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REGIONAL TRENDS IN FOREST USE AND CONSERVATION

Policy Implications and Options

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ABBREVIATIONS AND ACRONYMS

%	per cent
CEE	Central and Eastern Europe
CEEC	Central and Eastern Europe Countries
DG	Directorate General
EFI	European Forest Institute
EU	European Union
EU-15	European Union 15 Member States
EUR	euro(s)
FSC	Forest Stewardship Council
GDP	Gross Domestic Product
ha	hectare(s)
IUCN	The World Conservation Union
M	million(s)
MCPFE	Ministerial Conference for Protection of Forests in Europe
m^3	cubic meter(s)
N/A	Not Available
o.b.	over bark
PEFC	Pan-European Forest Certification
SR	The Slovak Republic
TBFRA	Temperate and Boreal Forest Resource Assessment
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

The past ten years have put every single country in Central and Eastern Europe (CEE) through a formulation process of a comprehensive plan for forest sector development. Either as a part of the rural development or biodiversity conservation strategy, environmental policy or a separate document altogether, a national level strategic planning tool has been created. A few countries have already proceeded to updating their policies.

Rapid expansion of fellings was a clear trend in the accession countries in the 1990s. However, on average fellings are still well below net increment. Illegal logging has emerged a major issue but detailed information is lacking. In mid-1990s the estimated contribution of non-wood forest production constituted 10% of total timber revenues. Forest ownership is in the state of flux owing to the on-going restitution process, which is drawing to a close but has not yet been conclusively completed. The current projection is that less than 40% of the forest area in accession countries will be transferred to non-state ownership.

The fear that restitution would lead to excessive clearcuttings in private forests has not materialised except in the early stages of restitution in Romania and in Slovakia. However, the small average size of forest holdings will reduce the economic efficiency of forest management and a substantial portion of them will fall out of productive use. Information on environmental management of private forests is limited, but it is clear that the new owners lack skills in this area. On the other hand, unused and unmanaged stands will contribute to biodiversity conservation. Restitution can be seen to have social value in that it contributes to greater democratisation, empowerment, and improved distribution of benefits from forest management to their owners and rural communities.

Regarding policy measures for private forests, the small average size of forest holdings is reducing the effectiveness of most policy instruments, especially extension services. Efforts to increase unit size through promotion of private forest owners' co-operation have had little impact. A more effective strategy would to encourage market-based consolidation of forest holdings i.e. land trade but this strategy involves environmental risks. With respect to subsidies, an additional problem is that the justification and overall objective for providing them are often poorly articulated even though in some cases significant sums are made available.

The most significant structural change taken place in forest administrations is the decision to separate commercial forestry functions from normative ones with the objective of increasing efficiency. This gave rise to a concern that non-revenue generating functions, especially environmental protection will be relegated to second priority. The impact has not been systematically estimated but the fact that fellings in state forests have remained considerably below net increment and that in a clear majority of countries at least part of the state forest area has been timber certified suggest that the situation is stable.

The restructuration of forest administrations has entailed a significant reduction of workforce. While the negative social impact has been recognised, the economic considerations have dominated decision-making and further reductions are likely to follow at some point. In seven accession countries the organisation responsible for state forest management transfers funds to government budget, while three are subsidised to finance their activities. These differences are partly due to differences in functions and responsibilities, but efficiency of management also explains the variation.

The key policy questions in state forest management are the social impact and efficiency of operations. There is no established and generally agreed system to determine whether state forest organisations are operating efficiently or whether the amount of funds they transfer to state budget or receive from there is at a justified level. The rapid shedding of employees has been a painful experience and today staffing levels are often seen more as a social issue than an economic question.

The information on the protected areas is incomplete but the available information suggests that the accession countries have protected less forest for the purpose of biodiversity conservation than the EU-15 countries. The same applies to protection of landscapes and "specific natural elements". In contrast, the accession countries have a large proportion of forest with protective functions. In total, more than one fourth of the forest area in the accession countries have either a protected or protective function.

The policies concerning protected area management in CEE countries have been rather general and weakly formulated. In most countries the resources available for protected area management are still inadequate and the quality of management leaves much to desire. The strategy for development of protected area networks has lacked a systematic approach.

The net transfer of funds to the forestry sector, i.e., the sum of payments to and from the government budget, is often referred to as the ultimate indicator for the government's interest in the forest sector. Based on the available information it appears that Estonia is the only country, where the forestry sector (including protected area management) transfers more funds to the government budget than it receives.

Policy development in the CEE countries has been rapid and the quality of policy frameworks has improved dramatically over the last decade. However, monitoring and evaluation systems enabling rapid and comprehensive feedback and adjustment of policies are generally missing; in particular, monitoring of environmental impacts and efficiency in the forest sector is poorly developed.

1. INTRODUCTION

The first major policy changes in the forest sectors in the countries of Central and Eastern Europe (CEE) were not a result of a thorough policy analysis within the sector. Rather, they were a spillover from broader policy changes in the society following the change of regime in the beginning of 1990's. Processes such as restitution of forest property, privatisation of forest industries etc. were set in motion at that time and they still constitute the framework for present-day policy-making.

The past ten years have put every single country in Central and Eastern Europe (CEE) through a formulation process of a comprehensive plan for forest sector development. Either as a part of the rural development or biodiversity conservation strategy, environmental policy or a separate document altogether, a national level strategic planning tool has been created. A few countries have already proceeded to updating their policies.

This presentation examines the policy choices made in the CEE countries in the past and the options they have for the future. The analysis is focused on developments within the CEEC but the EU-15 countries are used as a reference point to put the assessment into a broader perspective. The presentation is largely based on the study "Forestry in Accession Countries" (2003) prepared by Indufor and European Forest Institute (EFI) at the request of the DG Environment of the European Commission. The countries examined include Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic and Slovenia.

2. SELECTED BACKGROUND DATA

2.1 Forest Area

Based on Temperate and Boreal Forest Resource Assessment (TBFRA) the total forest area within the European Union (EU-15) reached 114 million hectares. The accession countries joining the EU will increase the forest area by nearly 30% to a total of 147 million hectares after the accession.

Table 2.1 Area and Proportion of Forest

Country	Total land area	Population Ref. 1	Reference period 1	Forest	Other wooded land	Proportion of forest of total land area	Forest per capita
			1 000 ha			%	ha
Bulgaria	10 895	8 336	1995	3 590	314	33	0.43
Czech Republic	7 728	10 282	1995	2 630		34	0.26
Estonia	4 187	1 429	1996	2 016	146	48	1.41
Hungary	9 093	10 116	1996	1 811		20	0.18
Latvia	6 248	2 364	1997	2 884	111	46	1.22
Lithuania	6 267	3 694	1996	1 978	72	32	0.54
Poland	30 435	38 718	1996	8 942		29	0.23
Romania	22 949	22 474	1997	6 301	379	27	0.28
Slovakia	4 810	5 377	1996	2 016	15	42	0.37
Slovenia	2 016	1 993	1996	1 099	67	55	0.55
Subtotal	***104 602***	***104 843***		***33 267***	***1 104***	***32***	***0.32***
EU-15	***311 852***	***374 292***		***113 567***	***22 637***	***36***	***0.30***

Source: TBFRA 2000

There are large disparities in forest cover among accession countries. The total forest area is 33 million hectares. The remaining area is split between the others by and large according to their respective country territories. The forest coverage is most extensive in Slovenia, Estonia and Latvia, 55%, 48% and 46% respectively, whereas in Hungary a mere 20% of the territory is covered with trees. Forest area *per capita* varies from 0.18 hectares in Hungary to 1.41 hectares in Estonia, still largely owing to uneven population densities between the countries rather than to differences in relative tree coverage.

