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**The sound use of wood and other resources in Romania**

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**ABSTRACT**

The sustainable forest management in Romania has a long tradition and the national forest area was managed in terms of the silvicultural regime (system of technical, economic and legal norms/regulations issued by the Central Public Authority for Forestry). The allowable cut is determined taking into account rotation length, average species composition, forest structure according to the site indices and the existing distribution of age classes. The actual present-day contribution of the forestry sector to the GDP show us that wood and other forest resources in Romania are still underused resources from the economical point of view. The primary wood processing sector is important but an important part of the primary and secondary timber industry has been operating in an environment of outdated technology. The main problem of the forest products industry in Romania nowadays is the poor knowledge of marketing and market information and little access to finance grants and loans. Also, the reliable and accurate information about the forest business sector is missing in the bussines environment. The fundamental objective of the present-day national forestry policy and strategy in Romania is the development of the forestry sector in order to increase the sector contribution to the improvement of the quality of life, based on the sustainable management of the forests. There are four principal policy statements encompassing the sustainable development of the forest resources in Romania: to ensure the management according to the principles of sustainable management of natural resources, taking into account the diversification of forest land ownership; the integration of the logging and wood processing activities within the concept of sustainable forest management, to

better utilise the wood resources; to promote the development of the exploitation of forest resources , especially to the wood high added-value products, to achieve the sustainable development of the sector; to develop scientific research and education, to support the sustainable forest management, the economic development of the forestry sector and the improvement of the environment.

Key words: forest resources, sustainable forest management, forest restitution process, private forestry, allowable cut, harvested wood, wood sale policy, wood logging, wood products, wood products structure, non-wood products, biodiversity, naturalness, forestry policy and strategy

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## **INTRODUCTION**

The whole history and civilisation of the Romanian people was continuously connected to the forest covering the main part of the land area. Forests have historically played an important role in the social and economic development, providing a strategic major source of rural employment and income through wood logging and processing but also through non-timber forest products. The tradition of private forestry has been lost after 50 years of absence, and the management of these forests became a real issue for Romania. The restitution of the forest land to the ex-owners is an on-going process (around 25% of the Romania forest area is already private). In this new context, the sustainable management of the forests, the sound use of wood and of the other forest products including the conservation of the outstanding biodiversity of the natural forests of Romania, become important and actual challenges for forestry in Romania nowadays. The forest certification in Romania is considered a market tool which can also contribute to the sustainable forest management especially in the private forestry. The forestry system components must prove that they are able to make a consistent effort in a short time in order to face these challenges during the transition period. Your introduction

## **FOREST RESOURCE AND MANAGEMENT IN ROMANIA**

Forest cover 6.337 million ha , which represents 26,7% of the total area of Romania, decreasing with more than 0,76 million hectares during last century (table 1). The restitution process of the forests to the ex-owners is ongoing, and it is estimated that around 30% of the total Romanian forest area will be private. The 4.695 million ha is publicly owned at the end of the year 2002. Sixty-seven percent of the forest area is in the mountains (30% of the country), 25% in the hilly regions (37% of the country), and 8% on the plains (33% of the territory).

Table 1: The evolution of the forest area in Romania (million ha)

Forest area (million ha)									
Year	1922	1938	1948	1956	1960	1980	1989	1996	2002
Area	7.134	6.130	6.487	6.487	6.403	6.337	6.372	6.220	6.367

Forest composition is varied: 30,7% conifers, 30,7% beech (pure and mixed stands), 18,2% oak species, 20,4% various hard and soft broad-leaves. Standing volume is about 1.350 million m<sup>3</sup>/ha and the average growing stock is 217m<sup>3</sup>/ha. In 2002 there was 0,28 ha of forest per capita.

Table 2: The allowable cut and the annual wood harvest evolution in Romania (source Bud, 2000; National Forest Administration)

Period (year)	Total allowable cut (million m <sup>3</sup> )	The wood harvest (million m <sup>3</sup> )
1918-1923	12	20-24
1923-1925	12	21-22
1926-1938	14	17-20
1951-1955	14	24-27
1958-1962	14	22
1962-1975	24	25-27
1976-1980	21	22
1981-1985	21	23
1986-1990	18	18,5
1991	19	15,3
1993	15	13,6
1994	14,5	12,9
1995	14,4	13,8
1996	14,6	14,8
1997	14,8	14,5
1998	15,2	12,6
1999	15,5	13,7
2000	15,8	14,2
2001	17	13,4
2002	16	
2003	16	

The low values of the annual wood harvest in the last period is similar to other European countries with important mountain forest areas. The correlation between the period with high values of the annual wood harvest and floods is a subject of discussion in Romania.

