälänen et al. 2006).

In Finnish forest legislation there are no requirements for truly enhancing across ownership borders by means of extending the planning processes. Some regional emphasis can be found from the acts and from the recent forest policy rhetoric. According to the Forest Act (1996) Forestry Centres have to co-operate to fit together objectives of the forest act and the land use and building act.” Recently, the most important policy process encouraging landscape oriented and participative planning is the implementation of the Forest Biodiversity Programme for Southern Finland (so called METSO-program). Under this framework several new instruments have been launched and piloted for enhancing voluntary nature conservation. One of the piloted instruments is the “co-operative networks on forest biodiversity”. These networks are enhancing the protection of forests on the basis of local initiatives and voluntary action. Landowners, the local authorities, NGOs and other interest groups participate in these networks. The objective of co-operative networks is to create more or less clustered regional networks of small conservation areas promoting both biodiversity and social and economic sustainability. Networks are aiming to give opportunities for rural entrepreneurship, employment and nature tourism, for instance (Metso Newsletter 2/2005).

Thus, there are not obligatory directions motivating forest owners to organise regional or landscape level planning projects, but there is an increasing debate, from many perspectives, about how to integrate multiple forest owners and stakeholders in the same planning project. If a regional participatory process is to be launched for private forests, it should take into account the undivided right of forest owners to make decisions in respect of their forest properties, but still motivate forest owners to widen their perspective to extend over the estate boundaries (Brunson et al. 1996).

The above task will inevitably face many difficulties, no less because attitudes towards participation are rather biased among forestry professionals working for private landowners (Jacobson 2002, Tikkanen et. al. 2002). One reason for this scepticism might originate in the lack of common ground and concepts in discussion. Firstly, in the Finnish planning system the roles of a society driven policy process and estate level planning are unclear: the regional forest inventory and estate-level planning are conducted, practically speaking, by the same process (Kangas & Hanninen 2003, Hokajärvi et al. 2006). From the public rights view, the data collection, which is supported by the state, and estate level planning, which is supposed to aid the forest owner in his/her decision-making and is paid for by him/herself, are obviously different. Secondly, widely referred planning views, like “ladders of citizen participation” (Arnstein 1969), or “collaborative planning” (Healey 1997), among others share a-priori idea of “citizen power.” In the case of privately owned forests, this normative view collides with another highly appreciated value in society, namely property rights (Tikkanen et. al. 2002).
The main principle of this article, consistent with forest policy aims (Rakemaa 2003), is that the forest informing process motivated by the societal aims should be conceptually separated from the forest planning process, which serves purely the decision making and goals of the forest owner. Anyhow, these two processes ought to be linked, because the impressiveness of the informing process depends on how well it activates forest owners. The second principle is that more versatile and pragmatically oriented concepts are needed for understanding the possibilities of a regional planning approach and participation, therein.

The article starts with a proposal for a theoretical framework to describe participation practices. Following that, a short orientation to the Finnish forest planning system in private forests, and participation therein, will be given. This part of the article is a synthesis of several original articles, most are published in Finnish (Tikkanen 2003; Tikkanen et al. 2005, Leskinen et al. 2002, Kurttila et al. 2005, Hokajärvi, et. al. 2006). Finally, the theoretical framework serves as a starting point to present an “ideal process” on a systematically defined regional informing process, modified from the previous presentations as well (Tikkanen et. al. 2005, Pykäläinen et al. 2006).

**Participation procedures**

The term “participatory planning” is in Finnish forest planning related discussion (Loikkanen et al. 1995, Wallenius 2000, Tikkanen 2003) used as an overall, umbrella concept for planning where participants other than the actual decision maker (i.e. the forest owner) and those from the planning organisation are involved. In participatory planning, participants provide opinions and preference information of their own or their reference group to the planning process. Professional information exchange is not participation, per se. Furthermore, participation is conscious and systematic in participative planning (Loikkanen et al. 1995). Procedures of participation in such a planning system can be described by defining (1) intensity, (2) openness and transparency of participation and (3) main principle of organising participative sessions (Tikkanen 2003, c.f. Arnstein 1969, Harju 1988, Vroom & Jago 1988).

The intensity of participation can be described in enough detail by separating four levels: Information exchange, Interactive planning, Collaborative planning, and Delegated decision right. The main questions to describe intensity of participation are perseverance of communication and involvement in decision-making.

On the information exchange level, the planning body collects information about the needs and objectives of participants, for example, by survey or by arranging public meetings. Participation is not a very organised process because data collection is generally focusing on the individual participants. Decision makers and/or planners consider how they take this information into account in planning. On the Interactive planning level, participants are invited into different kinds of planning groups, which can be, for example, steering groups or working groups, which come together several times during the planning process. Repetitive meetings enable members of the group to learn about the opinions and reasoning of each other. Also in interactive planning, planning organisation reserves the right to decide about the plan and how the proposals of the working groups will be taken into account in the final plan. At the level of Collaborative planning, decision-makers, planners, officials and interest groups are intensively co-operating to formulate the plan and finally approve the plan or proposal together. At the Delegated decision-making level, the planning body transforms its decision-power of what is included in the final plan to that of the participants, partially or totally.

The participation process can be either open or restricted. In restricted participation participants are grouped consciously or unconsciously by involving only pre-defined
persons or arranging participation so that, practically, only a limited group has a real possibility to participate. In open Interactive or Collaborative planning participants have free possibilities to organise themselves into groups according to their own interest. In order to be open, participation procedures should have some functions guaranteeing that the input of participants is forwarded into the decision-making, either straight via planners or via representatives of working groups. Furthermore, planning is transparent and open when participants are aware of the planning/decision-making process and they can also follow how their contributions are taken into account in planning.

Participation can be organised either so that different organisations are allowed to know each other’s views (unitary participation) or so that every organisation is involved separately (segmented participation). Unitary participation is organised using methods which ensure that the input of participants is served openly to others for assessment. Most often, unitary participation is carried out so that different participants take part in the same meetings, but opinions can be conveyed to the other participants also using other methods.

Finnish forest planning system

The planning system for private forests consists of five levels: National Forestry Programme; Regional Forestry Programmes; Regional Forest Inventories; Estate-level Forest Management Plans; Detailed Planning of Forestry Operations.

The National and Regional Forestry Programmes are continuous strategic and forest policy processes in which aims and action proposals for industrial timber use, non-wood production, recreational activities, nature conservation and rural development are defined. The main instrument for implementing these Programmes is the allocation of state funds based on the Act on the Financing of Sustainable Forestry (1094/1996). The Programmes are linked in order to ensure the coherence of the regional and national objectives.

The Regional Forest Inventories (RFI) are a key instrument for guiding forest owners towards the implementation of the national forest policies. Therefore, it is funded from the state budget. The basic compartment-wise inventory data are collected from the so called planning areas (2000-5000 ha) by the Forestry Centres. Normally the forests in a planning area are owned by tens or even hundreds of forest owners. The forest data are collected covering the whole area, not from only the forests of the owners who have ordered the voluntary estate-level forest plan. However, the created plans do not address any landscape-level objectives and the possible interdependencies between individual holdings are not considered in any respect. On the other hand, one product of the RFI process is a kind of “Regional Plan” which is a summary of the Forest Management Plans of private estates. Because of privacy protection this regional summary cannot contain data that can be connected to individual estates.

The forest legislation does not oblige the forest owners to have Estate-level Forest Management Plans (FMPs), although the importance of FMPs is emphasised in various laws and regulatory guidelines for Finnish forestry. For example, the Act on the Financing of Sustainable Forestry offers financial advantages for private forest owners having an FMP. For that purpose The Ministry of Agriculture and Forestry has standardised the contents of the plans: it has to contain information on the amount of planned cuttings, incomes and costs during the planning period and a summary of the growing stock, growth, cuttings, silvicultural operations and the biotypes having special importance for nature conservation. A plan can focus on timber production, nature conservation or recreation, depending on the forest owner’s wishes.
The Estate-level FMPs are based on RFI data. Forest owners can have this data at the original cost, that covers only the cost of data detachment and mailing. The planning period is 10-15 years. In principle, forest owners can procure planning services from a regional Forestry Centre, a Forest Management Association or from private consultants, but the Forestry Centres have had a rather dominant role in this business (Tapion vuosikirja 2006). Apparently, estate-level forest management planning has dual objectives: firstly, it aids forest owners in their decision-making, and secondly it is an educational tool for guiding forest owners towards the implementation of the national forest policies. Some researchers (for example Kangas & Hänninen 2003) consider forest management planning mainly as a forest policy instrument.

Estate-level Forest Plans do not have any binding force: forest owners either follow the recommendations or not when making operational decisions for particular forest stands and forest works, such as cuttings, site-preparation, planting etc. Most of the forest owners order operational planning services, including the preparation of a forest use declaration, together with implementation. Forest owner has to give forest use declaration to regional Forestry Centre two weeks before indented forest operation, at the latest. So Forestry Centre can control legality of the intention. A declaration has to include information, among other things, about location of the area, the purpose of the felling, quality of the site, the average age or development stage of trees, whether the regeneration will be carried out by natural means, by sowing or by planting, the principal tree species etc. (Forest decree 1200/1996). The main organisations offering forest work services are the Forest Management Associations for silvicultural works and the Forest Industry for cuttings, and increasingly also private consultants. Forest Centres also have a business oriented branch offering services for forest improvement works.

Collaboration in forest planning

Collaboration in regional and national forestry programme processes is rather well studied (see for example Hyttinen & Niskanen 1999; Hänninen & Ollonqvist 2002; Tikkanen 2003 and 2006; Leskinen 2004a and 2004b) and it is also guided in practice (Paldanius & Tallskog 2000). On the contrary, there are no reported experiences and guidelines about how involvement has been or could be organised in estate level tactical or in compartment-level operational planning in private forests. Some forest management conflicts would however call for more open planning, especially at the operational level. Even though much can be done for developing participative processes for forestry programmes and operational planning, this article focuses on the Regional and Estate level.