2.2 Forest Ownership

Forest ownership is in the state of flux owing to the on-going restitution process where the nationalised forest areas are restored to their former owners or their descendants. With the exception of Poland the restitution process has not yet been conclusively completed in the accession countries. In Poland restitution was not necessary, because under communist rule the portion of private forests was not only retained but even slightly expanded. In other accession countries the restitution process was implemented, but with differing approaches.

- *Bulgaria, Estonia* and *Slovenia* expect to restore the former ratio of public and private forests.
- In *Slovakia, Romania, Hungary, and the Czech Republic* the ratio will reportedly shift in favour of public forest ownership, with the remaining share of private forests down to between one-half and two-thirds of the original percentage.
- *Latvia* and *Lithuania* will not only fully restore but even enlarge the share of private forests.

In many cases the forests are not restored only to private forest owners, but also to municipalities and other legal entities such as church (Eco and Indufor 2001).

The available data reflects the status in 2000-2002 and it will change, if the process continues as envisaged by the Governments. The current projection is that less than 40% of the forest

area in accession countries will be transferred to non-state ownership (Table 2.2). On average, private individuals have about one quarter of the forest area in their possession. In Slovakia, a quarter of the forest area is in the hands of land associations. In Hungary, various types of associations also hold a sizeable portion of private forests, but disaggregated data indicating their share was not available. Municipalities possess 3% of the forest area in the region. They are major players in the Czech Republic and Slovakia, where they retain 15% and 10% of the forest area, respectively.

A rough assessment puts the number of non-state holdings at ca. 2.6 million. As only about 8% of forest will still potentially be subject to restitution, the number of non-state forest owners entering the EU does not seem to exceed 3 million. The largest holdings are located in the northern end of the region (the Baltic countries), decreasing gradually when moving south along the gradient. The average holding size of 12 hectares in Estonia is still far behind the respective figures in Scandinavia. In countries where functioning land markets have been established (e.g., Estonia, Latvia), the average size of private forest holdings is likely to increase. In Estonia, it is estimated that some 15% of privately owned forests (~100 000 ha) are in the hands of private investors who have acquired holdings between 1 000 ha and 15 000 ha in size.

Table 2.2 Forest Ownership

Country	Reference period (most recent)	State	Municipalities	Other public (e.g. church)	Individual owners	Other private (e.g. associations)	In the process of restitution	Total	State	Municipalities	Other public (e.g. church)	Individual owners	Other private (e.g. associations)	In the process of restitution	Total	Average size of private forest holdings	Total number of private forest holdings	Share of < 5 ha holdings of total number of forest holdings
		ha							%							ha	pcs	%
Bulgaria[4)]	2000	3 287	227	22	321	5	53	3 915	84	6	1	8	0	1	100	1,1	285 358	90
Czech republic	2002	1 617	384	0	458	0	171	2 630	62	15	0	17	0	7	100	1	164 000	97
Estonia	2001	914	0	0	725	0	377	2 016	45	0	0	36	0	19	100	12	60 420	55
Hungary[3)]	2000	1 145	0	0	446	13	303	1 907	60	0	0	23	1	16	100	3	250 000	
Latvia	2000	1 329	104	0	1 205	0	250	2 888	46	4	0	42	0	9	100	8,2	159 257	50
Lithuania	2001	1 002	0	0	458	0	560	2 020	50	0	0	23	0	28	100	3,4	134 604	
Poland	2000	7 531	0	0	1 528	0	0	9 059	83	0	0	17	0	0	100	2	843 802	
Romania	2002	3 974	625	19	355	438	815	6 226	64	10	0	6	7	13	100	0,9	400 000	96
Slovakia	2000	693	192	66	298	500	250	1 999	35	10	3	15	25	13	100	2,7	45 000	
Slovenia	2001	244	22	38	768	13	57	1 142	21	2	3	67	1	5	100	2,7	250 000	90
Subtotal		*21 736*	*1 554*	*145*	*6 562*	*969*	*2 836*	*33 802*	*63*	*5*	*0*	*19*	*3*	*8*	*100*	*3,2*	*2 592 441*	
Turkey	2000	20 763	0	0	16	0	0	20 779	100	0	0	0	0	0	100	47	333	
Total		**42 499**	**1 554**	**145**	**6 578**	**969**	**2 836**	**54 581**	**77**	**3**	**0**	**12**	**2**	**5**	**100**	**3,3**	**2 592 774**	
EU-15	1991-97	40 633[1)]			95 571[2)]		0	136 204	30	0	0	70	0	0	100	12-14	8 000 000	
Total w/o Turkey		**62 369**	**1 554**	**145**	**102 133**	**969**	**2 836**	**170 006**	**31**	**1**	**0**	**60**	**1**	**2**	**100**	**15-17**	**10 592 441**	

1) including all public

2) including all none-state

3) a substantial portion of forests in this category are managed under various co-operative arrangements, but disaggregated data to indicate is not available

4) for Bulgaria the data indicates the present status. The restitution process continues decreasing the area in state ownership, but as the estimates on its outcome are rather speculative (probably more than half of forest area will remain in state ownership), they were not incorporated in the table

Source: Country Reports 2002, ECSE 2002

2.3 Increment and Fellings

The net annual increment in forest available for wood supply in the accession countries is 147 million m^3 o.b., with Poland having the highest (39 million m^3 o.b.) and Slovenia the lowest (6.1 million m^3 o.b.) annual increment. Compared to EU-15 countries, the net annual increment in accession countries is about one third (Table 2.3).

The fellings in forests available for wood supply in the accession countries totals at 121 million m^3 o.b., which is about 40% of the current total in EU-15 countries. Of this amount, Poland supplies 28%, followed by the Czech Republic making available 18%. Slovenia in the lower end produces ca 2.6 million m^3 of wood annually (2.2%). In most accession countries the state forests constitute the main source of timber supply. However, in Estonia and Latvia non-state forests provide the largest portion.