The sustainable forest management in Romania has a long tradition and the national forest area was managed in terms of the silvicultural regime (system of technical, economic and legal norms/regulations issued by the Central Public Authority for Forestry). The main characteristics of Romanian forest management are : functional repartition by forest zone, the maintenance of natural composition in forests; the utilization of natural regeneration, maintenance of a high-level

rotation age for native forest species, utilization of adequate treatments to maintain the ecological balance, evolution towards multi-use forests. The current method used to determine the allowable cut is based on a traditional sustained yield approach: takes into account rotation length, average species composition, forest structure according the site indices and the existing distribution of age classes. Rotation length is calculated according to the maximum rent principle, and have been set according to the average increment of the target dimensional class, reflecting a conservative policy with an environmental dimension. The current structure of age classes result in a reduced share of exploitable forests with important consequences for the wood industry (*Sustainable Forest Management in Romania* -National Forest Administration 2000).

### THE USE OF WOOD AND OTHER FORESTPRODUCTS IN ROMANIA

The development of the wood industry in Romania starting at the end of the XIXth century was characterised by a favourable environment based on high quality raw material, low prices of wood and existing demand on the labour market. At the beginning of the XX century, the share of foreign investments was 70% in total wood industry and 40% in the paper and pulp industry (Bud -2000). Wood imports represented 0,65% (65 millions \$) of total Romania imports in 1999 and wood exports represented 5,8% of total Romania (489,4 million \$). The wood industry sector employed : 67.000 people for the woodworking industry, 20.800 people in the pulp and paper industry and 104.000 people in the furniture industry , at end of year 2000. The actual situation, the potential and the contribution of the sector to the GDP (5,9% din GDP in 2000) show us wood as forest resource in Romania like still underused resources.

Table 3: The use of wood for industrial purposes in Romania (% of total harvested wood)

Year	1938	1950	1951	1955	1960	1965	1970	1998*
Total	35	49,1	52,1	52,1	60,3	71,2	75	66

source Bud,2000 and ASFOR\*-Professional Association of Foresters from Romania

A great discrepancy between the percentage of forests within the country area and the insignificant contribution of silviculture - as forestry system component- to the GDP was reported for the period 1990-1996. During that period, when a centralised system to set floor prices for auctions (the starting prices for various species and dmensional classes) did not consider local conditions. The wood prices policy was adjusted in time, especially for the high quality wood, (fig. 1). The national forest administration which has been for a long time the main actor for the forest management in Romania, improved his wood sale policy working with three types of contracts: for short-terms, for middle terms and for long terms (up to 10 years), for different types of clients in close connection with the direct sound use of resource. The new type of long-term contract between National Forest Administration and selected companies (minimum 3 years, maximum 10 years) for standing timber is stipulated in the Governmental Ordinance/2002. This new type of contract will be avialable for selected companies producing secondary wood products only, as a result of auctions. The companies will be accepted to compete in auctions if they have the capacity to use minimum 20.000 m<sup>3</sup> of wood /year/company and the total amount available for long term contracts will not exceed 20% of total allowable cut, each year. This

seems to be a very important tool in order to improve the environment for the direct investments in the wood industry sector in Romania. It is expected that the wood price policy will be further improved with the EU accession process.

### Wood products industry

The present-day capacity of the primary wood processing sector is estimated at 17 millions cubic meters per annum, but an important part of the primary and secondary timber industry has been operating in an environment of :outdated technology,limited added value, poor knowledge of marketing and market information and little access to finance (grant and loan). National exports of wood and wood products in 1997 were estimated at 10% of the country's total exports. Exports of wooden products, excluding furniture, were 356 million \$ 1997, out of which the European Union accounted for 31%, and 410 million \$ in 2000. The State owned logging and wood processing sector was supported by a centrally planned economy before 1991. Log prices were kept artificially low and Eastern Europe, ex-USSR bloc countries and the Middle East were the most important markets. The processing sector specialised in producing high quantities of low quality output. Naturally, in the context of missing investments in the sector and because these markets have declined rapidly after 1990, the privatisation of the state owned forest industry complexes started in early 1990s. The consequences were the closure of many large units of forest industry and a rapid growth in the number of new privately owned and operated sawmills. From 107 wood processing companies, and 244 companies in total wood industry in the year 1990, at the end of year 2000 there were around 4000 wood processing companies and around 7000 companies in total wood industry, but 96,5% of them were small and medium sized (less than 500 employees). Most primary processing companies undertake their own logging, although increasingly, small private logging companies are supplying logs to wood processing customers.

