

Regarding the forest management planning targets and basis in actual condition of forest ownership diversification

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1. Introduction

The property is a fundamental right which is by constitution certified and which should be respected as it is. Knowing the forests are public goods furnishing at least one private utility good (wood), a special regime is overpowering them especially in a matter of culture and harvest – forest code. After a long period when forest management planning has developed a clear structural-decisional flux, the drafting activity runs over a reorganization phase which consists in technical solutions badly applied or badly established.

Knowing the local socio-economical aspects and, sometimes, the forest proprietors' mentality, the forest manager and the designing engineer should rich a common point of view, although this supposes some concessions. This is a normal fact because they are representing different parts which are more or less in conflict: one represents the proprietor with its economical interest; the other represents the society with its ecological interests' on large space.

Nowadays we adjudge more and more the actual socio-economical state to Romanian people's mentality. Unfortunately we do nothing on it. Things are exactly a same in forestry. As consequence of forest nationalization (1948) there have been took away all the rights to land owners. Nobody talks about their mentality from those times when, for the most of proprietors the forest was the most precious good and they were implicit carrying it, ensuring also future benefits. It was actually a different way of sustainable forest management on small spaces. A breach of almost a half of century means actually a human generation. Only the older peoples remember something about that principle of continuity and how their parents and grand-parents were carrying out the forests.

We won't try here pleading for the past, but we trying to relieve the causes of actual mentality which actually consist in the autocratic regime until 1989 which still continuing to exist trough more or less visible reflexes as well from authorities and from administration system.

Forest management involves for the first to establish management' objectives represented for the production forests by target assortments. It is absolutely normal as every forest owner to establish these target assortments according to its needs and, of course, according to forest legislation. Knowing that Romania is almost integrated in European Union where the propriety is much respected, it is necessary to give to Romanian forest owner its natural rights as EU member. And, a natural right in this context is to give him the power to establish

him self the management objectives in his forest, obviously in accordance with the maintenance of land use, forest continuity and forest regeneration.

We might action in this way exactly on Romanian forest owner' mentality, which might become more interested on its property, more responsible, less irritated by a system which has not very much to offer.

Unfortunately, Romanian forest legislation and technical norms are still influenced by the old mentality and it seems that we can not escape from an autocratic tackling, contrary to actual European tendencies. It is true that these paper promoting forest owners right to establish them self the management goals represented in the case of production stands by targets assortments (and reflected in forest management basis by cutting ages). It might be said that we try to encourage them to cut more and more. This is not at all our goal. We are only looking for new quick solutions to change the actual mentality of forest owners because in present situation they prefer to sell their forest at risible prices to the large companies or foreign investments funds. That in not a normal situation and other European countries, in similar cases, encourages small forest owners by according them governmental subsidies.

2. Objectives

The paper goal is to suggest a modality to establish forest management goals (resuming only on wood target assortments) for production forests in a much diversified property structure.

It has been started by analyzing the management plans of two forest districts (*Forest District A¹* – 2002 and *Forest District B* - 2004) for the private forests restituted according to Law no. 18/1991.

There were only considered the stands with production functions, the protection forests being excluded. Forests are furnishing a large area of wood products but unfortunately forest technical norms mention the technical cutting ages only for the assortment *timber*, the others assortments being neglected or extremely evasive treated.

3. Material and method

As material there have been used data of plots description from the two mentioned management plans. Work method consist of comparative analysis between the way wood target assortments have been established (this implicit involves cutting ages) and the way how those assortments should be actually established. In *table 1* there are presented the wood assortments established in the two management plans².

¹ For justified reasons there will be not specify the real names of forest districts, production units or villages, but the data might be consulted by contacting the authors.

² The management plans of *Forest District A (F.D. A)* have been design on production units and the management plan of *F.D. B* has been design on villages.