Table 2.3 Productive Functions of Forest

Country	Reference period 1	Reference period 2	Net annual increment in forests available for wood supply Ref, 2	Fellings in forests available for wood supply Ref, 1	Fellings in forests available for wood supply Ref, 2			Ratio of fellings Ref, 2 / net increment	Ratio of fellings the Ref, 2 / Ref, 1
					State	Non-state	Total		
			1 000 m3					%	
Bulgaria	1995	2000	10 277	4 852	..	..	4 630	0.45	0.95
Czech Republic	1995	2000	23 500	16 200	..	..	21 200	0.90	1.31
Estonia	1996	2000	11 600	4 028	3 300	9 400	12 700	1.09	3.15
Hungary	1996	2000	9 925	6 049	4 700	2 600	7 300	0.74	1.21
Latvia	1997	2000	12 538	8 924	3 800	6 710	10 510	0.84	1.18
Lithuania	1996	2000	8 504	5 240	3 900	1 400	5 300	0.62	1.01
Poland	1996	2000	39 436	30 532	31 800	1 700	33 500	0.85	1.10
Romania	1997	2000	17 000	13 600	..	..	14 200	0.84	1.04
Slovakia	1996	2000	12 337	7 100	5 600	3 400	9 000	0.73	1.27
Slovenia	1996	2001	6 132	2 300	1 000	1 600	2 600	0.42	1.13
Subtotal			***146 616***	***96 471***	..	..	***121 430***	***0.83***	***1.26***
EU-15			***459 506***	***299 530***	..	..	***299 530***	***0.65***	***1.00***

Source: TBFRA 2000, Country Reports 2002

*) This volume excludes fuelwood harvesting in farm forests estimated at 4-5 m^3 annually

Rapid expansion of fellings was a clear trend in the accession countries in the 1990s. However, fellings are still well below net increment, even if the proportion is up from 64% in 1995 to 83% in year 2000. One of the major contributors to the sharp increase is Estonia, who despite its small size, accounts for almost a quarter of the additional wood supply. Bulgaria experienced a lack of demand, which led to a drop in harvesting volume. Estonia is the only country, where fellings have gone beyond net increment. On average, harvesting intensity in the CEE countries is lower than within EU-15.

2.4 Illegal Logging

Combating illegal logging has emerged as a major item on the international forest agenda and the issues has been brought up in conjunction with the accession countries. The recorded illegal cuttings in the countries of Central and Eastern Europe range from 0.3% to 2.6% of the

total felling volume (Table 2.4). It should be noted that the statistics are not necessarily very accurate and the recorded volume may sometimes be an underestimate.

Thefts of timber affect both private and public forests, but the affected area and volume for public lands is usually much smaller. For instance in Lithuania illegal fellings in private forests represent more than 70% of their volume, even though in area terms they account only for a quarter. Information on illegal felling in protected areas is incomplete. In Latvia, however it is reportedly negligible (Indufor 2002b), but in Hungary and Estonia illegal fellings are reported (WWF 2001, Kallas pers.comm.).

Table 2.4 Theft and Unauthorised Cuttings in Accession Countries.

Country	Reference Year	Total felling volume 1000 m3	Theft and unauthorised Cuttings 1000 m3	Proportion of theft and unauthorised cuttings of total felling volume %
Bulgaria	2001	2 900	42	1.4%
Czech Republic	2000	21 200		1-1.5%
Estonia	2000	12 700	172	1.4
Hungary	2000	7 300	N/A	
Latvia	2001	10 510	229	2.2
Lithuania	2001	4 920	25	0.5
Poland	2000	33 500	N/A	
Romania	2000	14 200		~2%
Slovakia	2000	6 200	N/A	
Slovenia	2001	2 600	68	2.6

Sources: Anon. 2003, Plesnik, pers. comm., Eesti Metsakorralduskeskus 2001, Latvian State Forest Service 2002, Anon 2001c, Abrudan pers. comm., Staff of Ministry of Environment in Slovakia pers. comm., Statistical Office of the Republic of Slovenia 2001, World Bank 2001

However, it should be noted that in the country statistics in the accession countries illegal logging refers to timber theft and unauthorised cuttings. There are also broader definitions in use such as those applied by the World Bank and the WWF. The latter uses the term "forest crime" to include both large and small-scale timber theft and a variety of issues such as transfer pricing, breaching tax rules, any illegal aspects of timber sourcing and circumvention of concession agreements through bribery or deception. The World Bank definition is more detailed but essentially the same as the one used by WWF.

Applying a broader definition of "illegal fellings" their volume becomes considerably larger. In Romania, for instance, the World Bank (2002) estimates that illegal timber may represent more than 5% of the harvesting volume. In Estonia, environmental NGOs estimate that under a broader definition 30-50% of harvested timber would be illegal, the most serious problem being the use of "black" or "grey" labour by harvesting companies (Kallas, pers. comm.). However, in all cases it must be stressed that the assessments are rather rough.

2.5 Non-wood Forest Production

Non-wood uses of forest have long traditions in Eastern and Central Europe. Access to forest has been free, or only marginally priced permits have been necessary to pick berries, mushrooms or medicinal plants and herbs. Although the sector is vast and certainly of economic importance, there is very little information available on its extent and significance. In mid-1990s the estimated contribution of non-wood forest production constituted 10% of total timber revenues (Table 2.5). The non-wood products often constitute a fairly large share of money income particularly of accession countries' rural communities. Owing to open access to public forests, the actual benefits from non-wood forest production are likely to be double or triple the amount provided in the national statistics, and should be given due respect in terms of sector's significance.

Table 2.5 Non-wood Forest Products

Country	Berries and mush rooms	Hunting and fishing, game	Christmas trees	Wicker-work	Honey	Medicinal and flavouring plants	Fodder	Total
	EUR 1 000							
Bulgaria	909	2 000	47	..	..	73	..	3 029
Czech Republic	115 500	..	..	..	..	..	..	115 500
Estonia	11 700	1 600	1 100	..	..	..	..	14 400
Hungary	..	..	..	..	..	..	..	0
Latvia	..	..	..	..	..	..	..	0
Lithuania	18 800	..	..	..	..	..	..	18 800
Poland	18 200	..	..	..	..	..	..	18 200
Romania	2 000	2 700	..	1 100	..	..	..	5 800
Slovakia	7 900	2 600	9 700	..	1 300	..	..	21 500
Slovenia	..	..	..	..	..	..	..	0
Subtotal	***175 009***	***8 900***	***10 847***	***1 100***	***1 300***	***73***	***0***	***197 229***

Source: Country Reports 2002

3. PRIVATE FORESTS

3.1 Fellings

When the restitution process got underway, there was a fear that it will lead to excessive clearcuttings in private forests. However, this fear has generally not materialised except in the early stages of restitution in Romania and in Slovakia (Eco and Indufor 2001). Of the seven countries for which information on cutting intensity by owner group is available, in three cases i.e. in Estonia, Hungary and Latvia, the harvesting levels in non-state forests are higher than in state forests, in four cases they are below it (Table 3.1). In all cases except in Estonia, the harvesting levels are within sustainable levels. However, it can be observed that in countries where felling rates have increased over the past few years, the non-state forests primarily account for the change. The main driver behind increased fellings has been the progress of restitution and the expansion of non-state forest area.