For the Regional Forest Inventory no national strategies or guidelines on how participation should be organised are available. The Forestry Centres have provided their planners with guidelines on stakeholder collaboration to a varying extent. Most of those guidelines address collaboration with forest owners to a significant extent, but much less do they address the co-operation with other directly forest-related actors, and do not generally encourage the forest planners to involve other stakeholders or segments of society in the forest management planning (Hokajärvi et al. 2006). Thus, planners have a lot of freedom to decide how they work with interest groups and stakeholders.

The planners’ attitude towards co-operation is more positive than their practical possibilities of co-operating with stakeholders. Almost all planners are in regular contact with the Forest Management Associations and more than every second one also with the forest industry. Participation with this segment is motivated by joint marketing of estate-level plans and forest operations. Less common is the co-op-
eration with other stakeholder groups, which are mainly considered as information producers and as setting additional constraints that must be taken into account in forest management (e.g. position of local master-plans, protected areas, endangered species). Only gamekeeping organisations are, every now and then, heard also in terms of forest management objectives. (Tikkanen et al. 2005).

The majority of the forest planners see that it is important to take the opinions of the owners into account, when estate specific management plans are constructed (Tikkanen et al. 2005). Even though, the co-operation between the forest owner and planner is not nowadays evident: just more than half of the forest owners feel that they have had the opportunity to define their objectives for the planning in practice (Pesonen et al. 1998, Hänninen & Tikkanen 2003). Especially those owners who have mainly economical objectives do not feel it necessary to be involved in the planning process, because they rely on the professional planner being able to give the support they need. Another group of owners are interested in the planning so as to get to know more and learn about forest management. Although they participate in the planning, they are not interested in emphasising their own particular objectives to be taken into account. The members in third group have different, rather well-defined objectives and they want them to be taken into account in the planning. (Isokääntä & Tikkanen 2003). Neighbouring owners or other stakeholders are not involved in the estate-level planning process.

To summarise, the Regional Forest Inventory procedure is following a restricted and segmented information exchange procedure. In RFI the forest planner of the Forestry Centre is the decision maker who decides what will be the content of the forest plan. They exchange information mainly with other forest professionals, one by one. Other stakeholders, like environmental organisations and municipalities serve as a source of relevant information about constraints. Other possible stakeholders are almost entirely excluded from the process. In the estate-level planning the ultimate decision maker is the forest owner. Estate-level plans are constructed along with the RFI and from the owner’s perspective, the process follows a restricted and segmented delegation, where the owner, consciously or without better awareness, gives decision-making power, regarding recommendations presented in the plan, to the planning professional, alternatively the process is following an interactive bilateral procedure.

What could collaborative regional informing and planning for private forests be like?

Collaboration, interaction and openness have not been among the main objectives when inventory and planning systems have been developed for private forests. Nonetheless, these concepts are among the criteria, which have been used to describe regional forest planning procedures aiming for ecological, economic and social sustainability. The question arises whether an open collaborative process is practically possible, on a voluntary basis, when information is collected and management plans are constructed for individual private forest owners. An ideal model, presented below, outlines what it could look like; the aim is to encourage consideration about this politically sensitive issue.

The model helps to perceive some of the essential features of the participative planning approach, which increases mutual understanding and learning among the local actors. The model is owner-oriented and it differentiates the Regional Forest Inventory and the composition of holding-specific plans. The forest inventory is in the model expanded from passive data collection to active informing, which improves impressiveness and meaningfulness of the inventory work (Hokajärvi et al. 2007).
Furthermore, the model aims to take the privacy protection issues relating to forest property into consideration. The aim of the process is to first of all effectively collect, construct and mediate information from stakeholders to forest owners and, according to owners’ permission, from forest owners to others forest related actors. The model includes the following phases:

1. **Establishing the planning area.** First, the landowners call in a consultant to coordinate the collaborative informing and planning process. The process can be initiated also by an organisation which is responsible for producing Regional Forest Inventory data, but a lot is lost if the initiator is other than landowners. Then, the consultant and the landowners (or their representatives) specify the target area for planning and agree which objectives and procedures are set for the participative approach to the regional planning.

2. **Informing and surveying starting points.** The various parties will be invited to the meeting that initiates the actual data collection. Landowners can receive a great deal of visibility, and improve their trust through an open invitation. In the meeting the participants can present their own considerations that they wish to be taken into account when composing the notices and plans. A steering group is named for the project at the meeting.

3. **Acquisition of advance information.** The steering group and consultant define, after hearing the various considerations, during phases 1-2, which issues should especially be taken into account when collecting data in the planning area. The data collection normally starts with figuring out the land use constraints and other advance data. Therefore, the consultant is in contact with specialists of various fields, whose selection depends on the area’s special characteristics and needs for information.

4. **Field work.** The regional inventory will, increasingly rely on remote sensing data. The amount of field work is minimised to save resources. Therefore a lot of effort has to be put into the allocation of field work, to ensure the accuracy and usability of the data in the decision making. If the acquisition of advance information is successful, no regular contact with other parties is necessary during the field work. In practice, however, the planner needs to acquire information about work plans and unfinished work, to improve the quality of the data. In cases with special interests, when composing alternative treatment suggestions for forest compartments it is necessary to enquire also about the opinions of the stakeholders about the management options. Building up a mutual understanding is most effectively and economically contributed through field excursions, by presenting example sites that represent alternative measures.

5. **Composition of regional appendix.** The consultant drafts a regional appendix. By this appendix owners are informed about the valuable viewpoints pertaining to a larger forest area rather than just the individual forest compartments and holdings. The information included in the appendix is following the principles agreed together with the stakeholders during phases 1-3. The steering group will discuss and decide about the contents of the appendix and its spatial accuracy. Among other things information about estate-level planning and management services, available in the region, will be provided in the appendix.
6. Composition and release of holding-specific forest fact sheet. The consultant composes the holding-specific forest fact sheet for the area’s forest owners. The sheet includes compartment level estimations about forest resources and forest management options, and also the regional appendix. The landowner can take these issues into account, if (s)he wishes, when preparing management and operational plans based on the information given to him/her in the fact sheet. The objective of the sheet, as a forest policy tool, is to encourage owners to follow the guidelines presented in it. A personal contact with the forest owner will improve the impressiveness of the sheet. Thus, at least an opportunity to get interactive counselling is given to forest owners. Contacts with “third parties” are necessary if the landowner wants the inventory consultant to relay service orders to other organisations presented in the regional appendix.

7. Composition of estate-level Forest Management Plans. The viewpoints presented in the holding specific forest fact sheet and regional appendix are taken into account to a degree which is in line with the owners objectives when the management plans are constructed for the estates. However, this process is separated from the forest informing process presented above. It is based on the forest owner’s order, and the owner covers all the costs. Other parties can be involved in the participatory process only if the landowner so wishes. When the planning area has special regional values, holding-specific plans are composed in cooperation with other landowners, for example by utilising numerical and interactive group decision support methods (e.g. Kurtila 2001, Pykäläinen 2000). The viewpoints defined in the regional appendix are covered by these processes on a forest compartment-specific level. Such a process is collaborative, if the owners make agreements together during the process, or are interactive if they retain decision right to themselves. Furthermore an interactive process can be managed following either a unitary or segmented approach if the landowners wish to open their compartment data to other parties. The state could motivate forest owners to initiate such interactive or collaborative planning processes for example by allocating funds, to such projects, which are based on collaborative regional planning (Tikkanen et al. 2002, Kangas & Hänninen 2003). In addition, economic incentives can be offered to forest owners in order to better achieve the societally important objectives that are not totally in line with the owners’ goals. If the informing phase has included enough interaction there is now no more pressure for participation in the estate-level planning phase.

8. Composition and release of the regional information package. The regional information package is composed based on the holding-specific forest fact sheets and the information of the regional appendix. It includes summary data and the site-specific data the landowner has agreed to be openly forwarded. From the point of view of regional development and livelihood the summary data include forest resource data, including allowable cut measures for locally needed special roundwood and energy wood, special nature and recreational values of the area, etc. Site-specific data include, for instance, valuable nature and recreation sites, having potential for nature related activities and thus for non-material commercial contracts between forest owners and other local actors. This kind of information supports local entrepreneurship, increases the versatile utilisation of the forests’ nature values, and at its best, increases the amount of income that the forest owners receive from their forests. The regional information package is released to all parties involved and the infor-
Information will be openly and effectively distributed. Landowners and important partners in the cooperation are invited to the closing meeting of the project, nevertheless, the event is open to everyone.

The model presented above represents a collaborative, unitary and open procedure, for a regional informing process. It is an ideal model. A model argues that it is even possible to include rather intensive participative elements in forest planning for private forests, without endangering property rights. The key requirement then is that the processes are conducted following the initiatives of the owners.

Conclusions

Participatory regional consideration does not exist despite its obvious advantages for private forests. The essential reasons for this are probably the lack of incentives and traditions. Policy control (laws, decrees, recommendations and economic incentives) has mainly promoted wood production and nature protection, whereas responding to the other social needs has to date been left outside policy making. Also the emphasis on forest political “norm control” in forest planning (Niskanen 2005) may have slowed down the emergence of new owner-oriented procedures. Thus the ideal model presented above is emphasising “information control” instead. Prejudices associated with landowners’ unwillingness to cooperate together and especially with outside parties are probably an important practical reason for the lack of regional planning. Also, it may well be that the forest owners do not feel that they are benefiting from the regional planning.

