

Involving private forest owners in the sustainable use of forests: a case study for Flanders, Belgium

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VAN DER AA, B.* , HUVENNE, P.** , MUYS, B.*** & LUST, N.****

**Forestry Education Centre Groenendaal, Belgium*

***Forest Administration, Ministry of the Flemish Community, Belgium*

****Laboratory for Forest, Nature and Landscape Research, K.U.Leuven University, Belgium*

*****Laboratory of Forestry, Ghent University, Belgium*

Abstract

The main features of the forest landscape in Flanders (Belgium) are the relative small area forested (only 10% of the land), the large proportion of privately owned forests (70%) and the high degree of fragmentation of these forests (average owned area of 1ha). This situation makes the implementation of a policy aiming at the promotion of sustainable management and conservation of natural values in Flemish private forests extremely difficult.

The Flemish forest administration prepared a concrete strategy towards a close to nature type of management in public forests. It was decided to promote this type of forest management also in private forests, but without making it compulsory. As a consequence, other strategies had to be found to involve private forest owners into a more sustainable forest management. The aim of this paper is to show some examples of such strategies, their success and their failure. The findings might be inspiring for regions with recently privatized forest resources. In this regard, the specific opportunities of both private and public initiatives should be stressed. Effective sustainability of forest resources will be reached in those circumstances where initiatives are based on trust, communication and stakeholder management. Valuable bottom-up approaches arising from the private owners themselves should be especially strengthened.

Introduction

The ongoing privatization process of forests in most CEE (Central and Eastern European) countries is causing dramatic changes in national forest and nature conservation policies (IUCN 1997, PHARE 1999, World Bank 2000) Developing successful and adapted policies leading to sustainable forest management and effective protection of natural values in privatized forests will be necessarily based on trust and partnership between the (new) owners and the governments (IUCN 1999, IUCN 2000). It is a big challenge because certain conflicts between governments and owners may inevitably rise: it is a universal phenomenon that owners want maximal freedom of management and that they distrust government control and intervention;

government forestry and conservation agencies, from their side, consider the majority of owners as technically, logistically and conceptually incapable to perform a sustainable management of their forest resource and its biodiversity. This kind of distrust is also well known from a Western European context, where in many countries private forests continued to be a major part of the forested area. During the last decades, however, a variety of ideas, structures and schemes arose across Western Europe to bridge the gap between private ownership and public interest in forest resources. Gathering these experiences, including success stories and bottlenecks, might serve as a non-committal source of inspiration for private owners and public agencies in CEE countries. This paper gives an overview of the private forest policy in Flanders, Belgium. The aim is to gather some ideas and recommendations that are especially valuable for areas with a fragmented and small-scale ownership structure.

1. Background on forests, forestry and private forest ownership in Flanders

1.1. Introduction to Forests and Forestry in Flanders

Belgium, situated in the centre of Western Europe, is a federal state. It has three Regions: the Northern, Dutch-speaking Region called Flemish Region or Flanders; the southern, French-speaking Region called Walloon Region or Wallonie, and Brussels as the bilingual capital Region. Since 1980, forestry and nature conservation are strictly regionalized matters. As a consequence, the Regions have remarkable differences in forest and nature conservation policy and legislation. This paper will further concentrate on the policy and legislation of the Flemish Region, where the concept of Forest Groups was developed (see further). The public agency in Flanders responsible for the forest management is the Forests and Green Division, which forms part of the Administration for Environment, Nature, Land and Water Management (AMINAL).

1.2. Structure of forest ownership

In Flanders the total forest area amounts to 146,380 ha which amounts to 10.8% of the total land area. The public forests cover a total of 43,450 ha, which is only one quarter of the forest area. Public owners are: the federal state of Belgium, the Flemish community (government), provinces, municipalities, public institutions and church properties. Private owners and companies own 70.3 % of the forests. Table 1 shows the ownership structure, subdivided in coniferous and deciduous tree cover.

Forest land in Flanders is extremely fragmented (table 2). The assumed number of private forest owners in Flanders is 100,000 corresponding with an average surface area of a private forest of about 1 ha. This causes many problems, not only for planning, management and conservation, but also for the profitability of the forest use: the cost-effectiveness of forest-work is lowered and a rational planning of harvesting operations becomes almost impossible. Among this big group of forest owners, farmers are only a minor part.