Table 3.1 Felling Intensity

Country	Ref. 2	Fellings in state forests	Fellings in non-state forests	Fellings in all forests (incl. non-restituted areas)	Fellings in state forests of total fellings	Fellings in non-state forests of total fellings	Fellings in state forests	Fellings in non-state forests	Fellings in all forests (incl. non-restituted areas)
		1 000 m^3			%		m^3/ha		
Bulgaria	2000	..	..	4 630	..	..	..	..	1.2
Czech Republic	2000	..	..	21 200	..	..	..	..	8.1
Estonia	2000	3 300	9 400	12 700	26	74	3.1	13.0	5.7
Hungary	2000	4 700	2 600	7 300	64	36	4.1	5.7	3.8
Latvia	2001	3 800	6 710	10 510	36	64	2.6	5.7	3.6
Lithuania	2001	3 900	1 400	5 300	74	26	3.9	3.1	2.6
Poland	2000	29 500	4 000	33 500	88	12	3.9	2.6	3.7
Romania	2000	..	..	14 200	..	..	..	..	2.1
Slovakia	2000	..	..	6 200	..	..	4.8	4.1	4.5
Slovenia	2001	1 000	1 600	2 600	38	62	2.8	2.0	2.2
Turkey	2000	21 000	0	21 000	100	0	..	..	1.0

Source: TBFRA 2000, Country Reports 2002

The intensification of forest management is most striking in Estonia, where cutting volumes *per hectare* have tripled just in five years Arguably, the most important reason for such high cutting intensities in Estonian forests are property speculators benefiting from free access land markets (see Box 3.1 Timber Harvesting in Private Forests in Estonia). While increasing prices have undoubtedly also encouraged cuttings, the significance of price in decisions concerning harvesting is not fully clear. For instance, in Latvia the volume of cuttings in private forests has recently shown signs of stabilising, even though timber prices continue their rise (Indufor 2002b).

Box 3.1 Timber Harvesting in Private Forests in Estonia

In Estonia, the harvesting intensity in private forests is 13 m^3/ha, which, if continued, is beyond a sustainable level. One of the key reasons is that many of the restituted woodlots are sold in market-based transactions, and cutting intensity on such woodlots is generally high as the new owners attempt to recover the cost of their investment. A case study indicates that harvesting levels are 3-7 higher on properties that have been recently sold than on those, which are held by their original owners (Maamets 2000). Similar development has been observed also in the Czech Republic, but on a much less extensive scale than in Estonia (Plesnik. pers. comm.). One of the reasons for the difference may lie in the fact that woodlots in the Czech Republic are generally much smaller than in Estonia, and the high transaction cost may inhibit trade. Another reason may be the Estonian tax regulations, which encourage property trade by exempting a "first" sale of restituted property from tax.

3.2 Impacts

From a purely economic viewpoint, the emergence on non-state ownership appears problematic, especially considering the fact that the largest part of restituted woodlots are in individual ownership, and – as a rule – so small that economic efficiency of forest management will be substantially reduced. The new owners also often lack skills and

financial means to make the necessary investments. The large number of individual owners is also a considerable burden for public forest administration, which is often cash-strapped and under pressure to be downsized (cf. Ch. 4.2). Also, the large number of absentee or inactive owners leads to unproductive use of forest resources. Accurate data on the number of such owners is unavailable, but a case study in Estonia – where the overall harvesting level in private forests is high (see below) – indicated that one third of the restituted properties were not used at all (Maamets, 2000).

There is limited information on the environmental impact of private forest ownership. Systematic assessments have not been carried out but it is probable that in privately owned forests environmental standards are not always fully met due to owners' lack of skills and resources. On the other hand, it should be noted that private forests falling out of economic use could have substantial environmental benefits since unmanaged stands can make an important contribution to biodiversity management.

Regarding social impact, restitution may have a negative impact on the availability of immaterial and "public" benefits (e.g. provision of recreation services). Private forest owners are probably reluctant to bear the associated costs or tolerate restrictions on the use of their property without economic incentives. The problem is to some extent alleviated by the fact that almost the entire forest area in accession countries is open to public access (TBFRA 2000). On the other hand, restitution can also be seen to have social value in that it contributes to greater democratisation, empowerment, and improved distribution of benefits from forest management to their owners and to associated rural communities. In economic terms, local ownership is likely to increase the benefits accruing to the local community. Also, the immaterial value of mere "ownership" may be high from the forest owners' point of view.

3.3 Policies

3.3.1 Restituted Forest Property

All countries set early on targets for the proportion of forest area to be restituted (see above), and it seems that the initial decisions have not been seriously challenged at the political arena. Still, a few modifications have been introduced.

- In 1997 Hungary revoked an early decision to restitute protected areas, and the state has since then repurchased some of the restituted areas (Gyulai 1998).
- In December 2002, the Estonian Government decided to stop the privatisation of unclaimed woodlots, because it turned out that harvesting volumes on them were very high as the owners attempted to recover the cost of their investment (Kallas, pers. comm.).
- In Slovenia and the Czech Republic the restitution of forest formerly in the possession of the church is in dispute (US Department of State 2001, Kupka pers. comm.).
- In Bulgaria, the restitution of former municipal forests has been contested in court (?).
- In Romania the restitution process was stopped after the negative experience in 1991 (Eco and Indufor 2002), but the Government has recently restarted the process and embarked on a large-scale program to restitute forest lands (World Bank 2002b).

In other countries, the progress towards set targets continues, but the pace is slowing down owing to lack of interest on the part of potential owners to complete the process. Also, cases

with unclear ownership history also tend to crop up towards the end (e.g. in Hungary, Czoka pers. comm.).

3.3.2 Public Support

Regarding public support to private forestry, it is provided in the form of free-of-charge services offered by the public forest administration or as direct subsidies. Frequently, the distinction is impossible to make. Making available free-of-charge forest management planning is one of the most common ways of supporting private forestry. Other free-of-charge services include forest protection (fire, and pests), and forest extension services. The latter is provided either in the form of training courses or on-site visits by publicly funded extension agents. In some cases, the private forest owners are paying part of the cost of the service.

Generally, the problem for extension services is outreach. The number of forest owners is large, and the extension services rarely have means to provide more than basic services (issuing of cutting licences, etc.). Organising training or campaigns reaching other than the most active forest owners is usually beyond their physical capacity. Lack of communication and teaching skills may also be problem, since few extension agents have received specialised training (e.g. Begus 2001). Environmental issues are generally not regarded as a priority area for extension services (IUCN 2000), possibly because of limited capacity or lacking skills.

Direct subsidies are provided for a wide range of activities. Reforestation is subsidised in the Czech Republic, Estonia, and Slovenia. The afforestation of marginal and/or abandoned agricultural land is encouraged in Hungary and Poland; tending of young tree stands is financed in Slovenia. The governments of the Czech Republic and Slovenia support ecological and nature friendly technologies in forest management. The Czech government is also funding non-wood forest production. In Estonia, Poland, and Slovenia there are compensations provided for habitat preservation. In Estonia the arrangements are made on a contractual basis between the state and the landowner. The Czech and Hungarian governments provide financial incentives for co-operation between private forest owners.