Table 1 – Wood target assortments on *F.D. A* and *F.D. B*

Production unit (P.U.) / Village	Surface on Law 18 (ha)	In 2 nd group (ha)	Average cutting age (years/SUP ³)	Surface of wood target assortment (ha)									
				<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>	<i>i</i>	<i>j</i>
Forest District A													
P.U. I	685,4	300,3	99-A	-	73,8	90,1	4,7	16,4	-	106,7	-	8,6	-
P.U. II	769,7	670,2	115-A	31,6	96	145,8	54,9	4,1	4,2	276,7	1,2	-	55,7
P.U. III	303,2	291,8	116-A	41,7	17,4	15,0	70,7	43,9	0,4	94,1	-	1,4	7,2
Total F.D.	1758,3	1262,3	-	73,3	187,2	250,9	130,3	64,4	4,6	477,5	1,2	10,0	62,9
Forest District B													
village „ <i>a</i> ”	59,4	53,7	111-A	1,9	-	-	-	3,4	-	-	0,4	-	48,0
village „ <i>b</i> ”	10,0	10,0	109-A	-	-	-	-	9,8	-	-	-	-	0,2
village „ <i>c</i> ”	5,2	5,2	85-A; 25-Q	-	-	-	-	-	-	-	-	-	5,2
village „ <i>d</i> ”	42,6	42,6	90-A; 26-Q	-	-	-	-	-	-	-	0,4	-	42,2
village „ <i>e</i> ”	39,4	8,7	94-A	0,7	-	-	-	4,2	-	2,8	-	-	1,0
village „ <i>f</i> ”	159,1	153,0	-	9,0	-	-	-	53,6	14,4	21,2	0,4	-	54,4
village „ <i>g</i> ”	10,0	10,0	110-A	-	-	-	-	-	-	3,2	-	-	6,8
Total F.D.	325,7	283,2	-	11,6	-	-	-	71,0	14,4	27,2	1,2	-	157,8

Wood target assortments:

a – very thick, superior timber, veneer; *b* – very thick, timber; *c* – thick and very thick, timber; *d* – thick, timber; *e* – thick and middle, timber; *f* – middle, thick, cellulose, constructions, timber; *g* – middle, cellulose and constructions; *h* – middle and thin, constructions; *i* – cellulose; *j* – unspecified.

4. Results

The results of preliminary processing of collected data are presented in *figure 1*. The first condition of total surface, represented on abscise is wood target assortment, the second – species, and the third – cutting ages. Because this study regards private forests whose management objectives should reflect them owner's options, there can not be established an exponent.

It can be observed that:

- Wood target assortment was unspecified for 5% from total forest are in *F.D. A* and for almost 56% in *F.D. B*;

³ SUP – sub-production unit: *A* – high forest; *Q* – coppice.

- b) In the majority cases where a target assortment was mentioned there are no connection between stand structure and the assortment, namely it seems to be established goals which can not be reached;
- c) If the most of forest owners could knew and establish exactly what they want to produce then, for each of the established target-assortments it should exist a strait range of cutting ages.