Table 1. *Ownership structure in Flanders (ha) (Source: Afdeling Bos & Groen, EBG, 2001 (1))*

	public	private	total
Coniferous forest	18,998	32,827	51,825
Deciduous forests	18,808	58,200	77,008
Mixed forest with dominance of conifers	3,098	6,766	9,864
mixed forests with dominance of deciduous trees	2,440	4,385	6,825
Reforestation	106	752	858
Total	43,450	102,930	146,380

Table 2. *Fragmentation of forests in Flanders (Source: Dienst Waters en Bossen, Universiteit Gent Laboratorium voor Bosbouw, Mens en Ruimte vzw, 1993)*

Fragmentation of forest land in Flanders		
Area class (ha)	Area (%)	Forest entities (%)
> 1200	1.21	0.02
800-1200	0.97	0.02
400-800	9.84	0.31
200-400	14.92	1.07
150-200	7.27	0.8
100-150	11.41	1.82
60-100	11.15	2.79
40-60	10.32	4.1
20-40	12.39	8.47
10-20	9.16	12.37
5-10	5.83	15.78
1-5	5.14	38.08
<1	0.4	14.37
Total	100 % (135185 ha)	100 % (5489 entities)

1.3. Forest management

The Forest Administration is fully responsible for the management of the forests owned by the Flemish Government. In the other public forests, the Administration plays an advisory role in the management. In the private owned forests, it has a regulatory and advisory function (approval and control of management-plans, delivery of tree-felling licenses, execution of various grant schemes for private forest owners). All private forests larger than 5 hectares need an approved management plan.

Apart from the fragmentation problem already mentioned, the management of private owned-forest is strongly if not solely subject to the management goals put forward by the private forest owner, if they have any clear goals at all. Experience learns that in the majority of cases private forest owners did not develop any rationale, on where they want to go with their forest. Anyway, the aims of forest-management are strongly dependent to the type of ownership. In general, three types of private forest ownership can be distinguished basically related to its surface area (Buysse & Vaes, 1998, Afdeling Bos & Groen, EBG, 2001 (2)): "large" (> 50 ha), "medium" (5 - 50 ha) and "small" (< 5 ha).

The few large private forests are generally managed for wood production and hunting. Most of these properties are professionally managed since generations. The legal obligation to prepare a management plans was easily accepted by most of the owners, because it is in agreement with the long-term vision on the management they already had.

Because most of this owners category emphasizes the economic function, the use of fast growing (exotic) tree species is common practice in these forests, in particular poplar (*Populus* hybrids) in the alluvial plains and pines (*Pinus sylvestris* and *Pinus nigra*), douglas fir (*Pseudotsuga menziesii*) and larch (*Larix x hybrida*) on sandy soils. But because hunting is the second priority in the management objectives, many of these owners will try to maximize the diversity of their forests at the same time. This diversity in tree species, stand types and habitats offers good opportunities for sustainability and conservation options.

The medium-sized private forests are most often relics of once bigger properties which have been divided between heirs or have been sold on the occasion of a heritary succession. The problem is that families are often obliged to sell (parts of) their property in order to be able to pay the succession rights to the government. The reason is that, opposed to most other European countries, the Belgian state does not allow tax exemption or reduction on the succession of forested real estate.

The origin of small private properties can be explained by three phenomena: they are partly the result of (1) fragmentation due to hereditary succession, as described above; (2) real estate speculation by investors and (3) historical small-scale farmland afforestation.

On the initiative of real estate speculators, many forests have been parcelled out for the development of residential areas in the nineteen-sixties and seventies. For these small parcels (generally between 10 and 100 are) urban dwellers paid prices 5 to 10 times higher than the current value of forest land. Unfortunately for them, the first country planning regulations came into force in that same period, which made a destination of most forests for house-building development illegal. Nowadays, most of these parcelled forests with tens or hundreds of different owners aren't managed at all, due to a lack of knowledge and/or a lack of interest by their urban owner and because of the impossibility to plan a rational management for such small parcels of land.

Small forests that are the result of farmland afforestation reflect the small-scale landscape structure of the former farmland. Many small Scots pine forests are the result of afforestation with Scots pine of fields with an average size of less than one hectare at the beginning of this century for the production of pit props. Closing of the coal mines caused an important decrease in the demand of small-dimensioned pine logs. The lack of management in the dense leftover pine stands lead to loss of economic and ecological value during several decades. Small poplar plantations are the result of afforestation of small low productive haylands in the alluvial plains after the second world war. They are often considered of having a negative impact on the biological value of the floodplain ecosystems.