Table 3.2 Subsidies to Non-state Forestry

Country	Reference year	Total amount of direct subsidies	Area of private forests	Direct subsidy of private forest
		MEUR	1 000 ha	EUR/ha
Bulgaria	2000	0.0	326	0.00
Czech Republic	2000	23.7	763	31.10
Estonia	2001	0.4	725	0.70
Hungary	2002	24.4	458	53.40
Latvia	2000	0.0	1 453	0.00
Lithuania	2000	0.0	458	0.00
Poland	2000	..	1 528	..
Romania	2002	0.0	1 437	0.00
Slovakia	2000	3.7	831	4.40
Slovenia	2001	4.5	787	5.70

Source: Country Reports 2002

Making cross-country comparisons is difficult because of above-mentioned differences in ways of providing support. Table 3.2 presents indicatives amount of direct subsidies provided to forest owners including the cost of preparing free-of-charge forest management plans. In terms of funding volumes, the Czech Republic and Hungary provide by far the largest amounts about EUR 24 million. Poland, Slovakia and Slovenia are in the middle group with their EUR 3-4 million. The rest provide very limited or no subsidies. Regarding Hungary it should be noted that more than 95% of the subsidy is allocated for afforestation.

3.3.3 Environment

Environmental objectives are pursued either by imposing legal obligations on forest owners or by providing incentives. IUCN (2000) reports that a mechanism for compensating private forest owners for restrictions caused by nature conservation exist in other accession countries except in Bulgaria, Hungary, Latvia and Poland. A number of countries have also introduced legal provisions for purchase or exchange of lands for conservation purposes. However, the implementation of these provisions has been slow, as funds are usually in short supply. For example in Latvia and Romania, where the purchase of private lands by the state is legally secured, the availability of funds is severely restricting this activity.

In Estonia the Government is implementing a land exchange program and paying compensation for protection of key biotopes (Kallas, pers. comm., Anon 2002q). Experience in Estonia suggests that the implementation of such schemes is somewhat cumbersome. While the protection of key biotopes has been introduced in the entire area of state forests, in private forests their protection is progressing slowly as it is based on contracts between the sate and the forest owner and payment of compensation (Kallas, pers. comm., Anon 2002q). Apart from limits to funding, one of the hurdles is the large number of private forest owners, which effectively hampers information dissemination and awareness raising. Lacking tradition and basic knowledge of forest management among the new owners aggravate the problem (Kallas, pers. comm.).

Regarding legal measures an comprehensive picture for the accession countries could not be established, but in Poland, the forest management strategy includes measures such as leaving biomass produced in the forest, especially wood in various forms, on site, limiting clear-cutting to the minimum dictated by regeneration needs and limiting any single clear-cut area to a maximum of 0.5 ha (was previously 4 ha), and using harvesting technologies and silvicultural practices that resemble, if possible, natural disturbances (such as canopy gaps caused by wind, fire, snow, disease, insect pests, etc.). (Rykowski 2002). The practice of leaving retention trees on the site has also been adopted in Lithuania (Lazdinis 2002). All three Baltic countries are to various degrees implementing a program to protect key biotopes (Anon. 2002q, Bumanis et al 2002, Lazdinis 2002). In Slovenia, a similar concept, so-called eco-cells, has been introduced (Anon. 2002c).

3.4 Options for Future Policies

Choice between policy options depends on the balance between various objectives and the weighing has to be done in specific country contexts. In general terms, however, following options could be considered.

Regarding environmental objectives, the current policy instruments, legal obligations and financial compensation mechanisms, have both drawbacks. Legal obligations are difficult to monitor and enforce owing to the large number of forest owners, and financial compensation is so costly that only a fraction of the existing environmental values can be protected using them. To apply protective measures on a meaningful scale the forest owners would have to absorb part of the cost. Whether this is acceptable, is a political question and motivated not only by environmental considerations but also legal principles.

One should note that forest owners are not necessarily opposed to environmental protection, many do not even consider economic use as the main objective of their ownership. Taking advantage of this perception, one possible approach is to conclude conservation agreements based on limited compensation. Early results from Finland suggest that forest owners are rarely willing to relinquish their right to use their property without any compensation, but some of them may accept less than full value compensation, especially if protection is well motivated and significant environmental values are at stake (Karppinen, pers.comm.).

The single most important contributor to social objectives has been the restitution process. As a forest owner the local population is able to get substantially more benefits from the forest than e.g. as an employee of a state or private enterprise. Further options to pursue social objectives are closely related to ways in which the economic benefits for private forest owners could be enhanced (e.g. through extension). One should also note that in some instances they could contribute to environmental objectives as well. For instance, promotion of forest owners organisation could provide an entry point for introduction of timber certification in private forests.

From the perspective of public polities the economic objectives consist of increasing the efficiency of forest management and timber production and reducing the cost of public support. Considering both objectives, the key strategy would be to increase the size of management units. To this end, much hope has been attached to promotion of private forest owners' co-operation. However, while these efforts should be continued, the effectiveness of this strategy is doubtful owing to the fact that forest owners are usually wary of any arrangements restricting their freedom to make decisions. The most effective strategy is to encourage market-based consolidation of forest holdings i.e. land trade. This, however, carries an environmental risk because the investors would often try to recover the cost of their investment by intensive cuttings. This would not necessarily mean illegal cuttings but if the traded woodlots had an age distribution skewed towards mature stands, the removals could temporarily reach a very high level. The risk depends on the size of the potential market and, to some extent, the effectiveness of the law enforcement mechanisms.

The small average size of forest holdings is reducing the effectiveness of most policy instruments, especially extension services. Regarding subsidies, an additional problem is that the justification and overall objective for providing them are often poorly articulated even though in some cases significant sums are made available. From this follows, that while physical targets such as hectares planted or tended may be monitored, there is rarely an assessment whether the activity had an impact on a higher level objective (prevention of soil erosion, increased wood production, improved biodiversity, etc.), and whether this was achieved cost effectively. This is a problem for economic efficiency, and potentially also for sustainability, as limited funds are not necessarily spent in the best possible way. Given the current status of subsidy systems, they constitute a significant opportunity to improve the effectiveness of public policies.

4. STATE FORESTS

The most significant structural change taken place in forest administrations is the decision to separate commercial forestry functions from normative ones. This policy has been applied in several accession countries (incl. Bulgaria, Estonia, Hungary, Latvia, Lithuania, Poland, Romania) and it has led to emergence of specialised state forest enterprises. However, even in countries where the structure of administration has been maintained unchanged, the organisation have attempted to adapt to new circumstance most by increasing their efficiency.

4.1 Environmental Status

There is a natural concern that where efficiency and commercial functions are emphasised, they may easily overshadow and relegate to second priority non-revenue generating functions such as environmental protection and provision of non-material benefits. At the same time, it is obvious that only financially healthy organisations are able to provide these services. Financial strength is also a precondition for investment in activities, which are necessary for the long-term sustainability of forest management. For instance, there are indications that the dire economic situation of the Bulgarian state forest enterprise has already put some of these activities under pressure (e.g. silvicultural activities and capital investment have decreased). In contrast, the Estonian and Latvian state forest enterprises have brought the entire area of state forests under timber certification parallel to increasing efficiency.

The environmental impact of the emergencies of the enterprise structure on state forest management has not been systematically estimated, but the fact that fellings in state forests have remained considerably below net increment (see Ch. 2.3), and that in a clear majority of countries at least part of the state forest area has been timber certified (Table 4.1), suggest that the situation is stable.

