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Analysis of Illegal Logging in Bulgaria for the period 2006-2013

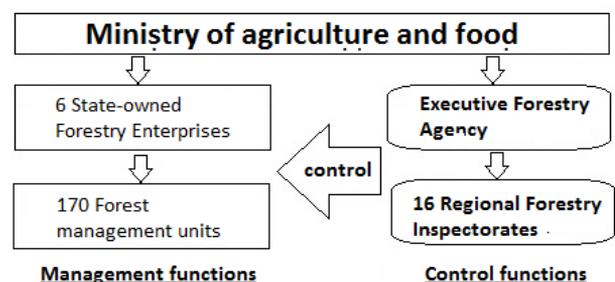
Summary

WWF Bulgaria published a report in 2005 on the extent of illegal logging in the country at that time. The identified volume for 1 year was about 3.7 million cubic meters of lying wood at official felling output of 5.8 million cubic meters.

In 2006-2013 Bulgaria marks a limited progress in the fight against illegal logging; expert analysis of statistical data shows that **annual volume of illegal logging reaches 2.5 million cubic meters or 1/4 of the total yield** (at official felling output of 6.9 million cubic meters for 2012). Forests which are over-exploited as a result of illegal logging cannot effectively provide their production, water regulation and environmental services.

Notwithstanding that economic, social and political changes in the country resulted in reduction of mass violations in woodlands related to poaching, **illegal practices in forests now increasingly settle in as formally legal or kept off records**, i.e. illegal logging takes place under authorized felling operations through a number of schemes that allow **concealing the actual amount** of felled and hauled timber and are easily applied. Thus by illegal logging of timber (mainly firewood and pulpwood) **the grey sector in forestry generates hidden revenue of over BGN 100 million per year**.

The reasons leading to issues in forest protection from illegal logging are different. As regards state-owned forests, these issues catalyze significantly by **the merge of control functions and business interests in one and the same state institution** – the Ministry of Agriculture and Food. Additional factors include **corruption practices, political pressure**, low requirements for qualification of forest officers, diffused responsibility in logging operations, unfavourable economic conditions, demographic structure, etc. A key precondition for malpractices in forests is the **imperfect legislative framework** that allows for inaccurate inventory of forests (e.g. concealing of actual forest stock), manipulations



in determining the yields, and above all ineffective control along the entire chain of planning, marking, felling and transport of harvested timber. Critically **low collection rate of penalties** for violations in forests (less than 15%) additionally creates a sense of impunity among offenders.

The most widespread schemes for illegal logging and trading of timber applicable under the current legislation are as follows:

1. Logging of unmarked trees in forest stands earmarked for felling

Pursuant to the legal provisions, only trees of breast-height diameter (DBH) over 18 cm shall be marked with control forest brand (CFB) at the foot of felled stems certifying the legality of felling. Although the measure has been introduced in view of the low value of thinner trees, this on practice enables for uncontrolled felling of more trees of DBH less than 18 cm than allowed, especially in young plantations or coppices where the number of such trees is often predominant.

At the same time, the presence of CFB mark at the foot of felled trees cannot certify their lawful use^{1,2} as illegal logging is concealed and even “legalized” whenever illegally felled trees are additionally marked after the logging by the forester responsible for the site or are marked with a false brand by the offenders themselves.

Recommendations: Limitation of opportunities to hide illegally felled timber when the harvest is hauled off the wood-cutting area, i.e. at its inventory with the purpose of transportation to end users.

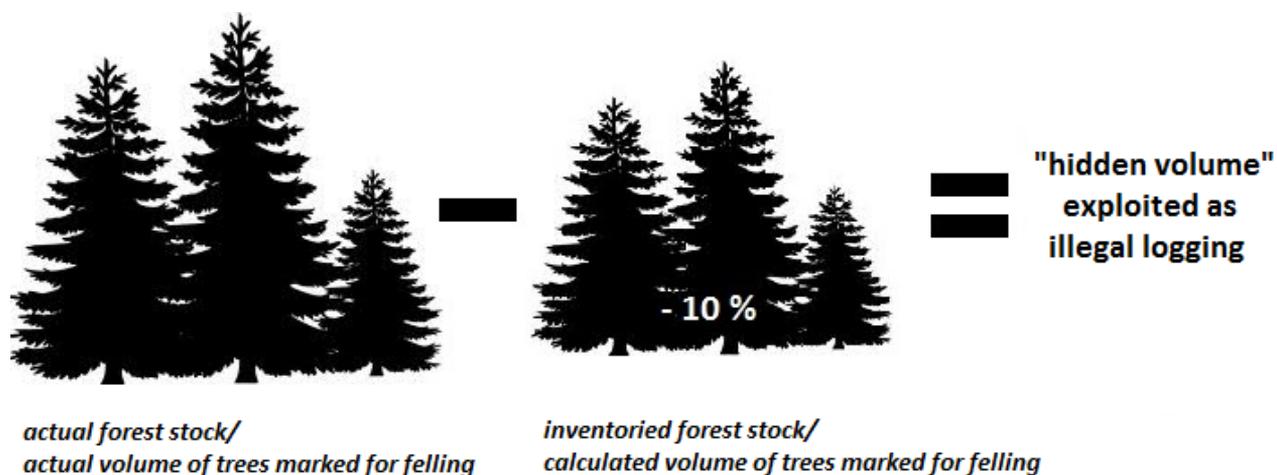
2. Manipulations in calculating the volume of trees marked for felling

The volume of trees marked for felling is calculated by means of software based on the mean diameter and respectively the mean height of marked trees. It has been established that the software uses a method for determining the mean diameter (the so-called Weise rule) which is not allowable by forestry science for such cases, because it results in values lower than the actual ones and consequently leads to an error of averagely 8.7% in determining the volume of logging. This means that documentation for planned logging indicates a lower value than the actual volume of trees marked for felling and if the difference between documented and actual volume is successfully hidden in dispatching the timber, it is retained as illegal logging.