For most private forest owners, the nature conservation value of their forest is not important, at least almost nobody among them is mentioning this forest function in his management plan. Although many private forest owners will informally tell you that they are great nature lovers,

they will not want to formally confirm this in any official document like a management plan, because they fear that the accentuation of nature values in their forests holds the risk of estate devaluation, expropriation or limitations on the freedom of management.

1.4. Afforestation

In spite of the subventions provided by the government in execution of the EC regulation 2080/92 on the afforestation of farmland. For example, during the first year the subvention system was introduced, only 4 farmers submitted a demand for subvention (Gorissen & Schepens, 1998). Until 2000, after 7 years of activity of the scheme, only 597 ha farmland were afforested, of which 194 ha on public land (communities, etc.), 403 ha on private land, but only 26 ha by professional farmers.

There is a large distrust among private owners towards afforestation of farmland, due to several reasons (Gorissen, 2000). The main reasons are: (1) the lack of income during the period before the first income generating harvest; in the Belgian subvention scheme the financial compensation for income loss only covers the first five years, while the first commercial harvest can take as long as 20 years. (2) Competition with other EC subventions for agricultural crops. (3) Economic implications: farming is a very capital-intensive activity with long amortisation periods, which makes change to another land use demanding other investments and other skills not attractive, especially if considering the low rentability level of forestry. (4) Estate prices for farmland are higher than the ones for forest land: risk of devaluation of estate value. (5) Legal insecurity: after 22 years of forest cover, forests become subject to the forest-legislation, which makes reconversion into farmland almost impossible. (6) the majority of farmland is leased, which makes afforestation unattractive for the tenant and impossible for the owner.

1.5. Government forest policy

The forest policy of the Flemish Forest Administration is based on three aims: (1) forest conservation, (2) extension of the forest area, (3) Multifunctional and sustainable management. Forest conservation is one of the major concerns of the Forest Administration. Since two years, there is a legal moratorium on deforestation (which is the replacement of forest for another land use, such as agriculture, industry or urban development). Exceptionally, deforestation is permitted under strict legal conditions. In such case, a compensation is obligatory, or by payment of a compensation tax into an afforestation fund of the government or by afforestation of an equivalent area of land.

Considering the small amount of wooded area in the strongly urbanized Region of Flanders, forest extension is also a priority matter of concern for the forest administration. According to the recent Land Planning Act, an obligatory extension of the forest with 10.000 ha of new multifunctional forest must be realized by 2007. Another optional 10.000 ha of temporary plantation forest on agricultural land is planned. Both plans can benefit from substantial subventions in execution of the EC-regulation 2080/92.

A scarce forest resource implies that all forests have to optimally fulfil multiple functions. The multifunctionality of the forest is one of the basic paradigms of the Forest Act of 1990, which recognizes the importance of the following forest functions:

- economic function;
- ecological function;
- social and educational function;
- scientific function;
- protective function.

The Forest Act emphasizes that besides the traditionally important economic function, the implementation of the other forest functions is imperative in public forests and must be highly recommended and stimulated in the private forest.

In order to do so, the management of the public forests in Flanders is carried out according to the principles of close-to-nature forestry. These principles, based on the international Pro Silva principles, include long rotations, the awareness of the ecological role of dead wood, the promotion of indigenous tree species, the use of natural regeneration and the application of low impact harvesting systems without clearcuts of more than 1 hectare.

Although in principle, private forest owners are entirely free to choose a silvicultural system suited to their needs, the Forest Administration tries to promote close-to-nature forestry in private forests as well by means of different subvention schemes (see 2.2). It stays nevertheless difficult for the government to reach private owners with these stimulating measures, because the owners continue to be very suspicious towards every initiative taken by the government.

1.6. Private forest ownership and nature conservation

Due to its high population density, the pressure on the natural values in Flanders is high. The government and the NGO's are making big efforts to increase the area under protection: the Nature Administration of the Flemish government is currently managing 7500 ha of nature reserve, but each year, about 1000 ha of new areas are purchased. About 9000 ha of nature reserve is owned or managed by non-governmental (private) organisations. As a consequence, nature conservation has become a rapidly expanding land use. Most nature reserves are to be found in wetlands, river valleys, and moors but also include an increasing amount of forests. Forests included in nature reserves come under a different legislation. It means for example that they can be deforested without compensation if the nature conservation management plan considers that deforestation is favorable for the development of natural values.