Table 4.1 Status of Forest Certification in CEEC

Area certified	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia	Total	Share
	million ha											%
By forest owner												
State forests		1,9	1,1	0,1	1,5	0,4	6,1	1,4	0,0		**12,5**	98
Private forests			0,0	0,1	0,2			0,0			**0,3**	2
Total		**1,9**	**1,1**	**0,2**	**1,7**	**0,4**	**6,1**	**1,4**	**0,0**		**12,9**	**100**
By scheme												
FSC		0,0	1,1	0,2	1,7	0,4	6,1	1,4	0,0		**10,9**	85
PEFC (*)		1,9			0,0						**1,9**	15
Total		**1,9**	**1,1**	**0,2**	**1,7**	**0,4**	**6,1**	**1,4**	**0,0**		**12,9**	**100**
% of forest cover		73	53	10	59	19	69	22	2		**30**	
Chain-of-custody certificates	Number											
FSC		10	13	10	75	28	232	10	10	6	**394**	85
PEFC		59			13						**72**	15

Source: FSC, PEFC 2004

4.2 Social Impact

The restructuration of forest administrations has entailed a significant reduction of workforce. For seven countries out of eleven the available data allows to observe the number of government staff at two different times. In all seven cases, no matter how long the time period between the observations has been, the subsequent figure is always significantly smaller. Dropping from 4 570 to 1 600, the Estonian public forestry administration has lost 2/3 of its employees just in five years. In Poland, a similar trend occurs – in five years, from 1995 to 2000, half of the staff has left the office. (Table 4.2). In some countries the negative trend in state forest administration has been partly offset by increase of employment in the private sector. For instance, between 1995 and 2000 in Estonia and Latvia the total employment in forestry increased 36% and 14%, respectively. In addition in Latvia, the number of employees in forest industries increased 76% during the same period.

Table 4.2 Total Number of Government Staff Employed in the Forest Sector

	Bulgaria	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	SR	Slovenia
1995							64 718			
1996		5 471	4 570			13 293				
1997					3 088					811
1998										
2000	6 413						33 198			
2001		3 588	1 600	10 884	2 087	6 884		29 329	16 607	754
2002										

Source: Country Reports 2002

While the negative social impact has been recognised, the economic considerations have been dominant, and further reductions may be necessary at some point. For instance, despite rapid downsizing of the Estonian state forest enterprise, the average harvesting volume per employee in Nordic state forest enterprises is still 3-6 times higher than in Estonia. With respect to forest area the average for Nordic employees is 10-13 times higher (Table 4.3). Employees managing harvesting activities in Nordic countries are responsible on average for 40 000 m^3 per year, while in Estonia the average volume is 6 000 m^3.

Table 4.3 Indicators for Labour Productivity in Estonian and Nordic State Forest Enterprises

State	Productive forest area per employee (ha)	Annual harvesting volume per employee (m^3)
Estonia	800	3 500
Finland	8 300	12 000
Norway[1]	11 000	22 000

[1] In Norway many functions that the Estonian and Finnish state forest enterprises carry out themselves have been outsourced to private sector

4.3 Economics

With no exception, management of the public forest property is the ultimate source of income for the sector in the accession countries and key to financial health of the sector. The CEE countries show a very different picture in this regard. In Estonia, the state forest enterprise doubled its turnover and tripled its investments in five years (Kallas, pers. comm.). In Latvia, the turnover of the state enterprise increased nearly 40% in the second year of its operation, and the profit tripled. In Poland, however, the state forest enterprise has grappled with a steadily degrading financial situation, and has in 2001 for the first time posted an operational loss (Anon. 2002e). In Bulgaria the financial situation of the traditional all-in-one structure of forest administration started deteriorate rapidly in mid-1990's and despite increased government subsidies the organisation started to post losses. As a response to the situation, the government decided to launch a restructuration process in 2003 (?).

Regarding the obligations against the government budgets, in seven countries the organisation responsible for state forest management transfers funds to government budget. Estonia and Latvia top the list of these countries with EUR 13.9 and EUR 13.7 per hectare, respectively (Table 4.4). In contrast, Bulgaria, the Czech Republic, Slovakia receive funds from the government to finance their activities. Since these organisations also fulfil tasks related to private forestry and all have at least some responsibilities related to nature conservation, it might well be that the management of public forests still generates positive returns, but those are directly placed towards other functions.

Nearly half of what is generated in Latvian state forests immediately gets transferred to the state budget in the form of direct transfers and various taxes. The same holds true for a quarter of Estonian state forestry revenues. Subtracting or adding up the transfers, clearly, state forestry in the Czech Republic is in the most advantageous position of all accession countries. With the availability of EUR 288.8 per hectare, the country by far outpaces all its neighbours, not to mention Latvia and Bulgaria, which are left only with EUR 11.9 and EUR 13.5 per hectare, respectively.

It is stressed that the available figures are not directly comparable because there are considerable differences in the functions and objectives assigned to the state forest management organisations in different countries. However, the differences are so large that efficiency of operations is without doubt another major factor explaining the variation.

Table 4.4 Management of State Forests

Country	Reference year	Forest area managed by organisation	Number of employees	No of employees per ha	Amount of revenue	Amount of revenue per ha	Transfer to/from (-/+) Government	Transfer per hectare	Proportion of Gvt transfer of revenue generated by state forest mgmt. org.	Availability of funds per ha after transfer	Significant use of sub-contractors or temporary labour	Single organisation for all forestry functions	Responsible for management of major part of protected areas
		1 000 ha		Persons/ ha	mill EUR	EUR	mill EUR	EUR	%	EUR			
Bulgaria	2001	3 199	6 431	2	38.7	12.1	4.5	1.4	11.67	13.5	yes	yes	no
Czech Republic	2000	1 664	3 748	2.3	474.7	285.3	5.9	3.5	1.2	288.8	yes	yes	no
Estonia	2001	850	1 438	1.7	58.7	69.1	-13.9	-16.4	-23.72	52.7	yes	no	no
Hungary	2000	973	10 309	10.6	180.7	185.7	-1.3	-1.3	-0.74	184.4	?	no	yes
Latvia	2000	1 370	565	0.4	30.1	22	-13.7	-10	-45.67	11.9	yes	no	no
Lithuania	2000	1 005	7 578	7.5	81.4	81	-6.2	-6.2	-7.64	74.8	yes	yes	no
Poland	1999	6 828	33 164	4.9	842.9	123.4	-4.8	-0.7	-0.57	122.7	yes	yes	yes
Romania	2000	5 291	29 000	5.5	152.2	28.8	-7.5	-1.4	-4.94	27.3	yes	yes	no
Slovakia	2000	1 166	15 675	13.4	140.2	120.3	6.7	5.8	4.79	126	no	yes	no
Slovenia	2001	301	N/A	N/A	27.4	91	-2.7	-9.1	-10	81.9	N/A	no	yes

Source: Country reports 2002

4.4 Policy Options

The environmental status of state forests appears at least satisfactory. Increased harvesting volumes and intensification of forest management have probably had some impact on biodiversity (e.g. reduced amount of decaying wood) but because environmental safeguards are still applied and the certified forest area is expanding, the sustainability of state forest management seems secured in most countries.

