

## OPPORTUNITIES FOR SUSTAINABLE DEVELOPMENT OF LOGGING THROUGH OPTIMIZATION OF BUSINESS RELATIONS BETWEEN ECONOMIC SUBJECTS

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### ABSTRACT

Wood has so far remained a major source of revenue that fund forest-cultural activities. It creates livelihood of populations in forest areas and improvement of its organization is in the interest of the state as a major forest owner and private timber companies and local communities.

The present study has attempted comparative characteristic of economic results obtained by private logging companies. Different options has been discussed for improving relations between state and private forestry companies to achieve a lasting balance of interests in the allocation of income from logging under regulations established by the legislation, practical experience and advanced theoretical concepts in this area.

**Key words:** forestry, competitiveness, efficiency

### INTRODUCTION

Logging does not exhaust all useful effects from the forests and forest territories.

Apart from this, direct economic uses are received from the so called special uses (Stoyanova 2006) but indirect uses which can be restored are received from the water protection (Shuleva-Alexova 2003), ecological and recreational functions of the forests. Chapter 17 of the Forest Law describes exactly these social ecosystem uses of the forest territories and they are presented in detail. Despite the variety of useful effects expected from the forests, logging remains a main resource of means for restoration and managing of the forests and is one of few activities supplying means of living to the population in the forest territories. Besides logging it has a significant role for maintenance of the forest massifs in optimal productive condition using the growing and sanitary chops and its organization is a constant object of interest. The main part of Bulgarian forests is state forest. It takes 74,4 % of the general forest area (ИАГ

2009). The order and the way of realization of the used by the forest territories government and municipality property are arranged mainly by the Regulation for the conditions and order of assignment of activities in forest territories – government and municipality property and for the use of timber and not timber forest products (ДВ бр. 96 2011). According to this Regulation the use of timber is accomplished by the sale of standing timber of root or by yield and sale. As the Regulation is relatively new it is important to note that according to historical evidence (Stoyanov 1941) the following advantages and faults for both methods have been stated:

#### 1. When selling a root:

*Advantages:* no risk for the forest owner. The seller obtains, transports and sells the obtained timber, builds forest roads.

*Faults:* the local population buys from the producing company but not from the forest owner which is not good for the prices; The producing company does not have social motives and tries to hire a working

force at the lowest price. The producing company does not have a motive to protect the remaining plant, to clean the cutting area and protect the forests from damages, though it can be included in the contract.

It has been reported that the sale of root is rather an exception than a mass practice in the average developed European countries.

## **2. The sale of chopped timber materials:**

*Advantages:* Exactly clear and undoubtedly definition of the quantity and quality of the materials. Measuring and taxing are unnecessary in advance. The rules for cutting and transporting are followed. The social effect is better as the labor of the workers is paid better by the government than by the private sector. It is more beneficial for the buyer to buy chopped wood because there is no risk to miss the time for cutting and transporting, it is not necessary to invest in forest roads and in a short time he invests circulating capitals without any risk for the materials to be wasted.

*Faults:* The forest's owner takes a commercial risk as he can fail to sell the timber at a good price and it can get spoiled if not sold (especially the beech). The logging can be accomplished by the state forest and hunting economies themselves, which are territory sections of the formed six regional state enterprises in forestry or by assignment to physical persons and tradesmen, registered in the public registers under article 235 and 241 of the Forest Law and possessing a certificate of registration of a relevant activity. The assignment of the use is accomplished by an open competition or by agreement. In the above Regulation it is supposed for the state enterprises to sign long-term contracts for assignment of logging for the time till 15 years.

## **3. The core of the problem**

It is clear that the current normative base gives good opportunities for interaction to the state forest enterprises with private logging enterprises. The point is how to accomplish the interaction between them profitably so that the desired steadiness is achieved in the development of the sector, the risk that the state economy subjects take is minimal and to achieve possibly the best economic, social and ecological effect. The aim of the following investigation is to analyze the achieved economic indexes from the private logging enterprises assessing their competitive statute and to discuss the opportunities for finding an appropriate balance between the public and private interests in the accomplishment of logging.

One of the reasons to pay attention to the condition of logging enterprises is the conclusion in the Annual Report of the Forest Executive Agency for 2009 that one of the main problems (ИАГ 2009) in the use of timber and for failing in logging is the insufficient technical and staff potential.