The interest in involving the regional aspect in the decision making processes of forest use has however risen during recent years. In fact, this emphasis is not a new characteristic for Finnish forest policy: the prevailing regional inventory protocol was originally aimed at enhancing co-operation between forest owners to improve the profitability of forestry. Such economical aims are also relevant now. Anyhow, new motives to conduct regional processes have arisen, including the need to find new nature based means of livelihoods, and to ensure ecological values. The cooperative networks of the Metso programme are concrete examples of projects reaching beyond the holding’s borders. So far, these networks have focused mainly on defining regional objectives from an environmental authority’s perspective and on the acquisition of areas. Accordingly, the cooperation has also been coordinated from a top-down perspective. The coordination of local measures and resources, using cooperation between forest owners and with local stakeholders as a means, have been given little attention. Regional planning would, however, be the most effective and versatile way of bringing a landscape ecology perspective into the forest planning. Especially, if the network operates over a very wide area, the lack of regional planning could lead to a scattered network of small protection areas. The need for regional planning is also evident, if forest owners are willing to participate to voluntary projects where forests are treated according to recreational and scenery goals. On the other hand, regional planning is not the only means to promote cooperation between forest owners. For example, the herb-rich forest network of the North Karelia –project is experimenting with the so called agglomeration bonus (Parkhurst et al. 2002), which aims to generate cooperation between forest owners concerning the protection of areas, and thus promote the implementation of the biodiversity objectives set by the society.

Recently, several researchers have approached forest planning from the perspective of human interaction (Leskinen 2004b, Tikkanen 2006) and also from the perspective of planning models and methods (Pykäläinen et al. 2001, Kurttila et al. 2005). Alongside research, practical considerations are needed on e.g. how to deal with human
interaction and how to improve the attitudes of forest owners and forestry professionals, how to improve practical preconditions for planning cases, how to formulate new economic incentives that would promote participation and implementation, and how to improve the ability of planning organisations to support landscape level planning (Kurttila 2001). Pilot projects would be valuable in integrating research and practice. On one hand, they provide good opportunities to evaluate the theoretical principles and hypotheses of the methods. On the other hand, they can eliminate prejudices connected with regional planning and encourage new projects.

The regional approach will likely never be commonplace everywhere in private forests, nor the most common approach. Regional informing will be the reality more often than regional planning. It is worthwhile when the forests have some special values. The definition as to where a regional approach is needed and financially supported should not be merely centrally planned. It is important that regions, municipalities, villages and other communities are supported in recognising the needs for regional planning from their own starting points.

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Public Participation in Irish Forest Planning – the Coillte Experience

Alistair Pfeifer
Coillte Teoranta (Irish Forestry Board)
Newtown Mt. Kennedy, Co. Wicklow, Ireland
alistair.pfeifer@coillte.ie

Abstract

Ireland’s afforestation programme, following centuries of exploitation of native forests, has received little notice from the public until recent years. Today, a changing society has different expectations from forests. Non timber values such as biodiversity, recreation, water protection, wilderness etc. are more highly valued than wood production as society becomes more urban. While there are clear and unresolved differences between the forest industry and stakeholders, forest certification is providing a framework for engagement and a catalyst for public participation in forest planning. Coillte (The Irish Forestry Board) is implementing a consultation strategy since 2000. This is described, along with a case study to illustrate issues encountered and lessons learned to date.

Keywords: Irish forestry, Coillte Teoranta, certification, consultation, case study

Introduction

Ireland, like many countries suffered from over exploitation of its forest resource. Forest clearances over many centuries left the country almost devoid of native forests and by the turn of the 20th century only 1.0% of the total land area had forest cover. As a result, the romantic view of the Irish landscape is one of windswept treeless landscapes with mountain and bog lands interspaced with small agricultural fields and a population living, mostly in rural areas at low density, with subsistence agriculture as the main source of livelihood. It was only at the foundation of the Irish Free State in the early 1920s that attempts were made to restore forest cover with a State afforestation programme on land that was marginal or unsuitable for agriculture. Plantations were established with mostly exotic conifers, as native species (broadleaves) were less productive and unable to thrive on the poor wet soils in exposed areas. The focus of this programme was to create a forest resource that would provide a sustainable supply of timber to reduce imports and to create much needed employment in disadvantaged rural areas, particularly on the western seaboard.

Since its inception the afforestation programme has been annually maintained and while the level of new planting varied somewhat over the years, it has averaged approximately 13,000 ha per annum over the last decade. A productive forest resource has been created but some areas were acquired that would not be planted today and indeed, are now regarded as internationally important habitat e.g. blanket and raised bogs. These areas have a high environmental sensitivity for native flora and fauna and for the uniqueness of their landscape values. Their future management presents foresters with many difficult challenges.

While the afforestation programme continued to develop over the years, forestry was very much a minor land use and consequently of little interest or concern to the general public. A number of factors, however, brought forestry to wider attention in recent years:
• The publishing by the Forest Service of a strategic plan for forestry (Anon 1996) where an ambitious afforestation programme of 20,000ha per annum was proposed that would see forest cover rising from 8% to 17% by 2030.
• The increasing impact of forestry on the landscape e.g. establishment of new plantations and clearfelling of mature plantations and particularly the impact of these operations on fisheries.
• The establishment of a conifer monoculture (Sitka spruce forming 85% of the annual planting programme) and the low level of planting of native broadleaf species; and
• The formation of Coillte, a private limited company, set up to manage the state forests on commercial basis, albeit in state ownership.

By the mid 1990s there was a clear divergence between the vision for forestry as envisaged by the forest industry and the expectations of the public, as expressed by the environmental non governmental organisations (eNGOs) and recreational groups. The forest industry was keen on expanding and developing the resource and managing it intensively to create a critical mass of productive plantations that would provide adequate timber flows to ensure financial sustainability. The eNGOs on the other hand were seeking a back to nature approach with emphasis on nature conservation, low impacts, use of native species etc.

During this period most of the interaction with stakeholders was adversarial. A mechanism to engage constructively with stakeholders did not exist and many issues remained unresolved, much to the frustration of both parties. The introduction of Sustainable Forest Management and its verification through Forest Certification, provided the necessary way forward with the requirement for public consultation on forest planning etc. It is against this background that this paper attempts to briefly summarise the experiences of Coillte Teoranta (The Irish Forestry Board) with public input into forest management.

Coillte Teoranta

Coillte is Ireland’s largest forestry company and was established from the Forest Service under the 1988 Forestry Act. It is a commercial company operating in forestry, land based businesses and added-value processing operations and is a private limited company, owned by the Minister for Finance and the Minister for Agriculture and Food. The company’s core business is forestry and Coillte Forests, a division of the company, manages 450,000 ha of mostly plantations. The forest estate comprises conifers (75 %), broadleaves (4%) and open space (21 %). Other businesses include Nurseries, Christmas Tree Farms, Tree Care Services, Civil Engineering, Leisure and Recreation Services, Wood Products and Property Development. Coillte employs 1,000 staff and up to 2,000 contractors. Subsidiaries and joint venture companies include a particle board mill (SmartPlyEurope Ltd.), a timber frame housing company (Griffner Coillte Ltd.) and an international consultancy service (Coillte Consult Ltd.).

Since the foundation of the company profitability has increased from a loss of €438,000 to a profit of € 48.5 million in 2005. Turnover has also increased from €38 million to € 216 million in 2005. Roundwood sales have grown from 1.5 million m³ to 2.73 million m³ and the percentage revenue derived from products and services other than roundwood sales has increased from 9 % to 57 %.
Coillte’s Experiences

Certification

The early years of Coillte were preoccupied with transforming the organisation from a civil service structure to that of a modern business enterprise. It was only in 1998 that the company decided to change its forest management to adopt the new paradigm of sustainable forest management (SFM) that emerged from the 1992 Earth Summit at Rio and the Helsinki Process in 1993. This involved broadening the scope of forest management to take into account social and environmental issues. Some of the changes made included the designation of 15% of the estate for nature conservation, reduction in chemical usage, strict compliance with best practices, more detailed planning and monitoring etc. and perhaps the most difficult of all, consultation with stakeholders.

Coillte’s certification proved to be particularly controversial, probably as a result of the lack of public debate on forestry issues; also there was no agreed FSC standard developed for Ireland. Much of the frustration built up among the environmental groups was vented during the main audit process. Many issues arose that were not to do with Coillte’s forest management, but were wider issues of Irish forest policy.

The development of the FSC Standard for Ireland, however, is bringing the different interest groups together—industry, environmental and social—and is providing a forum for discussion. While progress is slow, agreement is being reached on most matters with the exception of a few such as, felling coupe size and the % broadleaves planted. The exercise is helping to create a better understanding of the respective concerns, aspirations, constraints etc. among the different groups.

Consultation

Forest certification was the catalyst for Coillte to move towards public participation in forest planning through the consultation process. Consultation is a key requirement of the FSC process and prior to certification this was carried out only with statutory bodies such as the Fishery Boards, Co. Councils, Forest Service, National Parks and Wildlife Service, organisations that had a professional interest in the implementation of Coillte’s forest management plans. One of the main issues that had to be addressed at the early stages of certification was that adequate consultation should be carried out with stakeholders and that their requests should be incorporated into plans, where feasible. The company responded by developing a consultation policy and best practice guidelines that were structured along the following lines:

- **Site Level**
  Visits to neighbours informing them of impending works, or land sales etc; Placing of notices on site giving details of operations, date of commencement and contact details.

- **District (Forest Management Unit) Level**
  Clusters of consultation meetings held informing the community of the strategic plan for the District and the forest management plans in the neighbourhood. Consultations with statutory bodies on the forest management plans District Strategic Plans are made publicly available on the Coillte web site. Establishment of a Social and Environmental Panel with representations from the community and different interest groups Implementation of a formal Complaints and Grievance Procedure
• National Level –
  Meeting special interest groups particularly on recreation e.g. mountain biking association, hill walkers, etc.
  Formal meetings with statutory bodies, NGOs etc.
  Stakeholder liaison officer – who facilitates contact with the public, NGOs, special interest groups

In developing the policy it was important to ensure that consultation is focused at a local level. Coillte District staff were therefore given the main responsibility for all consultation on forest planning issues, while operational teams such as Establishment, Harvesting and Engineering notify local stakeholders of the commencement of operations. National level consultations are usually the responsibility of senior management.