Table 4: Aspects of wood products evolution - the total production in Romania (furniture not included)

Year	Total Sawn-wood thousen m3	Conifers Sawn-wood thousen m3	Beech Sawn-wood thousen m3	Oak Sawn-wood thousen m3	Veneer mill.m2	Ply-wood mill.m2	Particle-board thousen tonnes	Fibre-board thousen tonnes	Pulp, paper, paperboard & articles thousen tonnes
1938	2.238	2.050	92	67	1,9	6,8	-	-	94
1948	2.176	1.967	92	67	0,5	5,7	-	-	110
1950	3.559	3.252	224	63	1,3	15,1	-	-	153
1955	3.218	2.549	503	136	4,2	30,7	-	-	190
1960	3.928	2.800	933	139	11,8	67,7	31	-	232
1965	5.004	2.912	1.627	254	24,5	199,7	124	139	508
1994	1.723	891	548	88	37	90	200	103	897
1995	1.637	817	568	88	37	90	200	103	1170
1996	1.767	1.054	500	72	37	93	208	81	904
1997	1.738	1.030	525	67	33	91	182	74	1029
1998	1.618	1.051	427	45	24	75	130	46	922
1999	1.449	868	440	36	22	67	116	51	939

(source Bud, N.,- 2000; Statistic Yearbook of Romania)

Table 5 : The structure of production/type of products in wood processing (125 wood processing analysed-primary data –Ministry of Industry and Trade- MIC , 2000).

Type of products	No. of producing companies from the total analysed	
	number	%*
Lumber	113	90
Solid parquet	19	15
3-layers parquet	2	1.5
Garden furniture	15	12
Small furniture	38	30
Windows/doors	22	18
Semi-products	49	39
Wooden houses	18	14
Packages	19	15
Other	15	12

Table 6: The structure of the raw material used in wood processing (125 companies analysed-primary data MIC 2000)

Structure of timber raw material	No. of companies from the total analysed (%)*
Softwood (conifers)	84
Oak	65
Beech	74
Poplar	16
Other	7

The activity in wood processing was directed mainly to lumber production in 2000, when analyzing the number of producing companies. Semi-products and small-furniture are also important. The timber raw material used in wood processing was mainly softwood. This is very much connected with the existing technology.

#### Recent developments of the wood industry sector in Romania

After 2000, there were important investments and developments in the wood industry sector in Romania. The first FSC certificated forests are reported in Romania, in 2002 : National Forest Administration - Piatra Neamt Branch - 31,600 ha. This activity will continue in 2003. Actions for certification of private forests and for the certification of "chain of custody" have been initiated.

There are some important developments with important inputs in the wood industry sector in 2002:

- Gruppo Fratti, Italy, started in 1997 in Sebes
- Alba, continues the development of investments in MDF factories (input 900.000 tones of raw material/year-80% broadleaves, 20% coniferous). This is important from an ecological point of view using the wood residues.
- Finforest Corporation- Finland invested in North of Romania (Moldova) for timber and MDF production and will invest in the South of Romania in order to build a new Pulp factory (using poplar).
- Kronno Gruppe from Switzerland, has started an important investment in the Center of Romania, Brasov- MDF factory.
- Losan from Spain made in 2001-2002, an important investment for producing a veneer factory in the Center of Romania - Brasov (input logs 35.000 m<sup>3</sup>/year;output veneer: 35 millions m<sup>2</sup>/year). The development of new investments is ongoing.
- Werzalit (Constantia Group), Germany, has developed in Lugoj (West of Romania) an important investment for veneer products (input logs 25.000 m<sup>3</sup>/year). The whole production is for export.

#### Non -Wood Forest Products

In the context of new challenges for the forestry sector nowadays, non-wood forest products related activities could be an important source of revenue for the sector. Besides traditional non-wood forest products, new products related to recreation, multi-functional role of forests, biodiversity conservation, carbon sequestration or bioenergy from wood gained importance recently.

#### *Traditional non-wood forest products*

"Traditional non-wood forest products" is an important production activity of National Forest Administration (NFA) which controls the main part of this activity in Romania: willow for wicker products, forest fruits (bilberry, raspberry, strawberry, wild rose and blackberry), mushrooms, medicinal plants, game meat, game animals, hunting, live game, fishing and trout farms, Christmas trees and foliage, forest seeds and ornamental products). 90% of the production is exported and the rest is for the domestic market. The production is regulated under the Forest Code -1996, which states that non-wood products from the "forest fund" must be harvested under technical conditions specified by the Central Authority for Forests (MAAF) including game and fish from mountain waters which must be harvested only on the basis of authorizations issued according to harvesting plan and the laws in force. Unfortunately, the private sector of traditional non-wood forest products has grown only slightly in recent years, except in mushroom harvesting. Forest management units prepare an annual production plan based on local historical data and prospective trends of market demand. The production of the traditional non-wood products recovered after a decline in 2000, with a better management of the resource nowadays.