## **DIAGNOSTIC ANALYSIS**

Retrospective statistic analyses lack for the economic processes in logging as till 2008 the busy persons in this field and the economic results have been reported together with the forestry activities. It is in 2008 with the updating of the Classifier of Economic Activities (HCI 2008) to cipher 02. Forestry is separated to a different cipher 02.20. Logging. According to data of the National Statistic Institute for individual request – the investments in long-term material assets of 1 BGN LMA in logging for 2008 are about twice less than the same index, counted together for micro, small and medium enterprises in the whole economics (Stoenehev, 2012).

Indexes from the Reports of Ministry of Economics, Energetic and Tourism (2010) can be used as generalizing characteristics for assessment of the competitive statute of logging enterprises from which their prosperity depends on. Some of these indexes are:

1. Generalizing indexes for competitive power:
  - Productivity of labor, measured as correlation between VAT and the number of busy persons;
  - Profitableness represented by indexes: norm of profit/ correlation between the gross operating surplus and the turnover/; the norm of return of long-term material assets (correlation between the

gross operating surplus and the long-term material assets); profit of one busy person (correlation between GOS and the number of busy persons);

- Effectiveness, represented by the turnover of one busy person.
2. Indexes for factor competitive power:
    - Relative share in percentage of VAT in production;
    - Long-term material assets (LMA) of one busy person;
    - Percentage of expenses for labor of the gross VAT;
    - Expenses for the stuff of one busy person.

**Table 1: Indexes of competitive power of private enterprises in the logging for the period 2008 – 2010 and for all micro, small and medium enterprises for 2007.**

Indexes	Private logging <sup>1</sup> enterprises			All micro, small and medium enterprises (MIET 2010) Data for 2007г.		
	2008	2009	2010	micro	small	medium
Productivity of labor [x.BGN]	9,9	8,5	9,4	9,4	13,3	14,9
Norm of profit [%]	9,2	6,7	6,6	10,1	9,6	10,6
Norm of return of LMA [ %]	23,9	14,3	14,9	21,1	34,5	33,5
Profit of one busy person [x.BGN.]	3,4	1,9	2,4	6,8	8,6	9,0
Turnover of one busy person [x.BGN.]	36,5	28,4	36,8	67,0	90,0	85,0
Relative share of VAT in production [%]	27,2	30,1	25,5	28,9	31,1	29,2
LMA of one busy person, [x.BGN.]	14,1	13,3	16,2	32,0	25,0	27,0
Expenses for labor from the gross VAT [%]	65,5	77,1	73,4	27,7	35,1	39,8
Expenses for stuff for one busy person [x.BGN]	6,5	6,6	6,9	4,1	4,8	6,0

<sup>1</sup> The indexes are assessed by the author according to data presented by NSI for individual request.

**Table 2: Indexes for competitive power of micro, small and medium enterprises for 2008/9**

Indexes	All micro, small and medium enterprises (ИА за МСП 2011)		
	micro	small	medium
Productivity of labor for 2009г. [ x.BGN.]	9,3	13,9	17,2
Norm of profit for 2008г. [ % ]	10,9	49,3	50,6
Expenses for labor from the gross VAT 2008г. [ % ]	49,7	48,2	48,9

According to the texts from the statistic law the National Statistic Institute does not present individual data for enterprises and therefore we can not state how much exactly there are small and medium enterprises in logging. A base for comparison of the results achieved by them with those of micro and small and medium enterprises in the whole economics is given by the fact that for 2008 the average number of the busy persons in one logging enterprise generally for the country was 12 people, and in regions: the average number of busy persons in one logging enterprise was up to 9 people in 11 areas, from 10 to 49 people in 16 areas and 50 people only for region Yambol.

The variation of the number of the busy persons in the groups according to regions is not known. Under these circumstances it can be accepted with great possibility that small and medium enterprises prevail, but it can't be excluded that big enterprises exist with stuff number of 250 and more busy persons. The dimensions of logging activity and the territory separation of the logging objects in Bulgaria make possible the existence of big enterprises rather an exception than a rule. It is worth to note that the use as comparison base of the average values of the indexes for all micro, small and medium enterprises is too conditional, as the combination of activities included in this combination is not homogeneous in relation to the opportunity of mechanization of the production processes, the production's material capacity, op-

portunities for batch production which is a precondition for the achievement of higher productivity of labor and lower relative share of the conditionally constant expenses in the cost price of the production. The absorption capacity of markets is different in relation to different types of production and from this the opportunities for growing of the production depend. Despite this the availability of essential deviations in the value of economic indexes in logging in reference to those of all small and medium enterprises can be a cause to investigate the reasons for them. The productivity of labor is accepted for a main generalizing index of competitive power (Velev, 2004).