The consultation process is supported by a Stakeholder Liaison Officer who is assigned to the Public Relations Unit of the company. This person maintains contact with stakeholders - NGOs, community groups etc. and facilitates the resolution of any issues raised. In addition, she monitors complaints received and informs managers of current trends in issues of concern to the stakeholder, potential flash points etc.

Consultation has been a major issue with the company and staff have found it difficult to go from a situation where they were able to plan and carry out their work without issue, to one where stakeholders must be consulted and plans modified. Also that stakeholder issues (mostly complaints) are assessed during the annual audits and that forest managers have to defend their positions with regard to their decisions and actions. In many cases the complaints are unfounded due to a misunderstanding, incorrect facts, etc. however, managers feel that they are guilty until proven innocent!

While forest managers and planners have gone to great lengths to consult with stakeholders their success has been difficult to gauge. Knowing how much effort should be put into consultation is an issue that has yet to be resolved.

**Implementing the Consultation Policy - Issues**

**Knowledge of forestry**

• Due to a lack of forest culture in Ireland the greater majority of stakeholders have very little information or understanding of forests and forestry issues. This is reinforced by the fact that Ireland is rapidly becoming urbanised with over 60% of people living in town and cities. As a consequence, Irish society is loosing its understanding of rural enterprises.

• Due to a lack of official funding for NGOs in Ireland many of the eNGOs have no access to professional forestry expertise that can give better understanding of opportunities and constraints. As a consequence, communication with the industry tends to be difficult and technically curtailed.

• Forest industry has been lax in appreciating and communicating to the public the range of benefits of forests and the contribution that they can make to the economy and the environment.
Freedom of Information

- Coillte as a commercial company has difficulties around releasing plans to the public as information contained is often regarded as sensitive.
- The current ease with which information can be widely circulated on the Web fosters a climate where biased or incorrect information can be widely circulated without editorial standards, control or sanctions. Freedom of expression has led to situations where the rules of good behaviour have been transgressed. Activists have used this facility very effectively to further their own ends.

eNGOs Remit

- Most of the Irish eNGOs see their main objective as campaigning for a change of the status quo. Their membership is small and with limited funding their approach is through lobbying and PR campaigns aimed at political, government and EU organisations. Their approach is adversarial and unlike some other NGOs, they have not reached a point where they can work with organisations, understand the realities and find new approaches to affect change from within.

Trust

- Trust has not been established between environmentalists and foresters as a result of the adversarial approach adopted by the eNGOs. This is a major issue in trying to establish dialogue and find common ground.
- There is a tendency for Irish people to go immediately to the final arbiter, rather than bringing the issues first to the person/organisation concerned. In the case of Coillte, issues are brought directly to the certification auditors which does not help to foster good relations.

Public Debate

- There has been little national debate on the type of forests and forestry that stakeholders want. Ireland is rapidly changing and the public have different expectations of forests than they had in the past. Non timber values are high on their list of priorities such as access to wild areas, space for outdoor recreation, biodiversity, amenity, water protection etc. Irish forestry is however, largely production orientated and while non-timber values are beginning to be recognised and enhanced, the level and rate, is insufficient for many stakeholders.
- The national forestry strategy published in 1995 is not endorsed by the eNGOs. It is seen as production orientated, based on exotic conifer species. At least 50% broadleaves (native species) in all plantings is being demanded which, if implemented, would undermine the economic base of Coillte.
- An FSC forestry standard for Ireland is in the process of development for the past 5 years. Full agreement has not been reached but progress is slowly being made. Fundamental differences still exist between the industry and environmentalists on clearfelling, use of chemicals and species proportions.
Public Interest

- Attendance at consultation meetings has been very low despite adequate publicity.
- People tend to react only when the machines roll in.
- Stakeholders generally are only interested in the forests in their immediate neighbourhood. They generally have no interest in those of another county.
- Intense reaction can be sparked if there is a perceived threat to an area of interest to the public. Public meetings, web sites, press articles, signatures etc can be quickly organised to gain support for the cause.

Case Study - Shippool Wood

To illustrate some of the points made above, a case study is presented of a situation that has recently been resolved. It represents many situations that Coillte face on a regular basis and even though it did not begin in the spirit of collaborative planning, it ended as an example of this approach.

Shippool Wood is a small property (26 ha) of mixed woodland in a scenic area on the shores of the Bandon Estuary in Co. Cork in the South West of Ireland. Today, the wood is used by a few locals living in the vicinity for recreation. In the 1970s amenity trails were developed in the property but subsequent land slippage on the river trail required that this area be closed to the public. Improved facilities in the vicinity, however, were provided through the development of a substitute property nearby, also on the river. Management plans for the Wood were developed in 2001 and a consultation meeting was held in the neighbourhood at which no issue arose.

Part of Shippool Wood contained mature even aged Norway spruce that was scheduled for clearfelling in 2002. In preparing for harvesting, signs were placed at the entrance of the wood to inform the public of Coillte’s intentions to begin operations in 3 weeks time. Soon after the signs were erected objections were raised by a few local people that regularly used the wood. A small stakeholder group was quickly formed who put forward their objections and held a public meeting on the site at which the local Coillte management staff attended. Support was also obtained from an national eNGO in the area that published the case on their web site. The conditions of the felling licence were queried with the Forest Service but were found to be in order.

To address the objections Coillte reviewed the management plan and decided that it would be appropriate to regenerate the area under the Native Woodland Scheme, which would allow the company grant aid to establish native broadleaf woodland on the site. Objections, however, continued to be raised by some members of the group with the clearfelling being the main issue.

Coillte continued with plans for regenerating the area under the Native Woodland Scheme and consulted with the statutory bodies – the Forest Service, the local Co. Council, and the National Parks and Wildlife Service who supported the initiative. A 4 page newsletter was produced explaining the revised plan and also showing the visual impact that felling would have on the site. Over 1,000 copies were distributed to households in the area and the response received was very positive.

A subsequent meeting took place on site in January 2003 where Coillte outlined the revised plans. Opposition, however, continued with some stakeholders demanding unrealistic changes from the Coillte point of view e.g. retain the plantation for 150 years (3 times the rotation length), fell single trees and extract by horse, manage under a shelterwood system etc. The stand was too old and uniform to transform to continuous cover silvicultural system, given the location of the stand there would have been high probability of windthrow exacerbated by dieback, costs of harvesting...
by horse, even if available, would be prohibitive and the stand had been included in the District timber supply targets.

An impasse was reached, however, Coillte acceded to the request that no operations take place in the wood until the management plan was agreed. To progress matters Coillte suggested that a small group be established with representatives from both parties to examine the existing plan with a view to developing a plan acceptable to both sides. This was agreed and in April 2003 the stakeholder group employed an environmental consultant, who using the existing plan, proposed a series of changes which were submitted to the group in September 2003. A further site visit by the group in February 2004 led to more changes which were discussed with Coillte in October 2004. Common ground was found and with some minor adjustments on both sides, agreement was reached. Clearfelling part of the site and a heavy thinning of the remainder ensured that acceptable timber volumes were obtained while still maintaining some forest cover. The plan was submitted to the group for final endorsement but further adjustments were requested by the stakeholders and it was not until September 2005 that another meeting between Coillte and the consultant took place on site. The main concern of the stakeholders was that there would be damage to the wood from the harvesting operations and reassurance had to be given that, while there would be some impact, it would be minimal. It was agreed that the consultant could visit the site with the harvesting manager to view the progress of operations. No agreement was forthcoming from the group and in February 2006 Coillte informed the group that operations would go ahead on in Spring as per the last agreed version of the management plan. A quick response was received and operations were undertaken as planned. No further complaints were heard from the group.

Lessons Learned

- Consultation on management plans must be local if stakeholder concerns are to be detected at an early stage.
- Few stakeholders will attend consultation meetings unless there is a controversial issue to be addressed.
- The non-timber values of forests such as woodland environment and its flora and fauna are valued higher by stakeholders than their timber production capacity.
- It is important for forest planners to identify sensitive areas and give them special attention during planning and consultation.
- Despite the fact that the majority of the community were in favour of the revised plan, a small group of highly articulate and motivated people can still cause difficulties through skilful use of PR.
- Suspending operations until agreement had been reached on the management plan resulted in progress being slow. There was no incentive on the part of the stakeholders to reach agreement at an early date.
- Lack of forestry knowledge is a huge barrier to understanding the issues and constraints that face the forest manager.
- The use of intermediaries took the emotion from the situation and allowed progress to be made.
- Patience is required in allowing people to come to terms with change.

The Way Forward

Forestry in Ireland has received bad press for a number of years and is often portrayed as having a net negative effect on the environment. Issues such as acidification, siltation and eutrophication of waterways, destruction of native biodiversity,
disruption of scenic views with clearfells etc. are still controversial. Many of these are legacy issues which are due to the decisions made many decades ago in locating forests in environmentally sensitive areas. Mitigating measures are, however, being employed but their effect will take time to become apparent. In the interim, educating the public on the changes that have/are taking place in forest management and the positive contribution that forestry makes to the economy and the environment, is an issue that needs to be urgently addressed. A better informed public will assist the forest manager in developing plans that are acceptable to both the forest owner and the community.

The success of Coillte’s initiatives to involve stakeholders in the forest planning process, as mentioned above, is difficult to measure. Consultation meetings where management plans have been presented have been poorly attended and the time and effort spent is disproportionate to the responses received. This may be because consultations were carried out on plans that were of too large a scale and therefore of little interest to locals, who are mostly concerned with the forest in their immediate neighbourhood. To address this situation Coillte is proposing to seek input into local forest management plans through a new approach. It will be achieved through posting on the company’s website a one page summary of the forest, its attributes, objectives etc. and proposals for its management for the next planning period (5 years). This document, accompanied with an outline map of the area, will be written in non technical language and stakeholders will be invited to comment. The detailed maps and plans will be available in the District Office for inspection. This process will be widely publicised in local newspapers, parish newsletters etc. Responses will be collated, evaluated and suggestions incorporated into the plans, where feasible. Feedback will also be given to stakeholders in a method to be decided, but probably through the website.