The key questions in state forest management are the social impact and efficiency of operations. There is no established and generally agreed system (including in Western countries) to determine whether state forest organisations are operating efficiently or whether the amount of funds they transfer to state budget or receive from there is at a justified level. Level of staffing is related to efficiency and it is a highly sensitive issue because state forest organisations have been one of the few sources of employment in the rural regions. The rapid shedding of labour was a painful experience and today staffing levels are often seen more as a social issue than an economic question.

While a non-economic approach can be fully justified, it would be important that the relevant decisions are made with full knowledge of the alternatives. Lack of efficiency and high levels of staff are not necessarily a problem for sustainable forest management, as long as the state forest enterprises manage to generate enough revenue to cover their own costs. However, it may be questioned whether the state is using its resources optimally and it would be appropriate if these decisions were made in a transparent manner and they were subject to public scrutiny. Even simple methods of analysis such as benchmarking would substantially facilitate decision-making.

5. PROTECTED AREAS

The information on the protected areas is incomplete but the available information suggests that the accession countries have protected less forest with the objective of biodiversity conservation (class 1) than the EU-15 countries (Table 5.1). The same applies to protection of landscapes and "specific natural elements". In contrast, the accession countries have a large proportion of forest with protective functions. In total, more than one fourth of the forest area in the accession countries have either a protected or protective function.

The representativeness and the protection capacity of the existing networks is unclear. For instance, a recent study in the Baltic countries by the World Wildlife Fund (WWF 2003a) suggests that a major part of the High Conservation Value Forests (HCVF) would be located outside protected areas. Another WWF assessment (2001) on the status of protected areas in year 2000 in the accession countries suggests that the quality of protected area management could be substantially improved. On the other hand, the difference to protected area management in the EU-15 region is not significant. Although the evaluation was based on rather subjective views, the conclusion is allowed by the fact that the ratings for the accession countries were distributed rather evenly between the upper and lower ends of the scale. A follow-up assessment in 2003 suggests that in most countries no major changes have occurred. However, improvements were observed in Latvia and Hungary; in Poland the assessment showed slight deterioration of the situation (WWF 2003b).

Table 5.1 Protected Forest According to the MCPFE Assessment Guidelines and it's Share of Total Forest Area

Country	MCPFE class 1.1		MCPFE class 1.2		MCPFE class 1.3		MCPFE class 2		MCPFE class 3.1		MCPFE class 3.2		Total	
	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%	ha	%
Bulgaria	45 056	1.26	99 452	2.77	912	0.03	99 739	2.78	432 882	12.06	27 975	0.78	706 016	19,67
Czech Republic	15 056	0.57			66 851	2.54	583 590	22.19	199 482	7.58	42 140	1.60	907 119	34,49
Estonia														
Hungary	2 933	0.16	68 147	3.76	10 489	0.58	293 612	16.21	179 724	9.92	51 520	2.84	606 425	33.49
Latvia	11 246	0.39	101 976	3.54	103 416	3.59	121 806	4.22	62 246	2.16			400 690	13.89
Lithuania														
Poland	50 425	0.56			227 679	2.55	1 365 543	15.27	1 705 113	19.07	1 666 119	18.63	5 014 879	56.08
Romania														
Slovakia	89 214	4.43	4 264	0.21	316 630	15.71	459 082	22.77	262 321	13.01	71 295	3.54	1 202 806	59.66
Slovenia														
Subtotal	***213 930***	***0.64***	***273 839***	***0.82***	***725 977***	***2.18***	***2 923 372***	***8.79***	***2 841 768***	***8.54***	***1 859 049***	***5.59***	***8 837 935***	***26.57***
EU-15	***1 655 778***	***1.46***	***1 954 857***	***1.72***	***3 679 266***	***3.24***	***12 042 817***	***10.60***	***5 619 416***	***4.95***	***722 265***	***0.64***	***25 674 399***	***22.61***

Class 1: Main Management Objective 'Biodiversity'
Class 1.1: 'No Active Intervention'
Class 1.2: 'Minimum Intervention'
Class 1.3: 'Conservation Trough Active Management'
Class 2: Main Management Objective 'Protection of Landscapes and Specific Natural Elements'
Class 3: Main Management Objective 'Protective Functions'

Source: MCPFE (2000 and 2002b), FAO 2000

A Pan Parks assessment, applying mainly the size of individual areas and availability of management plans as assessment criteria, found that protection of natural processes/ecosystems is good in five accession countries including Bulgaria, Estonia, Hungary, Romania, and Slovenia. In three countries – Latvia, Lithuania and Slovakia - the condition was considered relatively good. In Poland and the Czech Republic the analysis found that ecosystem protection is in "alarming" condition. In general terms, the accession countries scored well compared to EU-15 countries (Kun 2002).

5.1 Impact of Restitution

The restitution of protected forest areas followed different approaches depending on the country (Table 5.2). In Lithuania the most valuable areas were excluded from restitution and the claimants were offered compensation (Valletta 2000). In Romania the strictly protected areas were also excluded from restitution (Abrudan 2002). In other accession countries, protected areas were at least partly restituted. For instance, in Latvia and the Czech Republic about half of the protected areas are in non-state ownership (Indufor 2002b, Plesnik, pers. comm.).

There are a few examples where the restitution process with respect to protected areas has been reversed or is in dispute.

- In Hungary, the Government has re-purchased part of the protected areas that were earlier handed back to their former owners (Gyulai 1998, Hegedus 2002).
- In Slovenia, the Government has purchased 30.6 ha of protected areas in private ownership (Sinko 2002).

- In Slovenia, the restitution of a World Heritage site to former land owners is currently under dispute (Anon. 2001a).

There is only anecdotal information on the environmental status of protected areas in private ownership, but at least in Latvia the owners have generally respected the regulations (Indufor 2002b).

Table 5.2 Protected Area in Non-state Ownership

Country	Non-state ownership
Bulgaria	About 140 000 ha in non-state ownership, 40% of this in private hands
Czech Republic	Ca. 50% in private ownership
Estonia	Marginal
Hungary	N/A
Latvia	Ca. 50% in private ownership
Lithuania	32% of national park area in private ownership
Poland	N/A
Romania	No private ownership of strictly protected areas
Slovakia	N/A
Slovenia	31 000 ha

Sources: Country Reports 2002

5.2 Administration of Protected Areas

A number of different management structures have been developed in East European countries. In Hungary and Slovenia, the organisations managing the commercial state forest are also responsible for all protected areas. In the Baltic countries, there is a separate protected area management organisation under respective ministries. The Czech State forest enterprise manages the three national parks, but other protected areas are the responsibility of offices under the Ministry of Environment. In Poland the management of National Parks is subordinated directly to the Ministry of Environment and the other areas have been assigned to state forest enterprise.

The resources available to protected area management vary substantially across the CEE countries. The total allocations range from EUR 20 million in the Czech Republic EUR 0.9 million in Bulgaria (for several countries no data was available). If distributed per protected area hectare, almost the same order of countries remains with Hungary, the Czech Republic and Slovenia way ahead of others. The Baltic states are close together in the second group (Table 5.3). Slovakia has the least number of employees per hectare of protected areas, and Latvia and Bulgaria the most.