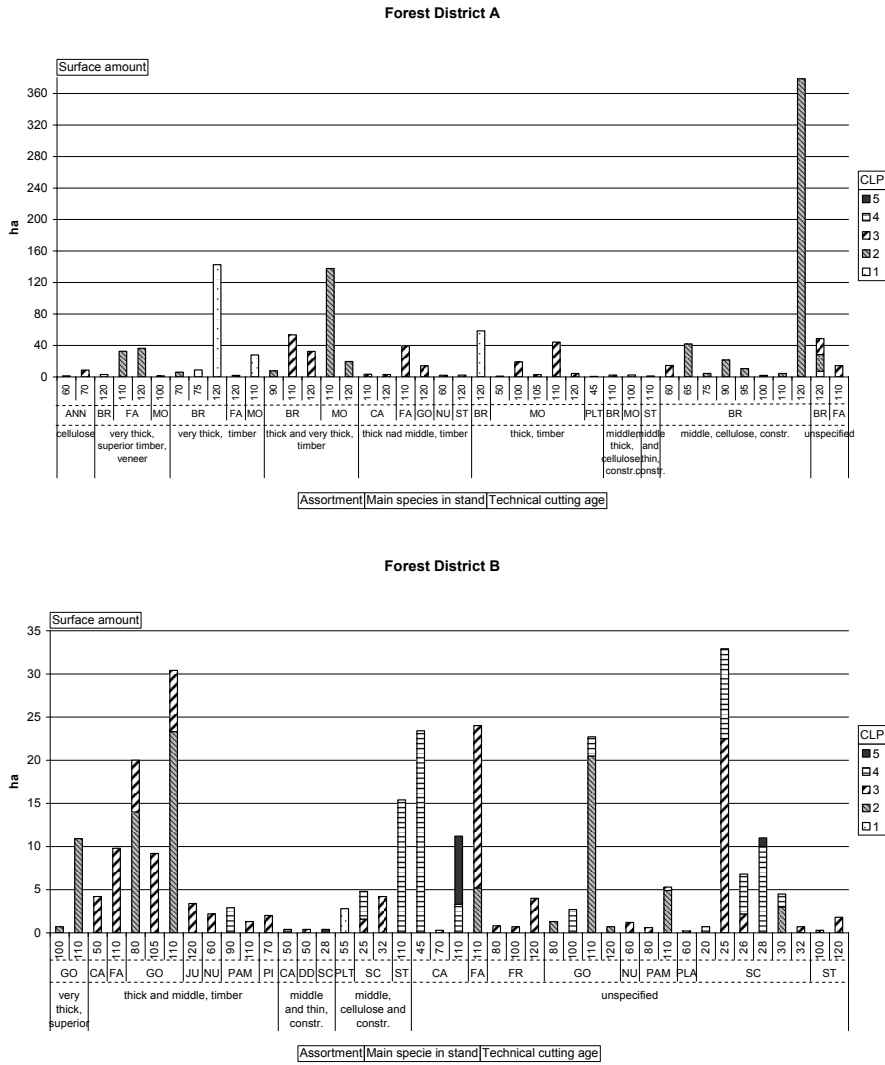


Figure 1. Surfaces distribution on wood target-assortments, cutting ages and production classes in F.D. A and F.D. B

To determine the ages when the production for target-assortment is highest there must corroborate stands characteristics (represented especially by species and productivity) with industrial-assortment’s dimensions extracted from *State standards on assortments from forest harvesting*.

Table 2 – Technical cutting ages calculated for wood target-assortments which were identified in the analyzed forest districts

Species	Wood target-assortment	Assimilated dimensional assortment	Technical cutting ages on <i>CLP</i> ⁴				
			I	II	III	IV	V
Spruce - MO	Sensuous veneer	thick I: > 34 cm	* ⁵	*	*	*	*
	Technical veneer	thick II: 24 ÷ 34 cm	110	140	140 - ? ⁶	*	*
	Timber (thick and v. thick)	thick III: 20 ÷ 24 cm	100	120	140	140 - ?	*
	Props	-	30	35	40	50	65
	Poles	-	20	25	25	30	40
Silver fir - BR	Sensuous veneer	thick I: > 34 cm	*	*	*	*	*
	Technical veneer	thick II: 24 ÷ 34 cm	120	130	140 - ?	*	*
	Timber (thick and v. thick)	thick III: 20 ÷ 24 cm	110	120	140	140 - ?	*
	Props	-	30	40	40	50	60
	Poles	-	25	25	30	35	40
Beech (seed) - FA	Sensuous, technical veneer	thick II: 24 ÷ 40 cm	*	*	*	*	*
	Timber (middle. and thick)	middle II: 16 ÷ 20 cm	130	130	140 - ?	*	*
	Thick (A) constructions	-	40	50	60	75	95
	Thin (B) constructions	-	25	30	35	45	55
Durmast (seed) - GO	Sensuous veneer	thick II: 24 ÷ 40 cm	140 - ?	*	*	*	*
	Timber (middle. and thick)	middle II: 16 ÷ 20 cm	110	130	140	140 - ?	*
	Thick (A) constructions	-	45	50	60	70	80
	Thin (B) constructions	-	25	30	35	40	50
Oak (seed) - ST	Sensuous veneer	thick II: 24 ÷ 40 cm	140	140	130	140 - ?	*
	Timber (middle. and thick)	middle II: 16 ÷ 20 cm	100	110	130	140 - ?	*
	Thick (A) constructions	-	35	40	45	50	60

⁴ CLP – yield classes.