Judging the amount of consultation/participation that is appropriate for an area has yet to determined. Clearly this will change from site to site depending on the sensitivities. A methodology, however, is required to ensure that planners and managers can capture stakeholder issues/input in a manner that is both efficient and effective.

Other issues that need to be addressed are how to deal with the last 1% of objectors that through their zeal can create difficulties well beyond their numbers; and also how can trust be built between the eNGOs and the forest industry.

Reference
The Support of Collaborative Planning within a Forest Management Using the Description of Fire Occurrence Risk by the Tools of GIS

Jan Holecy, Prof. & Branislav Olah, Teacher assistant
Technical University of Zvolen,
T. G. Masaryka 24, 960 53 Zvolen, Slovakia
Phone: +421 48 5206 318, Fax: +421 48 5332 654
e-mail: holecy@vsld.tuzvo.sk, olah@vsld.tuzvo.sk

Abstract

The submitted paper describes the procedure on how to increase the efficiency of collaborative planning concerning the forest management by providing all engaged stakeholders with the additional information about forest fire occurrence risk concerning particular forest stands. The essential input for the statistical analysis of the forest fire occurrence hazard is the information about the prior probabilities p(t) that describe expected destruction concerning (t) years old forest stands of particular tree-species. The Weibull probability distribution for this purpose was used. Then the algorithm of the gradual evaluation of a fire occurrence hazard based on the set of conditional probabilities of burning (B) forest stand P(B|F_{x,y}) under presence of (x) geographic factors (F_{x,y}) with possible (y) existing states was proposed. The proposed algorithm was tested by taking aspects, slopes and altitudes of terrain, as 3 of the most relevant geographic factors of the given area, in account. The obtained results were processed by using the tools of the map algebra and applied at the elaboration of the detailed fire occurrence hazard map for the whole experimental territory of Slovak Paradise in relation to all 3 mentioned geographic factors. The proposed algorithm enables to evaluate risk of forest and other property destruction for each particular stakeholder and to avoid inefficient planning solutions due to the occurrence of forest fires in the whole analysed region.

Keywords: collaborative forestry planning, fire occurrence risk, prior probabilities of destruction, posterior probabilities of destruction, conditional probabilities of destruction, GIS

Introduction

Wild-land – urban interface (WUI) areas can be described as composite systems where various man made structures meet or are integrated with forest, agriculture, wild-land and other vegetation fuels. These composite systems have been more and more threatened by forest fire during the last decades. The most specific are these phenomena in the Mediterranean area with very complex spatial context and with many interrelated social, natural and economic consequences (Camia et al., 2003).

As stated in Tucek et al. (2003), under the conditions of Central Europe and Slovakia, a forest fire occurrence is not of so strong importance as it is in Southern Europe, but losses concerning forest property especially due to the higher quality of timber are considerably higher. This is the reason for careful research of relationships between
the relevant forestry and geographic conditions, the risk of fire occurrence and the corresponding amount of economic loss.

Knowledge of the factors that make forest, agriculture and man-made structures vulnerable is a key for planning the management of forests and development activities (urbanisation, recreation) of such areas and also for taking the preventive steps to protect both the forest and agricultural crops including settlements and other man-made structures. The SDSS environment with the close relation to GIS prove to be the very efficient tool of data management, analyses, derivation of the knowledge on fire risk occurrence including the rules and relationships application in order to obtain the necessary information about the forest fire behaviour within the study areas, as well.

The objective of this paper is to present the proposal of procedure on how to evaluate the observed forest fire occurrence hazard in relation to the relevant forest and geographic factors using the GIS and the Spatial Decision Support System (SDSS) tools. All analyses and the application of their results are performed for the territory of Slovak Paradise National Park that serves as the experimental study area (ESA) for the purposes of our research (Figure 1).

![Figure 1. The location of Slovak Paradise National Park in the territory of Slovakia](image)

**Methods**

In order to meet all needs of forest management planners, it was necessary to build up a specific information system. This system has been built as the SDSS based on the GIS information layers and tools.

In the preparation phase of the SDSS building, the analysis of potential data sources for the ESA territory was carried out. On the base of its results, we decided to use data in two levels of precision – coarse data with details corresponding to the basic map of Slovakia in the scale 1:50 000 and the raster resolution 25 m providing the precise data with details corresponding to the basic map in scale 1:10 000 and the raster resolution 10 m or higher. In this paper we present analyses based on the first set of data.

From the technological point of view, the Arc View (ESRI) environment as GIS base for SDSS building has been applied. Arc View shape files and dbf tables were used for location and attribute of data structuring and saving. Arc View is a very common GIS environment used for spatial data management, analysis and visualization with a strong support of its analytical components – Spatial analyst, 3D analyst and Network analyst. Except for these software environments, we also used tools of Idrisi 32
for specific analyses and data structures and functionalities of Microsoft Excel and Access. Within the proposed procedure we used geographical analyses – database queries, overlay, extraction, map algebra tools, surface analyses, distance analyses commonly included to GIS environment complemented by statistical analyses. Also the database of data about all fire occurrence events during the period from 1976 – 2000 in the ESA territory has been established. For these purposes the records of fire brigades headquarters were situated in the districts of Poprad, Spisska Nova Ves and Roznava in which this area belongs. Unfortunately, due to the inaccuracy and inconsistency of records we had to reduce the number of data used in further analyses. The number of 106 forest fire events was recorded totally in 152 forest stands for the whole analyzed period. After the reduction due to the uncertainty (especially in precise location of the fire) the sample of 42 forest fire events were processed in 52 forest compartments. The records and maps of the historical fire events have then been processed in two manners.

The vulnerability of forest by fire was described by the probabilities of p(t) informing about the expected destruction of particular tree species according to their age (t) during a common year. These probabilities were derived from the empirical distribution functions obtained by using data about the burned out areas divided according to the age of destroyed forest stands during the period from 1991 – 2000. The results of the statistical analysis pointed out very significant (α = 0.05) goodness of fit between the empirical distribution functions and the corresponding assumed Weibull probability distribution functions F(t):

$$F(t) = 1 - e^{-ct}$$

Then the probabilities of p(t) for the tree-species groups of pine, spruce, larch and broadleaved with the significantly different vulnerability by fire were estimated. Tables of probabilities concerning the vulnerability of particular tree species and their age were later used in the GIS environment for the calculation of vulnerability assumed at each forest stand in the ESA territory using tools of the database management system. The vulnerability as a new attribute was included to the database table describing the stand. As the result of this procedure, the map of a geographical distribution of fire vulnerability of forest was obtained.

The application of the Weibull probability distribution for the purposes of description concerning the forestland management risk is recommended also by Kouba (2002) and Kouba and Kasparova (1989). The importance of description concerning risk connected with the forest management is also presented by Sisak and Pulkrab (2001).

In the second stage of analysis we attempted to discover relationships of the relevant geographic factors (e.g. altitude, slope, aspect, distance from nearest road, distance from nearest urbanized area, etc.) to the risk of forest fire occurrence. It was performed by comparing the relative (proportional) frequencies of the analyzed factor for the total area destroyed by fire and the whole area of the ESA. Differences in scales of forest areas destructed by fire among particular groups/categories of the factor values were consequently statistically tested to prove whether they are the significant, or not.

The algorithm of the gradual evaluation of a fire occurrence hazard based on the set of conditional probabilities of burning (B) forest stand \(P(B \mid F_{x,y})t\) under presence of (x) geographic factors (\(F_{x,y}\)) with possible (y) existing states was also proposed. The first step of the algorithm consists of obtaining the point estimates of \(P(B \mid F_{1,y})t\) concerning the 1-st considered factor (\(F_{1,y}\)) of occurrence probabilities related to its particular states (y). The second step of algorithm is the calculation of posterior probabilities \(P(F_{1,y} \mid B)\) that the burned 1 ha will belong to the area with particular properties of
(y) using the Bayes’ formula. The third step of algorithm consists of calculating the conditional probabilities \( p'(t) \) vector informing about expected destruction of forest \( p(t) \) according to all possible probabilities of \( (F_{1,y}) \) in the whole experimental area. The algorithm continues by the second iteration repeating the first 3 mentioned steps using the values of \( p'(t) \) instead of \( p(t) \) as the input data and values \( P(B|F_{2,y}) \) instead of \( P(B|F_{1,y}) \) to obtain a more detailed geographic information about a fire occurrence also related to the second factor \( (F_{2,y}) \) in terms of the vector \( p''(t) \). The number of iterations is not limited and the proposed algorithm enables to include in the consideration as many factors as necessary. The proposed algorithm was tested by taking aspects, slopes and altitudes of terrain, as 3 of the most relevant geographic factors of the given area, in account.

The map describing the fire occurrence hazard concerning growing forests in relation to particular main forestry factors (age and tree species composition) in terms of the prior probabilities was then refined using the results of analyses concerning the influence of hazard by particular geographic factors. For these purposes the mentioned algorithm of posterior and conditional probabilities calculation regarding the relevant geographic factors (aspect, altitude, slope) was applied. Each cell of the raster representation of analysed area was classified in to the derived categories (groups) of conditions and the prior probability due to forest factors (prior probabilities) was corrected by the conditional probabilities resulting from taking into account all three of the mentioned geographic factors.