Nowadays, politicians consider that three sectors are claiming their part of the scarcely available open space: agriculture, forestry and nature conservation. For them, the forestry sector is clearly the weakest of the three having no economic power such as agriculture and not disposing of a broad social basis, such as nature conservation.

Due to this situation, relation between forestry and nature conservation has become very tense, not only 'in the field' but even on the level of the administration. The tensions are focused on fundamental differences in point of view concerning two critical questions:

- is forest conservation priority or should forest be replaced by another vegetation type if it can lead to potentially higher nature values?
- is sustainable forest management a good enough guarantee for the conservation of nature values in the forest; or, in the framework of the delineation of an ecological network for Flanders, it can be reformulated as 'is a forest management that serves other purposes than purely nature conservation acceptable within the ecological network'?

2. Strategies for private forest owners involvement

Because private-forest owners manage the main part of the Flemish forest resource, a successful forest policy neglecting this ownership category is unthinkable. Indeed, private forest owners are throughout Europe essential stakeholders and partners in the sustainable development of forest resources. Because it is a large and heterogeneous group of individuals, they are difficult to reach, to inform, to motivate, to form and to organize. This situation is aggravated due to the extreme fragmentation of the privately owned forest and due to the low rentability of forestry (high labour prizes combined with low world market driven wood prices).

The Forest Administration did big efforts to develop a variety of instruments that all contribute to the promotion of sustainable forest management in the private forests. It consists of a mixture of legislative, financial, organizational and pedagogical approaches.

2.1. Legislation

The new Forest Act of 1990 was a turning point for forest policy, because in the former forest legislation private forest owners had no rights nor obligations. In the Forest Act, the government clearly chose for a stimulating, non-repressive approach of private forest ownership involvement. The Act is based on a concept of ownership responsabilization in which every obligation is linked to certain, often financial, stimuli.

This new legislation made the draw-up of a forest management-plan compulsory for all public forests and for all private forests with a surface of more than 5 ha. This was considered necessary to force the larger private forest owners into a rational forest management. Only simple management plans are needed, which are in fact not much more than a timetable indicating when logging and regeneration will occur in the stands.

Another important novelty was that the decree had some specific clauses regarding the management of private forests.

2.2. Subventions

The introduction of different types of subvention was a real success in terms of private ownership involvement. Subventions are provided for (1) afforestation and reforestation either by artificial or by natural regeneration, (2) the organisation of forest-owners into forest-

groupings, (3) non-profitable management activities like cleaning, pruning and precommercial thinning; (4) allowing public access to the forest for silent recreation (Belgian law being based on Roman law, the public has no free access to private land), and finally (5) installation of forest reserves.

2.3. Forest groups

The private forest sector is poorly organized. The vast majority of forest owners is not affiliated to any forestry association. The Royal Belgian Forestry Society regroups mainly the large and middle-sized forest estates and is consequently not strongly represented among the small ownerships in Flanders. The Flemish Forest Association regroups many forestry professionals and forest lovers but does not reach the large group of small owners neither. In order to find a way to reach this large anonymous and silent group of small owners, the Forest Act of 1990 created the concept of forest groups.

A forest group is defined as a voluntary long-term collaboration between forest owners (private and public) within an area covering several municipalities, including between 4000 and 10000 hectares of forest). The freedom to implement its own management is at the center in this cooperation. A forest group has the objective to act as an organizer of collective forest management and timber auctions. In addition to this, the group can serve as a source and exchange of various (silvicultural) information through individual advice, courses and excursions. As the group is to be situated at a neutral position between authorities, owners and users, the forest group is an excellent place for consultation between all stakeholders. Agreements regarding recreation and ecological aspects of the forest management can be made in this group.

In order to stimulate the self-organisation of forest owners, the government started some pilot projects of mixed forest groups. In such groups both private and public owners can join their forests into one large management unit. The co-ordination is done by an independent forest engineer. The advantage of this approach is the input of professional knowledge and experience without interference or control of the state administration. Since 1994, 4 mixed forest-groups were installed (table 3) and large efforts are made to convince the private forest-owners to join.

Table 3. Present situation (2000) and future prospects for forest groups

Year	Number of mixed forest-groups	Privately owned forest involved (ha)	Public owned forest involved (ha)	Estimated number of private forest owners
1994	1	2000	1000	> 2000
1998	3	12600	3700	13400
1999	4	13600	3700	13450
2000	4 + 1 in formation	?		?
2001	7	?		?
2002	9	?		?