⁵ * - It has been not possible to determine the technical cutting age using the yield tables. The values from these tables are stopped at maximum ages of 140 years (spruce, silver fir, beech, durmast, oak), 120 years (hornbeam), 40 years (acacia).

⁶ - ? – Uncertain technical cutting ages because of lack of data in yield tables over the mentioned ages. These values have been though mentioned because the yield evolution of target assortment seems to reach the maximum at those ages and, over them, the yields stagnate or decrease.

	Thin (B) constructions	-	-	25	25	30	30	35
Acacia – seed	Timber (middle and thick)	middle II: 16 ÷ 20 cm		*	*	*	*	*
Hornbeam				100	120	120	120 - ?	*
White and black poplar				30	35	35	45	50
Acacia	Cellulose		-	38	*	*	*	*
White and black poplar			-	35	40	50	70	*

Due to the lack of yield tables for the species: maple, ash, field maple and walnut, there have not been calculated the technical cutting ages for target assortments established in forests descriptions.

The cutting ages for the assortments: **cellulose** and **round wood for constructions** have been established knowing that the Rumanian standards stipulate the maximum dimension at thick end. For the stands managed to produce these assortments, the technical cutting age can be considered equal with the age when the base diameter of medium tree get over the maximum value established by the harvesting standards. Thus, the respective ages have been extracted from the yield tables for the main stand before the intervention, considering them as being the ages when the maximum diameter at thick end has been touched according to the target assortment.

We have calculated technical cutting ages using the mathematical-auxological pattern (Giurgiu, Drăghiciu, 2004) based on data from Romanian *Production tables* and *Dimensional sorting tables for stands* (table 2). Preliminary the dimensional sorting index should be determined because they are used to calculate the volume of target-assortment. Unfortunately there is no correlation established between dimensional assortments and forest harvesting assortments (which are actually used as target assortments in forest management plans).

5. Conclusions and discussions

The first conclusion that can be drawn is that the technical solutions are somehow inconsistent as the target grade doesn't fit the maturity ages in many cases, meaning that the all managerial decision are flawed. These situations are actually trades off between what the forest owner is wanting and what actually wants the administrator, who is having the obligation to obey the standard rules. This is the worst possible solution because neither the forest owner is supported, nor the administrator while the forest planner simply obeys the regulation (which is supposed to be just indicative) without having a reasonable motivation for doing so.

A better correlation between maturity ages and the target grades will be not only useful but it also allows forest owner to take advantage of what is called small-scale forestry. It means that each forest owner may use or purchase the timber grades he or she needs during a decade from other members of the

association. It also allows the management planner to choose the appropriate target grade and maturity age in accordance to the site and stand conditions.

It is also found a discrepancy between the two ways of approaching the technical solution referring to dimensions of logs and the maturity age, which depends on the industrial grade considered. A final conclusion is that maturity ages should be reconsidered in order to get the maximum benefit when a stand is being harvested. It also should be considered a better correlation between the target grade and the protective functions provided by forests.

All these consideration shall eventually make the planning work more complicated in order to capture the diversified panel of interest the forest management planning is facing with when it comes to private ownership.

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Abstract

Regarding the forest management planning targets and basis in actual condition of forest ownership diversification

This paper analyzes how the technical cutting ages answer to sustainable forest management requirements' into actual Romanian context of forest ownership diversification and it tries to find new solutions to improve the way the management plans carry out their tasks.

Keywords: technical cutting age, forest, target assortment, forest management.

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