**Results and discussion**

The details about the SDSS concept and its creation for purposes of data management, prediction and fire suppression in the W-UI area of the Slovak Paradise National Park, has already been discussed in Tucek et al. (2003) also with the description of elaborated information layers. Also presented are the first results of analyses concerning the influence of relevant forestry and geographic factors on the level of forest fire occurrence hazard. In case of the forestry factors, these results became the starting point for a broader evaluation of the vulnerability of landscape. In case of geographic factors and also the possibility to combine them together, we have introduced only the preliminary analysis of relative frequency of fire occurrence regarding aspect, altitude, slope and distance from the nearest road and urbanized area, as well.

From the methodological point of view, it was necessary to test whether the higher occurrence of fire in some categories of conditions was the statistically significant or not, or whether it resulted only from the higher occurrence of areas with specific conditions of the particular investigated area. Although the larger set of geographic factors in relation to their influence on the forest vulnerability by fire has been investigated, here, in this paper we present only the results of evaluation concerning the aspect, altitude and slope. In order to select the most distinctive distributions of the fire occurrence related to particular geographic factors, the histograms (relative frequencies) of values describing analyzed factors in areas destroyed by fire were compared with the same distributions within the whole experimental study area. The statistical significance of differences among the relative frequencies of destroyed areas in the delineated groups of values (categories) that describe impacts of particular factors, were tested by using the population proportion test characteristic, as well.

Due to the more detailed explanation of the mentioned approach, the comparison of the relative frequencies for the aspect is presented in Figure 2. Based on the visual evaluation of the graph, it was possible to recognize the fact, that the fire occurrence in areas with the aspect from 60 to 160 degrees (measured as azimuth of the maximum slope from the north), had been the significantly higher than in the rest of the whole
The statistical test has also confirmed this assumption. The same approach was also used for the evaluation of influence of other factors. All tests used the level of significance ($\alpha$) = 0.05.

The relevant scales of values concerning particular factors as they resulted from the testing procedures are presented in Table 1. These results can be interpreted in a way, that forest fire occurrence hazard is significantly higher at areas with east, south-east and south aspects (aspect from 60° to 160°), at areas with the lower altitude (altitude up to the 775 m a. s. l.) and also at areas with the lower slope (slope up to 15°). The original assumption that fire risk arises in areas of a steeper slope (more than 45°) was not possible to detect statistically due to the extremely small scale of area of these properties in the whole ESA.

The application of the described procedure enabled to evaluate forest fire occurrence in relation to the specific properties of forest stands (age and tree-species composition). These prior probabilities were corrected by the posterior probabilities describing the influence of the next particular geographic factors. These posterior probabilities were obtained by using the Bayes’ formula and consequently served for the calculation of conditional probabilities of a forest destruction reflecting the influence of all assumed geographic factors. Results of calculation concerning the correction factors necessary for the correction of prior probabilities to obtain the conditional probabilities of forest destruction are presented in Table 2. The application of the proposed procedure using map algebra tools brought results and they are presented on the base of graphical visualization in Figure 3.

Results of the proposed procedure show how it is possible to evaluate the observed forest fire occurrence hazard in relation to the particular forestry and geographic factors using information sources and tools of the GIS based SDSS. This procedure proved to be efficient and useful. As a new approach, we introduce the modelling forest fire occurrence hazard regarding forest factors (age, tree species composition) as a prior probabilities and the refining of it using results of introduced analyses of geographic factors and algorithm of posterior and conditional probabilities calculation regarding relevant geographic factors (aspect, altitude and slope).
Table 1. Categories of relevant values describing the influence of the particular geographic factors after the statistical tests of significance.

<table>
<thead>
<tr>
<th>Factors (scales)</th>
<th>Area in ESA (ha)</th>
<th>Area destroyed (ha)</th>
<th>Population proportion of fire occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect 60° to 160°</td>
<td>6,575.8</td>
<td>213.4</td>
<td>0.032439368</td>
</tr>
<tr>
<td>160° to 60°</td>
<td>13,471.4</td>
<td>265.4</td>
<td>0.019700275</td>
</tr>
<tr>
<td>Altitude 450 m to 775 m</td>
<td>5,297.7</td>
<td>215.8</td>
<td>0.040730437</td>
</tr>
<tr>
<td>more than 775 m</td>
<td>14,749.5</td>
<td>262.9</td>
<td>0.017826415</td>
</tr>
<tr>
<td>Slope 0° to 15°</td>
<td>7,513.1</td>
<td>205.2</td>
<td>0.027321400</td>
</tr>
<tr>
<td>more than 15°</td>
<td>12,534.1</td>
<td>273.5</td>
<td>0.021821219</td>
</tr>
</tbody>
</table>

Table 2. The calculation of prior probability correction factors necessary for the estimation of the conditional probabilities related to particular geographic factors.

<table>
<thead>
<tr>
<th>Geographic Factors Categories (scales)</th>
<th>Population proportions of fire occurrence</th>
<th>Posterior probabilities</th>
<th>Probabilities correction factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspect 60° to 160°</td>
<td>0.032439368</td>
<td>0.445702470</td>
<td>1.358434837</td>
</tr>
<tr>
<td>160° to 60°</td>
<td>0.019700275</td>
<td>0.554297529</td>
<td>0.824970276</td>
</tr>
<tr>
<td>Altitude 450 m to 775 m</td>
<td>0.040730437</td>
<td>0.450799056</td>
<td>1.705633961</td>
</tr>
<tr>
<td>more than 775 m</td>
<td>0.017826415</td>
<td>0.549200734</td>
<td>0.746502289</td>
</tr>
<tr>
<td>Slope 0° to 15°</td>
<td>0.027321400</td>
<td>0.430752383</td>
<td>1.149592698</td>
</tr>
<tr>
<td>more than 15°</td>
<td>0.021821219</td>
<td>0.569247616</td>
<td>0.910504824</td>
</tr>
</tbody>
</table>

The described procedure has brought interesting results. The probabilities of destruction concerning forest stands situated to the south-east are 1.358 times higher than the original ones when no geographic factors are considered. The same probabilities could also be even 1.705 times higher if a forest stand is situated in the area within the altitude up to the 775 m a. s. l. or 1.14 times higher if it is situated in the slope up to 15 degrees.

The presented results were obtained by using the tools of the map algebra and applied at the elaboration of the detailed fire occurrence hazard map for the whole experimental territory of Slovak Paradise in relation to all 3 mentioned geographic factors.

Further, it shows that there is a real possibility to build up the SDSS for forest fire data management in Slovak Paradise National Park using the Arc View, EMDS and related GI technologies. Sufficient data sources for needs of modelling and new data processing for the whole ESA territory have been prepared. The analysis of forest and other fire occurrence data provides the useful information for a knowledge base building. It is possible to evaluate particular scenarios and situations regarding forest fire occurrence and defense using SDSS data, knowledge base and standard GIS tools. Derivation of the knowledge about forest fire occurrence hazard regarding forestry and geographic factors, its evaluation, processing and consequent application could be evaluated as the typical SDSS.
Figure 3. Gradual correction of probabilities describing the forest fire occurrence risk. The brighter colours denote the higher probabilities of forest destruction than darker ones.

Application of information about fire occurrence risk at the landscape management collaborative planning

The information about fire risk obtained from the previous fire occurrence analysis can be used in landscape management collaborative planning since fires endanger all existing stakeholder (or their interests) in the whole area. The ecologically balanced and socially efficient landscape management plan requires:

1. To provide all stakeholders with the reliable fire risk information.
2. To demarcate the most vulnerable zones and objects in the whole area.
3. To restrict certain existing or planned risky activities.
4. To regulate existing or planned land management activities.

The main key actors concerning fire risk occurrence in the Slovak Paradise National Park (the study area) are thus public authorities as well as local interest groups.

The public authorities are:
- Slovak Paradise National Park Administration – the state specialist organisation responsible for protection of the whole National Park area.
- Forests of the Slovak Republic – the state business that manages 57% of the total area belonging to the Park.
- District Forestry Office – the state body that supervises forest land management (state and private).
- Fire and Rescue Brigades – the state body that provides active fire protection and prevention.
The local and other interest groups are represented mainly by:

- agricultural land owners – who are endangering other groups (early spring grass burning) but also endangered by fire.
- forest land owners – endangered by forest fires but are also usually agricultural owners too.
- local craftsmen – who use timber for their production are indirectly endangered by the lack of timber.
- local municipalities – who are the main policy makers at the municipality level responsible for planning activities.
- recreational facilities owners – their facilities and guests are endangered by fire but sometimes they endanger others by incinerating fires during recreational activities (bonfires).
- peat mine owners – whose main interest (peat mining) is highly endangered by fire.
- hikers – who are endangering (setting fires) and endangered (life risk).
- insurance companies – the support of the endangered entities.

Information about the fire occurrence risk could be applied into the following practical applications:

- Slovak Paradise National Park Administration – more intensive monitoring of the demarcated risk zones.
- Forests of the Slovak Republic – applying special fire prevention measures at the timber production activities in the risk zones.
- District Forestry Office – supervision of forest land management plans to also prevent the occurrence of fires.
- Fire and Rescue Brigades – more efficient fire protection (access roads, capital investments to fire protection facilities evaluations, water reservoirs construction, action plan).
- agricultural land owners – prohibition (or supervised regulation) of early spring grass burning.
- forest land owners – careful forest management especially in the risk zones.
- craftsmen – fire watch.
- local municipalities – taking practical measures in the fire prevention urban and landscape planning.
- recreational facilities owners – restriction of new recreation facilities construction near the risk zones, regulation of recreational use of the nearby areas.
- peat mine owners – fire watch.
- local Gypsy communities living at the forest border – raising awareness about fire danger, regulation of illegal timber cutting for houses heating, forest campfires.
- hunters union - fire watch.
- hikers – regulation of movement and camping nearby the risky zones.
- insurance companies – assessment of fire risk and supporting the fire prevention measures.