The best strategy here is a bottom up approach in which owners motivate themselves to participate actively in the group. The identification of some motivated pioneers among the owners with leadership qualities can help a lot to bring dynamics in a group. This role is more easily accepted from equals than from government officials. The final objective is to have forest groups covering the whole forest area of the Flemish Region.

The pilot projects already started up, are examples of co-operation between the Flemish government, local governments, interested private forest owners and nature conservation organisations. The Flemish government covers the salary cost of the group co-ordinator. The overhead costs and eventually the costs of a team of forest-workers are covered by the local government(s) (province, municipalities). The main tasks of the co-ordinator are : (1) maintaining the communication between private and public forest owners, (2) giving advice and information to private forest owners, (3) help owners with drawing up and executing their management plan (4) organizing forest work and (5) organizing joint wood sales. The forest workers of the group carry out forest works which are not cost effective for a regular contractor. At this moment forest owners can enter or leave the forest group whenever they feel like. Aspects such as legal statute of the groups, structure, membership fees, subsidies from the government are currently discussed.

During the revision of the Forest Act in 1999, the forest groups and their objectives were integrated in the legislation. It made them a powerful tool in reaching private forest owners and in sensitising them for a sustainable forest management which includes attention for other forest functions than only the economical one.

One forest group may consist of several smaller management units. These smaller geographically well unified entities are called forest groupings. The Forest Act introduced already the possibility of subvention for joint management between the private owners of such a grouping. Many of these groupings are in fact already existing groupings of family properties, but now formalised in order to receive subventions. Do note the distinction between a forest group and a forest grouping: a forest grouping can be considered as a loose co-operation between private forest owners in which the co-ordination is taken up by the owners themselves.

The objectives of the subvention for forest groupings are: (1) a better implementation of the different forest functions by means of a joint management plan for different forest ownerships; (2) increase the cost-effectiveness of forest-management; (3) increase the interest of forest owners in their own forests.

Although serious efforts were made, the results of this forest grouping grant scheme were not satisfying. Up to now only 106 forest groupings were established, representing a forest area of 8024 ha (table 4). A forest grouping gets a basic grant of 1500 BEF per ha (2000 BEF for properties of less than 5 ha). But also other grants e.g. for stimulating owners to allow public access in their forest appeared completely ineffective. Only 2 owners with a total forest area of 101.8 ha applied for this grant.

Table 4. Evolution of forest groupings (Buysse & Vaes, 1998, Flemish Forest Administration 1999)

year	number of groupings	Ha	basic grants (BEF)	management grants (BEF)
1992 - 1994	26	2431.9	3,689,430 (91,461 Euro)	29,500 (731 Euro)
1995	22	1627.7	2,453,075 (60,8011 Euro)	260,010 (6,446 Euro)
1996	12	1307.3	1,986,645 (49,249 Euro)	111,160 (2,756 Euro)
1997	17	1258.5	1,915,690 (47,490 Euro)	217,550 (5,393 Euro)
1998	11	822.1	1,248,410 (30,948 Euro)	246,430 (6,109 Euro)
1999	19	576.59	898,550 (22,275 Euro)	66,040 (1,637 Euro)
Total	106	8024	12,191,800 (302,234 Euro)	930,690 (23,072 Euro)

2.4. Education and training

A major problem in private forestry is the lack of knowledge and experience with the functioning of the forest ecosystem and the silvicultural methods. With the Forest Act coming into force in 1990, the role of the private forest owner significantly increased and it became clear that there was an urgent need for permanent forestry education and training. Before that time there wasn't a proper training centre for forestry workers neither.

This resulted in the foundation of the Groenendaal Forestry Education Centre. This centre was established in March 1992 by the Flemish government and two non-governmental organisations: the Flemish Forest Association and the Centre for Private Forestry.

The field of activity of the Forestry Education Centre is very broad and the Centre provides service to the professional forestry sector as to the large public as well. Its main activities are:

- theoretical and practical training of government functionaires (higher officials, foresters, nature wardens) in forestry practice including close to nature forestry, sustainable harvesting practice, etc.
- training of workers employed in the forestry and nature conservation sector;
- information, training and guidance of private forest-owners;
- general forestry information and education of the public;
- supporting deliberation between private forestry, tree nursery sector, the wood chain and the authorities;
- programming and operation of the 'Jan van Ruusbroec' forest museum in Groenendaal.