It is laid in the regional plans for social-economic development of the six regions for planning of the second level on which the country has been separated as an indicator for reaching of the aims set for the regional development. It is used successfully for regional comparisons too (MPPB 2008). On this index the private logging enterprises of 2009 are little in delay from all micro enterprises. In comparison with the productivity of the small enterprises the delay is felt. We must note in this case that 2009 has been a crisis period for the whole economics and some activities have been strongly affected by the restructuring and contraction of the consumption. The consumption of timber has reduced strongly for the stagnation in building and other activities using this material. From the indexes of profitability it

draws the attention that for 2008 the norm of profit in logging delays with 1,7 points in relation to the index of all micro enterprises. The norm of profit in the logging is several times lower in relation to the achieved one for the groups of the small and medium enterprises together for all sectors of economics. The timber enterprises are in delay according to the index- profit of one busy person, though the information we have found for all micro, small and medium enterprises refers to 2007, but for the logging is for 2008 – 2010. We can say that the correlation between the given indexes is logically connected. The low level of the stuff of long – term material assets leads to essential expenses for labor and a high percentage of expenses for labor from the gross VAT. Regarding the expenses for the stuff of one busy person the logging is ahead of micro enterprises and small enterprises generally for the whole economics. Despite this, the payment of labor in logging is still low and this does not stimulate the dealers to invest in long-term material assets. Other reason for delay of investments for innovations is the often changing legislation. The last creates instability and timber dealers do not risk investing in technique as they are not sure of the return. The declared high relative share of labor expenses on the account of the profit in the Gross VAT slows the development additionally as there is a lack of own resource for investments in new technique and products of IT and this influences negatively on the company competitive power.

The index of effectiveness – turnover of one busy person despite the good productivity is much lower in logging from those for the groups of micro and small enterprises. One of the reasons for this can be the relatively low material capacity of the production in logging.

On the base of the comparisons we can state that despite the worse market atmosphere during the investigated period the private timber enterprises successfully fit into the economic reality and perform their functions. It is a disturbing fact that according to most indexes they delay from the average values together for all micro, small and medium enterprises. It is good that in 2010 we have better values of indexes for competitive power after the fall registered in 2009.

#### **OPPORTUNITIES FOR SOLVING THE PROBLEM:**

In order to discuss the economic relations between the state forest enterprises and the private logging enterprises we will pay our attention to the variant where the logging is accomplished by assignment of open competition. The advantages of this form for the state economy subjects are essential.

##### **Some of them are:**

When the cutting is accomplished by assignment – it is not necessary the territory sections of the state enterprises to invest in purchase and maintenance of specialized technique / we can mention that it could be a difficult situation if no one appears at the competitions, because they can't execute the expected use for lack of own assets.

The separate execution of the procedures of yield and sale of timber gives opportunity to achieve a maximum profit for the state enterprises. This method has faults too:

For example: For the reason of winning a given competition of logging some of private dealers can suggest an unreal low price which can stop them to take the commitments. In such cases it is supposed usually in the tender procedures for the authors of such offers to prove their execution by detailed reports, but if a contract is signed and the commitment is executed at very low

profit – this disables the dealer from the opportunity to make investments in innovations and training of the staff.

Preconditions are created for illegal sale of a part of the obtained timber to the local population.

Other fault is the necessity of protection of the obtained timber put in temporary storage from illegal violations before its realization.

In case of sale of timber of root this commitment is taken by the private logging enterprise.

Main points in the procedure of assignment by open competition are the definition of the starting price and the criteria for classifying of participants.

The starting price can be defined according to one of the following methods:

- calculation method;
- on the base of the average value of the signed contracts by state enterprises for logging for the last 12 months;
- by marketing research with collecting of offers;
- a combined method from the above.

In our opinion the calculation method is the most difficult but is the most exact if it is executed precisely. It allows to put actual values for the prices of fuels and lubricating materials which are too dynamic recently. Specialized computer information systems may be used for its practical realization.

The executor of the activity is defined on the base of assessment of the offers according to one of the following criteria pointed in the documentation for participation in the contest:

1. the lowest price;
2. economically most profitable offer.