The practical applications of fire risk assessment in collaborative planning are possible in the following steps:

- The creation of spatial GIS database (stakeholders’ interests, public authorities’ responsibility areas, fire risk areas).
- The delimitation of fire risky zones.
- The identification of potential conflict areas among all stakeholders related to fire risk by using a database query.
• The finding a compromise resolutions based on the fire risk assessment and ranking the vulnerability of ecosystems.
• The introduction of the ecosystem approach based on the principles of the INTEGRATED MANAGEMENT.

Conclusions

1. The applied procedure of fire risk analysis provides useful results to approach the more socially efficient allocation of land-use patterns and landscape management than before.
2. The collaborative landscape management planning proved to be more powerful when based on the objective ranking of the vulnerability of the ecosystem.
3. The systematic approach to the evaluation of the forest fire occurrence risk enables to avoid fire risk activities where and when it is necessary. It is the valuable contribution to preservation of the sustainable forestry and the protection of landscape.

Acknowledgements

The research works described in the present paper were carried out by using the funds of the granted research projects VEGA 1/3528/06 and 1/2382/05. The collection of data was funded by the APVT project 51-037902, as well. The mentioned analyses were carried out at the Department of Forest Economics and Administration belonging to the Technical University of Zvolen and at the Ecological and Forestry Research Agency (EFRA), Slovakia. The authors gratefully thank all of the mentioned agencies for their significant support.

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Collaborative Planning in the Post-Socialist Countries: Problems and Possibilities

Alena Salašová, Dr. Ing.
Department of Landscape Architecture Mendel University of Agriculture and Forestry Brno, Czech Republic
salasa@zf.mendelu.cz

Introduction

In the Czech Republic, collaborative planning is mostly referred to as participatory, community, or action planning. Collaborative planning represents an entirely different philosophy of attitude towards landscape and land-use (including natural resources) planning, than which was applied in post-socialist countries before their political changes in the end of 1980’s. All the details are explained using the Czech Republic as an example because the development of the Central European post-socialist countries is very similar.

The beginning of land-use planning in Czechoslovakia can be found in the Austro-Hungarian Empire at the turn of 19th and 20th centuries. Planning was developed as typical regulatory planning with an exclusive position of the expert. The public (owners, land managers) did not participate in the planning process. They were only informed and had only a little or slightly higher chance to express their opinions on the presented plans. Some planning processes (land consolidation scheme), which were in case of the land reform from the verge of the 19th and 20th century built on the principle of “optionality” and active participation of land owners, usually ended unsuccessfully.

The planning of land use, in the Czech Republic represented by spatial planning, retained its expert character even after World War II. After 1948 (beginning of the Communist era in the Czech Rep.) spatial planning was developed upon the principle of the so-called centralised democracy: plans were created according to clear political order for the limited period (5 years period), and were controlled and approved by the superior political bodies. The principles of democracy were reduced down to formal approval of local and spatial plans by local authorities (called “national committees”). All negative comments from outside the official bodies or active participation of the public in the planning processes were openly undesirable. A special role was played by the fact that all the information on the condition of the natural environment including the way to use natural resources were treated as state secrets – they were considered strategic information for the defence of the state, and the public had no access to them.

In the 1980’s, planning was gradually influenced by more environment-friendly ways of utilising the natural resources. This was not the result of public pressure or the demand of state administration bodies, but rather a clear result of the pressure of the so-called “expert public”, that is the interested group of experts (ecologists and environmentalists) working in planning teams involved in spatial planning, forest management planning, or land consolidation schemes. Neither of these forms of planning, which clearly bear signs of environmental planning, could be addressed as collaborative.
Political change in 1989

In November 1989, the political situation changed substantially, and this also affected planning processes. The changes of legislation, especially the Act on Spatial Planning and Building Code, Act on Land Consolidation Schemes, Act on Communities, Environmental Act, as well as e.g. the EIA Act, established a greater scope of public input in the planning processes. Despite these major changes of planning processes, which are still under way and being refined in the Czech Republic, the planning of natural resources use can still be labelled all the time as expert work. This character of the planning was certainly highlighted by the existence of mandatory local limits on the use of natural resources, which are the content of special legal documents.

Development plans are carried out by professional planners and representatives of local authorities, partially by the so-called “involved state administration bodies”. The public, represented mainly by elected representatives, enters the planning process:

- during the development of the requirement on planning documentation,
- during public discussion about the documentation,
- during the process of its definitive approval.

For planning in the Czech Republic it is therefore typical and also traditional to a great extent, that the public and state administration bodies do not actively participate on the elaboration of the documentation proposal itself. They only express their opinions and statements to it.

A specific position of investors and developers in post-socialist countries is another important limit of collaboration implementation into planning practice. Social and political transformation from socialism to capitalism has evoked many specific effects. A certain “cult of finances”, superior state of money in value hierarchy of the human community, can be considered as the most important of them. A character of the contemporary planning process is generating under the mottos: “dirty money does not exist”, “those who have money make the decisions” or “a hand of the market solves all of the problems”. It follows, to a certain extent such a superior position of investors and developers in the planning process and a tendency to overstatement private concern over public one.

At the end of the 20th century the whole society was gradually starting to respond to the impetuosity in enforcement of investors’ concerns. An activity of the non-governmental organizations, which are still on the rise involved in the planning and decision-making process scope, is building up; concern of the non-professional public is rising as well as an effort for modification of legislation. Increasing pressure of the developing plan opponents evoke subsequent reactions from the planning authorities (municipality, country, and ministry):

- Public concern is not desirable because it is negative to certain proposal – an effort to minimize possible public inputs to the planning process as an outcome: investors’ lobbying is winning,
- Public concern is not desirable because the whole process is holding off and not resulting in positive outcomes – an effort to minimize possible public inputs to the planning process as an outcome: cabinet policy of authority is winning,
- Public concern even if it is critical, is accepted as an important one and the public is “pulling in” the planning process as peer partner: open democratic discussion is winning

All of the ways mentioned above are operating in practice. The meaning of collaborative planning is to make the last one stronger to maximal possible extent. Recapitulation: the main limits for the development of cooperation in the post-socialists
states, which are possible to consider, are as follows: remaining tradition of experts’ planning, indifferent position of the public influenced by social – political climate of socialism, destabilization of the society (changes in legislation, economic tools and political structure) and cult of money after the Velvet revolution.

**Opportunities for public participation**

The development of active collaboration in planning in the post-socialists states is possible to influence especially by:

- Changes in ownerships in relation to land (restitution of the ownership - restitution of the state property to original owners - in progress since 1990 and still not in the end). The private owners have greater interest in planning cooperation than the authorities represented state as an owner.

- Changes in social relationships. It is particularly interesting to influence public concerns. These changes are long-term.

- Education of all participants in planning – governmental administration, local authorities, planners, public and publicists. The implementation of collaborative planning to the educational process of present professionals (master and lifelong education). A development of interactive methods of populations’ communication capabilities. Generally, it is about the development of civil society.

- By increasing of the political culture (especially their reflection in media) – endorsement of decency in public behaviour in general. The presentation of present political representatives in media is not always in accordance with this.

Despite the some of the above-mentioned statements it cannot be said that collaborative planning is not applied in the Czech Republic at all. It is true that the share of public participation in planning processes and the increase of their responsibility for the development of the landscape is constantly reinforced during the amendments of the appropriate legislation. The public interest required by law (mainly of owners) is most markedly expressed during the preparation of documentation for land consolidation schemes, at least in case of forest management planning. A second important factor in the development of collaborative process is the existence and functioning of non-governmental organisations.

Thanks to the effort of the NGO’s, which focus on the protection of environment, and partly also thanks to some landscape development schemes supported by the Czech Government¹, the process of spatial development also gradually includes the active participation of the public (civic associations, interest groups). The principal problem of developing participatory planning is a great passivity of the public, and the necessity to raise their interest in active participation in making decisions on public issues. At present, the Czech Republic is therefore dominated by the effort to explain the importance and contribution of participatory planning than to precise techniques related to it (these are more of a “by-product” of the pilot cases where participatory planning is used in practice). An active approach in establishing collaborative planning in the Czech Republic nowadays rests substantially upon the shoulders of the NGO’s, and a selected group of “enlightened” town and village mayors, and is driven by the enthusiasm by the individual persons. By supporting

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¹ Supportive programmes of the Czech Government, e.g. the Programme of Rural Areas Revitalisation or Programme of Landscape Care, strategically built on the activity of local communities.
the NGO’s, the Ministry of Regional Development and Ministry of Environment indirectly enter the support of collaborative planning as well.

**Role of Education**

Education plays an important role in the development of active collaborative planning forms. Nowadays situation of collaborative planning education reflects a general stage of participatory in the planning system. The basics of education in collaborative planning generally should consist of information and practices from the following fields:

- natural sciences, ecology and environmental science (quality of natural resources)
- sociology, economics, and law (functioning and needs of human society)
- planning and management (techniques for harmonisation of the above mentioned factors).

The theory of collaborative planning represents a point where all the above stated disciplines merge. It can be expected that the educational institutions that will be closest to the problematic of collaborative planning in natural resources will be those, which have the stated groups of disciplines contained in the curriculum of their study programmes.

Theories and techniques of collaborative planning are not currently the subjects of study at high schools. The teaching of collaborative planning in relation to NRE is, or will be in the future, the major domain of universities, which are responsible for the preparation of managers of spatial development. Currently there are 25 public, 2 state, and 39 private universities. The observed problematic could potentially be developed at the public universities and two of the private universities. From the total number of 140 faculties at the public universities, the education of NRE collaborative planning can be provided by:

- 7 faculties of social and humane studies, of which only one (FSS MU Brno) offers a relevant course of Humane Environmental Sciences,
- 8 faculties of environmental and natural sciences, which do not offer any courses of NRE planning,
- 7 faculties focusing on natural resources management (water, forests, soils, fossil resources),
- 5 faculties focusing on urban, spatial, and landscape planning (faculties of architecture).