Table 5.3 Funding of Protected Areas in Selected Accession Countries

Country	Reference year	Transfer from government to management of protected areas	Total area of protected areas with known source of financing	Funding of protected areas	Protected area per management staff
		MEUR	1 000 ha	EUR/ha	Ha
Bulgaria	2000	0.9	294	3.20	650
Czech Republic	2000	20.1	1 152	17.40	1 040
Estonia	2001	2.6	450	5.70	1 430
Latvia	2000	1.0	186	5.40	380
Lithuania	2000	4.1	590	6.90	840
Romania	2000	0.6	600	1.00	
Slovakia	2000	2.8	980	2.80	3 560

Source: Country Reports 2002

The implications of establishing the Natura 2000 network differ quite significantly among the applicant countries in terms of area requirements. In Latvia, only modest expansion of the present protected area network is foreseen (Opermans, pers. comm.), whereas in Slovenia the current projection is that with Natura 2000 the share of protected areas would increase from 8% to 30% of the land area. In forest areas, however, the true impact may be lessened by the fact that the requirements of Natura 2000 program can often be accommodated within the restrictions set for multifunctional forest management, which in Slovenia is already widely practised (Skoberne, pers. comm.).

Although available projections on the funding and area needs are still very preliminary, it is foreseen that availability of funding may become a serious hindrance to the implementation of Natura 2000 in the accession countries. Rough estimates on financing needs were available in Czech Republic (EUR 70-100 million), Lithuania (EUR 7-20 million), and they substantially exceeded the currently available means (Plesnik, pers. comm., Lazdinis pers. comm.). It is estimated that within the EU-15, the financing of recurrent costs of Natura 2000 program (excluding land purchases and capital costs), would require funding on the order of 0.04% of GDP (Raymert, no date). If the situation in the accession countries were similar, it is clear that the national Governments will have major difficulties in implementing the proposed programs.

5.3 Policy Options

The policies concerning protected area management in CEE countries have been rather general and weakly formulated. However, a number of countries have expanded the protected forest area and further expansion is likely (e.g. under Natura 2000 program). Despite these objectives, in most countries the resources available for protected area management are still inadequate and the quality of management leaves much to desire. For instance, in many countries management plans cover only part of the protected forest area. Funding may be a serious hindrance to improvement and expansion of protected areas. To some extent, increased costs are unavoidable and necessary to secure adequate level of protection but in some cases there may be opportunities to reduce the financial burden by developing

management strategies. For instance, the opportunities to combine restricted use and protection should be explored. Also, the composition of the current protected area networks is often sub-optimal and developing them to better target the key protection needs could provide some room for cost savings.

The reason for the less than ideal structure of protected area networks is that they have been built over long periods of time prioritising areas, which have traditionally or intuitively been known to hold high environmental values. However, the development strategy has lacked a systematic approach. For instance, few countries have carried out a gap analysis to assess the representativity of the present network. Without such an analysis it is difficult to evaluate e.g. the significance of the relative scarcity of strictly protected forest areas. The priority measure would therefore to conduct a comprehensive analysis on the match between the biodiversity values that exist in each country, and the capacity of the protected area network to ensure their conservation. In this context it would be advisable to explore possibilities to achieve synergies between environmental measures taken in commercial forests, management of protective areas, and the further development of protected area network. With proper co-ordination of various conservation strategies the combined impact could become more than the sum of individual efforts.

6. FUNDING THE FORESTRY SECTOR

The justification for the different financing arrangements, transfers to budget and subsidies, has been a major issue for debate in the forest sectors in the CEE countries. The net transfer of funds to the forestry sector, i.e., the sum of payments to and from the government budget, is often referred to as the ultimate indicator for the government's interest in the forest sector.

Based on the available information it appears that Estonia is the only country, where the forestry sector (including protected area management) transfers more funds to the government budget than it receives. The total amount in 2001 was EUR 1.5 million corresponding to EUR 4.37 per ha. The largest funding contributions are made by the governments of Hungary, and the Czech Republic (Table 6.1).

Table 6.1 Flow of Government Funds to Public Forestry and Protected Areas

Country	Reference year	To public forestry including subsidies	To management of protected areas	To state forest management	Net transfer	
		MEUR				EUR/ha
Bulgaria	2000	0.0	0.9	4.5	5.5	1.52
Czech Republic	2000	23.7	20.1	5.9	49.6	18.87
Estonia	2001	2.6	2.6	-13.9	-8.8	-4.37
Hungary	2002	42.6	*	-1.3	41.3	22.81
Latvia	2000	13.4	1.0	-13.7	0.7	0.24
Lithuania	2000	3.8	4.1	-6.2	1.6	0.82
Poland	2000	..	..	-4.8	..	..
Romania	2000	14.1	0.6	-7.5	7.2	1.14
Slovakia	2000	6.7	2.8	6.7	16.1	8.00
Slovenia	2001	19.6	*	-2.7	16.8	15.31

(*) Included in the transfers to state forest management organisations.

Source: Country Reports 2002

It is perhaps noteworthy that in a few cases a large portion of the support provided to the forest sector consists of funds made available to afforestation (e.g., in Hungary). Some forestry sector representatives expressed the opinion that this is not necessarily support to the forestry sector, but to rural development in general. Especially if afforestation is made with the objective of timber production, the impact in the forest sector will be felt after a long delay, and the most immediate effect – and the one that is important for governmental decision-making – is the employment provided to rural people.

However, the available information provides little guidance as to the "justified" level of subsidies or transfers. The appropriate level of funding for public functions in the forestry sector is a highly context-specific issue. It depends on the relative need for support in the forest sector, needs in other sectors competing for the same funds, or the priorities in the government development strategy. These issues are usually beyond the competence of the forestry sector to decide. The strongest case for the forestry sector to argue for increased funding can be made, if lack of funds is jeopardising the environmental sustainability of forest management. However, as "sustainability" is a highly complex concept, whose interpretation is – ultimately – a value-based judgement, the decision-making falls unavoidably back to the political arena.

7. CONCLUSIONS

In conclusion, there are no major trends indicating rapid and severe deterioration of environmental functions or production capacity. Slow degradation may take place, however, unless the capacities of public forest administration to guide and supervise forest management is strengthened. The constant increase of harvesting volumes is disquieting and must be tracked closely.

Policy development in the CEE countries has been rapid and the quality of policy frameworks has improved dramatically over the last decade. The following achievements and pending issues can be observed.

- The approach to increase efficiency by establishing state forest enterprises has been largely successful; protection of environmental values in these enterprises is also adequate; social implications have often been negative because increased efficiency has entailed reduction of workforce
- Development of protected areas generally lacks a comprehensive strategy based on scientific analysis of needs; increased resources for protected area management necessary, but owing to funding constraints opportunities to combine protection with restricted use should be explored further
- Restitution process has reduced inputs to production and forest management; environmental effect is unclear, positive social impact by transferring productive assets in the hands of local people
- Public policies on private forests tend to be ineffective owing to small average size of holdings; the strategy to increase size of management unit in private forests by promoting co-operation tends to be ineffective; consolidations through land trade would be substantially more effective but it carries the risk of negative environmental consequences
- Monitoring and evaluation systems enabling rapid and comprehensive feedback and adjustment of policies are generally missing; in particular, monitoring of environmental impacts and efficiency in the forest sector is poorly developed.

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