When the chosen criterion is the most profitable economically offer the assignor has to define the indexes, their relative heav-

iness and methods of definition of the assessment according to every index and of the general assessment. The assignor can envisage additional requirements for the accomplishment of the order, connected with protection from damage of plant and animal species and their places of living, of the soils, water objects and elements of technical infrastructure. This criterion gives an opportunity for flexibility in the relations between the assignor and the executor of the activity.

Set in market conditions the state enterprises in the forestry and their territory sections state forestry and state forest economy aim to gain maximum economic profit which leads to absolutization of the price criterion in the choice of executor.

At the same time the private dealers are expected to execute the planned cutting in time and qualitatively, without harming the remaining plant, with minimum damages on the soil forest cover. They must extract maximum quantity of precious assortments and clean the cutting area from branches and parts of stems remained unused after the cutting out if the chosen technology includes trimming and cutting out of the territory. In order to perform their activity properly the logging enterprises must be set in appropriate economic conditions. The revenues from the logging activity must be sufficient so that they can execute investments for updating the logging technique, pay adequately the labor of the hired workers and provide conditions for effective and safe technological process. They are expected to participate in the maintenance of forest roads where the obtained timber will be transported.

In general the profit from the sale of the defined for logging timber is foreseen. It is defined by market prices that have been set as a result from the real search and offer of timber with definite qualities (as orientation

we can accept the averagely weighed prices of timber realized from a storage for the previous year according to data of the Forest Executive Agency).

We can affirm that in a long-term aspect the interests of state forest enterprises and private logging enterprises are turned to one direction. They are connected with the achievement of steady economy of the forests on the base of clear rules which can create stability for the investments and people whose means of living depends on forests. As an economic result in a short – term period they are contradictory- each of them seeks to receive more than the expected profit.

In historical aspect in a different legal frame many attempts have been made to set an optimal model that provides at the same time both obtaining of maximum profit from the forests and its optimal distribution between the economic subjects. There are deep scientific researches (Iovkov 2010) in relation to the character of the economic relations between forest owner and forest user and the regularities that are characteristic for them. For practice simple methods are necessary for their realization for each of the variants for forest use, defined in the actual normative base.

In order to achieve the desired optimization of the expected economic, social and ecological effects the relations between the interested economic subjects should pass from the purely market to a contract principle.

The just distribution of the profit could be provided by a system of expected additional uses – for example: mutual use of specialized techniques and working force, mutual construction of forest roads and other forest infrastructure, a guaranteed purchase of the being obtained timber for a long period of time and others. It is a fact that yet

in 1941 appropriate variants were sought (Stoyanov, 1941) for cooperation between public and private economy subjects in realization of forest use. Forms like Joint Stock Company or a long-term hiring were discussed. The authors emphasize the availability of difficulties in the realization of control on the activity of private dealers. There are no positive replies for the concession as a form of economy. It was concluded that expectations failed that the concessioner managed the forests properly and maintained in good condition the forest roads. It was mentioned that it was an exception to use this form of exploitation of the forest massifs than a rule when the case was of remote and bad forest massifs.

Nowadays the idea of public – private partnership in forestry is again an object of attention (Dichev, 2012). It is a good opportunity to combine the advantages of the public and private sectors- a planning, strict control and scientific economy on the one hand, and flexibility, commercial mood and desire for obtaining of maximum profits on the other hand. Perspective directions for applying of public- private partnership are:

- building of roads for forest estates;
- marking of trees subject to cutting;
- project, construction and reconstruction of forest roads;
- logging.

It is paid attention to the fact that there is no a law for the applying of public- private partnership in Bulgaria and it is different from Greece and Poland. The main aspects of applying of public- private partnership are regulated in the Law of Concessions, The Law of Public Orders and other.

## CONCLUSION

In our opinion the thing that is realistic and achievable at the moment in relation to the optimization of relations between public

and private economy subjects in logging is the classification of participants in open contests to be executed not by purely price criteria but as economically most profitable offer which means that in defining the weight coefficients of the criteria for classification of participants, a priority to be given of non price criteria (possession by the candidates companies of their own new specialized techniques, availability of good reputation in realization of previous logging objects, staff qualification and others). In this case contracts will be signed at the level of the average for the branch production expenses and norm of the commercial profit which are set at the definition of the starting price but with companies which have made most essential investments for innovations.

Those private logging companies that achieve a level of production expenses under the average for yield of a definite type and density of the planting will realize a norm of profit above the average which will permit them to develop, without harming much the economic interests of the forest owner.

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