The last two groups of universities have at least basic information on the necessity of communication of the planners with the public administration bodies and public, which are implemented in the lectures dealing with theory of urban and landscape planning (so-called spatial planning). Faculties of architecture and the Faculty of Horticulture MZLU implement the features of collaborative planning directly in the teaching of practically-oriented design studio subjects that use real or simulated case studies. Within the framework of project EnTraCoP we have analysed the educational system in collaborative planning in a field of land use planning, land consolidation scheme, and forest management planning with these results:

- None of the universities in the Czech Republic directly offers a course in Collaborative (participatory) planning in natural and environmental resources

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2 Competition Village of the Year, About People with People, or the establishment of the National Network of Healthy Cities and Communities.
use. Selected features of this planning are included in the syllabi of other courses.

- Universities, which guarantee education of professional planners (urban planning and spatial planning, landscape planning, land consolidation schemes, water management, forest management, etc.), do not include any special courses focusing on the theory of collaborative planning in their curricula, more frequently they implement selected methods directly in the courses of planning and project-making. Students can practise these skills directly “in the field” during work on case studies. Methods of participatory planning are most frequently incorporated in the so-called design studios. This method is typical mainly for the preparation of professionals in spatial planning, urbanism, and landscape architecture.

- Students who specialise in water management and land consolidation schemes (AF MZLU Brno, ZF JCU České Budějovice, ZF ČZU Prague - Suchdol), are not confronted with the theory of participatory planning at all. Despite that, they are informed about many of the processes and methods on a general level, mainly if these procedures are required by legislation (e.g. negotiation and consultation with land owners, dealings with state administration bodies and local authorities during land consolidation, etc.).

- The system of forest management in the Czech Republic is not yet built on the principle of collaborative planning, but on expert planning. This situation is determined mainly by legislative rules and by the fact that most of land used for forest functions belongs to the state or to communities. Despite that, changes can be expected in this sphere as well, especially if small forest owners will interfere more in forest management. Within education at forestry faculties, the necessary information issuing from the Forestry act is provided (necessity of the planner to deal with the participants in question during the so-called basic and final procedures).

As the results of the questionnaire survey carried out for the purposes of the EnTraCoP study have shown, there are several areas and groups of problems or challenges faced by the teachers in implementing the elements of collaborative planning. These can be summarised as follows:

- difficulty in meeting the requirements and increasing demands for collaborative planning skills coming from students and public – to provide for more time and space to teach collaborative planning, study programmes would need to be adjusted and changed
- difficulty in “mapping” and defining all the fields and forms of collaborative planning existing in the Czech Republic and throughout Europe as a result of this topic covering many disciplines, and information being too scattered and hard to find
- lack of teachers skilled and experienced in the theory of collaborative planning
- lack of available methodologies, books, or other instructive materials on collaborative planning theory
- absence of institutions providing courses focusing directly on teaching collaborative planning skills
- lack of methodologies and experience on how to implement knowledge and practical tools from other disciplines in NRE collaborative planning, though there is a great potential for this – e.g. implementation of managerial methods and tools, economical, sociological, and psychological tools and methods (mind-mapping, games, role-play, communication skills, rhetorical skills, public opinion surveying, questionnaires, etc.).
Counselling and education in the sphere of environmental sciences and use of natural resources in the Czech Republic is mostly provided by centres of environmental education. They fulfil the function of the training centre for the interested public, and often act also as direct participants in the planning processes. These include e.g. VIA Foundation, Partnership Foundation, Veronica or centres of ecological education included in the Czech Association of Nature Protectors.

In the Czech Republic, participatory (collaborative) planning is carried out thanks to the activity of the individual communities (usually in collaboration with NGO). One of the first ones was the village of Skotnice, which is known for its development programmes for improvement and revitalisation of the village environment, which are participated by the public. The people of Skotnice consider the following tools and methods to be particularly useful for communicating with the public:

- planning weekends
- public hearings even in cases where it is not required by law
- civic counselling commissions (dealing with concrete problem)
- local work groups
- round tables organised on the principle of equality of opinion groups (dealing with problematic issues)
- collecting of comments, opinions, and suggestions in the form of poll tickets or questionnaires
- art competitions

The following methods of informing the public are suggested as useful and well-tried for the development of collaborative planning (apart from the public notice boards):

- notice boards placed at unusual places in the village
- mobile information panels and exhibitions
- press materials and leaflets made by children
- telephone information – sent via mobile phones
- personal letters
- personal contacts – informal meetings of the local governance with the citizens
- public discussion forums with clearly defined rules of discussion
- children’s parliament
- video projection accompanying discussed topics
- open door day at the local authority office

The need to control the communication skills and develop the ability to push through ideas and opinions in group negotiation in the Czech Republic will lead to pressure on expert training in the sphere of collaborative planning. The increasing growth of specialised agencies, training institutions, and establishment of relevant courses document this trend clearly.

- educational organisations’ strategies, procedures and practice
- pedagogical and educational developments

Education always reflected the interests and needs of the society. The change of political and economic strategy in the Czech Republic after 1989 substantially influences the strategy of training institutions in means of character of the provided services. The renewal of democracy and its application in all the spheres of human activities including the sector of education is a long-term process. Within the series of consequential steps, its features are slowly implemented in all the levels and forms of public education.
Whereas the expert parts of professional training can be relatively quickly innovated, development of skills related to sociological aspects is long and problematic. It depends not just on the accessibility of information, but mainly on social demand. If the society does not require the need for open dialogue on the use of landscape and natural resources, greater changes cannot be expected in the sphere of training and education either.

After 17 years of societal changes in the Czech Republic it can be stated that the interest of the public in collaborative planning is increasing steadily. The interest of the public together with legislative rules induces pressure on the professional preparation of experts and planners in this area, which has been, up to now, neglected. The training institutions thus have to focus on: establishing collaborative planning in professional training of future experts (mainly on MSc level), lifelong training of expert and lay public and promotion of collaborative planning in general. These facts are gradually being accepted in the Czech Republic due to the co-operation of universities with foreign partners.

References


Planners are increasingly facing these current and emerging challenges of collaborative planning in their work. Consequently, there is a need for identifying new skills, competencies and learning needs of both planners and trainers and for facilitating the adaptation of curricula of institutions providing training for planners in view of the changing roles and competence requirements.

This report has been prepared under the project “Enhancing Training on Collaborative Planning of Natural Resources Management” (EnTraCoP). The objective of the EnTraCoP project is to improve the knowledge, methods and training tools of trainers of collaborative planning in the project partner countries: the Czech Republic, Finland, Germany, Ireland, the Netherlands and the Slovak Republic.

In order to ensure the usefulness of the trainers’ support material, the working life requirements (Core skill analysis CSA) and priority needs for vocational education and training (VET) in collaborative natural resources and environmental management planning were studied. Moreover, an assessment of existing VET was carried out. The first part of this report contains a synthesis of these CSA and VET analyses and assessments.

The second part includes articles based on presentations given in an international seminar on collaborative planning of natural resources management, which was arranged in September 25 - 26, 2006 in Helsinki.
Enhancing Training on Collaborative Planning of Natural Resources Management
(Luonnontarjojen hoidossa vuorovaikutteisen suunnittelun koulutuksen parantaminen)

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**Tiivistelmä**

Sunnittelijat kohtaavat työssään nykyään yhä useammin suunnittelun vuorovaikutukseen liittyvät haasteet. Siksi on myös tärkeää tunnistaa vuorovaikutteisen suunnittelun edellyttämät uudet taidot ja niihin liittyvät oppimistarpeet. On myös tarpeellista pyrkiä vaikuttamaan suunnittelukoulutusta antavien oppilaitosten ja muiden tahojen opetukseen, jotta se vastaisi paremmin uusia haasteita.

Tämän raportin on laatinut EnTraCoP-projekti (ks. alla kohta "Projektin nimi"). EnTraCoP-projektin tavoitteena on kehittää vuorovaikutteisen suunnittelun osaamista, menetelmiä ja suunnittelukoulutuksen työvälineitä hankkeen partnerimaisissa, jotka ovat Alankomaat, Irlanti, Saksa, Slovakka, Suomi ja Tsekki. Hankkeessa on valmisteltu vuorovaikutteisen suunnittelun koulutuksen työkalupakki.

Työkalupakin käytökelpoisuuden ja työelämään soveltuvuuden varmistamiseksi kaikissa hankkeen jäsenmaissa selvitetiin vuorovaikutteisen suunnittelun keskeiset osaamistarpeet sekä arvioitiin, kuinka hyvin nykyisin tarjolla oleva suunnittelukoulutus vastaa suunnittelijoiden osaamistarpeita. Tämän raportin ensimmäinen osa on synteesi näistä selvityksistä.

Sammandrag
Idag möter planerarna i sitt arbete allt oftare utmaningar som gäller växelverkan inom planeringen. Därför är det viktigt att identifiera de nya kunskaper och inlärningsbehov som den interaktiva planeringen förutsätter. Det är också nödvändigt att försöka påverka undervisningen i läroanstalter och andra instanser som ger utbildning i planering för att den bättre skall motsvara de nya utmaningarna.

Denna rapport har utarbetats av EnTraCoP-projektet (se nedan punkt ”Projektets namn”). EnTraCoP-projektets mål är att utveckla den interaktiva planeringens kunnskaper, metoder och verktyg i planeringsutbildningen i de deltagande länderna, som är Irland, Finland, Nederländerna, Slovakien, Tjeckien och Tyskland. Inom projektet har utarbetats en verktygslåda för planeringsutbildningen.

För att säkerställa, att verktygslådan är användbar och lämpar sig för arbetslivet i alla deltagande länder utreddes de centrala kunskapsbehoven i den interaktiva planeringen. Därutöver bedömdes hur väl den nu tillgängliga planeringsutbildningen motsvarar planernas kunskapsbehov. Denna rapports första del är en syntext av dessa utredningar.


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