*Biodiversity and Forest Protected Areas*

Romania owns very important forest biodiversity resources: 60 native tree species, 10 groups of natural forest formations and 150 types of forest ecosystems (Donita, Chirita and Stanescu - 1990). The natural capital of Romania is unique having a high bio-diversity level, due to its geographical setting:

- 3100 native species of plants, 23 species are natural monuments, 74 species are extinct, 39 species are endangered, 171 species are vulnerable and 1253 are rare species. More than 4% of plant species are endemic (57 endemic taxa and 171 sub-endemic taxa).
- over 33802 animal species , 717 vertebrates (191 fish species, 20 amphibian species, 30 species of reptiles, 364 of nesting and migratory (312) birds and 102 mammal species (MWEP-2000).

Romania ratified the UNESCO World Cultural and Natural Heritage Convention, the Bern Convention for the conservation of European wildlife and natural habitats, and the Convention on Biological Diversity. With GEF support and World Bank assistance, Romania prepared the National Biodiversity Conservation Strategy and Action Plan (BSAP). In order to address priorities identified in the BSAP, with the assistance of the World Bank and GEF, the Government of Romania has prepared a Biodiversity Conservation Management Project (BCMP), which is implemented by the Ministry of Agriculture, Food and Forests (MAAF) and the National Forest Administration (NFA). The BCMP project established effective and sustainable conservation management at three largely forested areas of the Carpathian Mountains, and the mechanisms of replication of this best practice was successfully used by NFA with other priority conservation sites throughout Romania. NFA and its Research and Management Institute are very much involved together with other organisations in the implementation of other existing ongoing projects in Romania: (in connection with the Action Plan for BCM): standardisation of the protected areas in Romania-Ministry of Water and Environmental Protection-MWEP Standards forms (in process), Life-Natura, WWF Large Carnivores, PINMATRA/2001/ KNNV- (Royal Dutch Society for Nature Conservation in cooperation with IUCN and experts ; Inventory and strategy for sustainable management and protection of Virgin Forests in Romania), PHARE CBC- transboundary project- *Natural Park - Mures River Meadow* under Directia Silvica Arad management. All these projects will lead to a national network of Forest Protected areas which could contribute to the sound use forest resources and to poverty alleviation of the local communities. The silvotourism will very much develop due to the existing NFA network of chalets.

*Carbon sequestration projects*

The legislative framework in Romania includes the Afforestation of Bad Lands Law. The financial means in order to implement this Law (in the framework of Articles 6 and 12 of the Kyoto Protocol) could be provided by the Prototype Carbon Funds -PCF funds projects or by Joint Implementation projects. The large area suitable and available for afforestation in Romania, could provide important benefits to the forestry sector by carbon trading in the context of the above mentioned mechanisms.

## FORESTRY POLICY AND STRATEGY IN ROMANIA

The fundamental objective of the present-day national forestry policy and strategy in Romania is the development of the forestry sector in order to increase the sector contribution to the improvement of the quality of life, based on the sustainable management of the forests. There are four principal policy statements encompassing the sustainable development of the forest resources in Romania :

- ❑ to ensure the management according to the principles of sustainable management of natural resources, taking into account the diversification of forest land ownership;
- ❑ the integration of the logging and wood processing activities within the concept of sustainable forest management, to better utilise the wood resources;
- ❑ to promote the development of the exploitation of forest resources , especially to the wood high added-value products, to achieve the sustainable development of the sector;
- ❑ to develop scientific research and education, to support the sustainable forest management, the economic development of the forestry sector and the improvement of the environment conditions.

## CONCLUSION

The forest resource in Romania is highly valuable and the present-day level of the revenue coming from (3,2 billion \$ for the annual value of all products and services provided by Romania's forest) could be improved by adequate measures. The sustainable forest management in Romania has a long tradition and actually has to face up to the new coming private forestry challenge.

The main issue facing the wood processing sector seems to be the inability of the domestic wood industry to raise loans for capital investment. The new wood sale policy includes long-term contracts in order to improve the continual supply of raw material. The wood products industry has to step toward a better co-ordination with forest administration in order to have a common policy for the sound use of forest resources. The access to information about wood market is a big issue to be solved by implementing the components of the new "Forestry Development Project" financed by WB. The valuable existing resource and the improvement of the business environment in Romania, have led to a important development of investments in the secondary wood industry. The annual value of non-wood traditional forest products is estimated at \$50 million and has the potential through development to be a significant contributor to the poverty alleviation in forest areas. According to the existing situation, the strategy for the non-wood traditional forest products must include a market information system, measures to improve the products quality, timely delivery, improving packaging, processing, and transport logistics. The restitution process, should not affect the market of non-wood forest products in the context of free access to the forest and adequate legislative framework. Forest certification, biodiversity conservation and carbon trading provide unconventional opportunities for the sound use of forest resources products in Romania. The forestry policy and strategy and the existing legislation

define the framework to implement investment projects for the sector: "Forestry Development Project", the SAPARD programme, the PHARE programme and others.

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