2.5. Logging in the private forest

Having the theoretical knowledge about sustainable silvicultural systems is one thing, but the quality of forest work done is another. In the near future, contractors of forest work (loggers, etc.) will need a license to work in public forests. This license qualifies them as contractors working with respect for the legislation and the forest ecosystem. It is highly advisable that

private forest owners also asks for this license when hiring a contractor, but it will be difficult to make it compulsory in the private forest.

In a region with a low forest area the sector of forest contractors is very small. Where a policy towards private forest owners has been developed since the implementation of the forest legislation of 1990, no adequate policy was developed for timber merchants and forest contractors. In 1999, a survey was made in this sector (Umans & Lheureux, 1999). From a questionnaire carried out among 578 forest contractors in order to get an overall view of their socio-economic situation, we learned the following:

- The majority of the forest contractors work in small enterprises (less than 5 employees) or one-man businesses. Most of the one-man businesses indicated that they have had employees in the past but because of the rising labour costs and the need for very flexible workers they changed to a system of working with self-employed subcontractors. In a few cases seasonal workers are employed.
- Most employees never had any specialised training. The rest attended an occasional course on forest work. Higher educated employees usually occurred only in companies with more than 5 employees.

Generally, technical forestry training has always been underdeveloped in Flanders. The Education Department of the government was never interested in this small and specific sector. Courses to obtain a certificate of competence in forestry, necessary for participating in the state exam for forest guard, are organised by the Forest Administration itself in co-operation with the Forestry Education Centre. Only one horticultural college organises a specialisation year in forestry, but the number of pupils is low.

This extreme lack of proper training and shortage of investment (leading to frequent use of inadequate machinery) results in a rather inefficiently working sector. When added up to the general problems of forestry (low profitability, low prices for wood, inadequate fiscal policy, etc.) it is clear that a repressive attitude towards contractors will not be effective to avoid damage to forest stands and their nature values.

Therefore, developing an overall forest contractors policy including aspects of control, training, motivation and investment is necessary. A licence regulation for forest contractors is very important to this respect. Basic principles in the draft Flemish regulation are:

- The licence is obliged in public forests, but voluntarily in private forests.
- Forest contractor organisations themselves are certifying companies based on criteria agreed between Forest Administration and contractor organizations. Representatives of the Forest Administration are involved in the procedures of appeal
- Criteria for obtaining the recognition include compliance with forest regulations, tax regulations, safety regulations and environmental standards.
- Possibilities are investigated for setting up investment grants and for creating extra employment.

- The Forestry Education Centre will set up specialised training where needed (e.g. in reduced impact logging).
- An effective recognition regulation will lead to more limited terms and conditions for the sale of wood.

3. Recommendations

- Based on the experience with the promotion of cleaner production in small and middle sized enterprises (Muys et al. 1997), the introduction of principles of sustainable forest management among private forest owners must follow a bottom-up in stead of a top-down approach. Self-organizing groups of owners, in which some motivated and experienced owners take the lead, are the key to successful implementation of Pro Silva principles, multiple use and conservation in the private forest.
- Trust and communication between Forest authorities and private forest owners is crucial to implement a forest policy based on close to nature forestry. The Government can play an important role by demonstrating in the field the possibilities and constraints of Pro Silva management or forest certification. The forest groups can play a very important role as a neutral platform where public and private forest owners and organisations meet.
- Financial aspects remain important for both big and small private forests: for bigger forest owners, the financial return is still important; for many small forest owners financial return is not vital for their income with as result a complete neglect of their forests. Very little is known about the economical return from the forest, but it can be estimated generally low or even negative. As a consequence, any initiative trying to convince owners of a more sustainable management should also think in terms of profitability for the owner. Win-win situations can certainly be found, and not always in subvention systems. Promoting thinning for example can be profitable for owner and nature: when organized in group, better financial returns can be expected and thinned forest stands are more resistant against storm damage and less dark which creates possibilities for development of valuable natural vegetation.
- Forestry is only part of the rural development as a whole. Hence, a successful forest policy needs to be integral part of an integrated land use strategy on a country level or even on a European level. Member states of the EC have to draw up rural development plans as stated by the new EC-regulation 1257/99. These plans are largely influenced by the agricultural sector, so there is an urgent need of a common European forestry policy, taking already the enlargement with CEE countries into account.
- Developing a policy for forest contractors is necessary for reducing the impact of logging on forest stands and their natural values. Such policy includes aspects of formation and training, certification of contractors, control and fines, investment in adapted machinery.

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