Recommendations: This wrongful practice should be constrained by upgrading the software for calculation of logging volumes and by enhancing the control on taking-over and dispatch of timber to prevent concealing the actual amount of harvest.

¹ http://www.dnevnik.bg/zelen/2013/09/30/2151179_ekokoalicijata_sezira_za_nezakonna_sech_v_lovno/

² http://www.dnevnik.bg/zelen/2014/07/16/2344034_fotogaleriia_otlichitelni_bezezi_na_nezakonnata_sech_v/



3. Basing on incorrect wood stock data listed in Forestry Management Plans

Large percentage (80-90%) of forest stands are inventoried by eye or by mathematical and statistical methods, while a comprehensive measurement of all trees in a forest stand is undertaken in extremely rare cases. Often instead of on-site measurement the updated information for tree stock in a plantation is estimated by a computer program that recalculates the new forest stock based on the old one. Significant errors occur in these recalculations resulting in underestimation of the actual forest stock and respectively the quantity designated for felling. In the process of marking the trees to be felled however all the marked trees are subject to measuring and grading. In case that the volume of trees marked for felling under an agreed intensity of felling (i.e. certain % of the forest stock) is found by inventory to exceed considerably the quantity for felling designated in the Forestry Plan, this difference (between 10% and 18% by expert assessment at national level) is most often concealed to allow for illegal logging and hidden revenues.

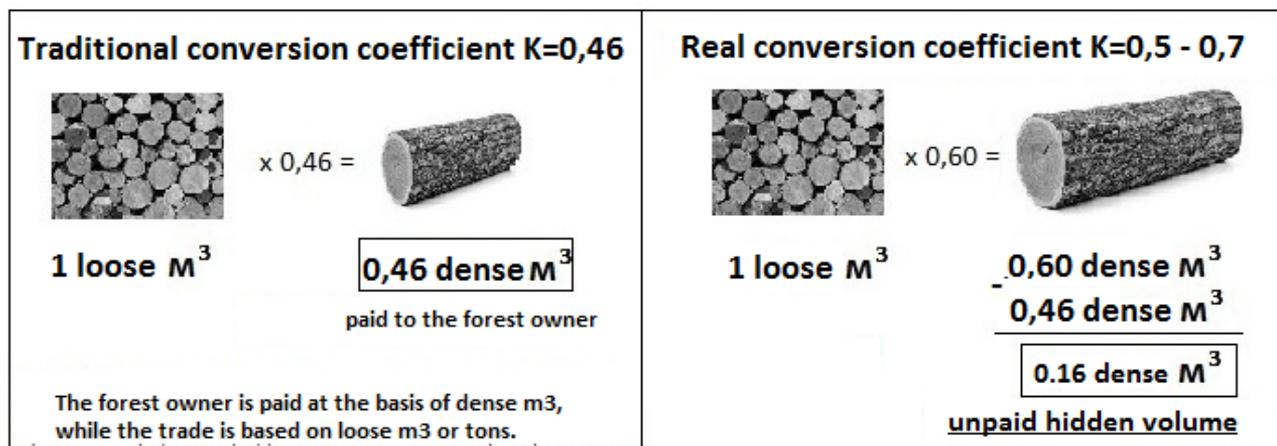
Recommendations: Following the example of other European countries, national forest inventory shall be established to ensure impartial reporting of forest changes and respectively independent supervision on the inventory in Forestry Management Plans shall be carried out. In addition, the control on accepting the forest inventory, as well as the control on taking-over and dispatch of harvested timber shall be enhanced.

4. Manipulations in calculating the volume of firewood and pulpwood

As regards harvesting of firewood and pulpwood the legislative framework requires in various stages of logging – from the clearing to the end user – the goods of the same type and quantity to be measured, accepted, paid and accounted for in three different measurement units³. At harvesting – from the clearing to a temporary storage – in loose m³ (this volume is determined by the size of shape in which the pieces are arranged), at taking-over – from the temporary storage to

³ http://gorabg-magazine.info/bg/index.php?option=com_content&view=article&id=11

loading and dispatch – in dense m³, and at end user – in kilograms, as measured by the client scales. The practice has shown that significant errors occur in these measurements and recalculations resulting from the high level of subjectivity, the application of incorrect conversion coefficients and non-accounting for the different weight of timber in view of its origin.



As a result from these issues in recalculating the volume of firewood and pulpwood from loose to dense cubic meters, a difference of about 30-40% is generated which is not accounted in payment of yield or in determining the amount of tariff fee. In practice, through the abovementioned schemes this difference can also hide the volumes of illegal logging that exceed the allowed quantities.

Thus at logging and official sale of about 4-5 million dense m³ of firewood and pulpwood per year the legislation allows for hidden dispatch (i.e. without paying the forest owner) of over 1.5 million m³ of wood.

Recommendations: The solution to this problem is to apply a payment rate per loose m³ for the yield and sale of firewood along the entire chain from the logging to the end customer, and to apply a payment rate per weight (i.e. per ton) for pulpwood along the entire chain from the logging to the end customer, based on the weight-scale document issued by the end customer or by measuring the weight using the scales of the enterprises.

5. Concealing of illegally harvested wood at dispatch

A key condition for gaining profit from illegally harvested wood after its logging under the abovementioned schemes is to transport it from the clearing or its temporary storage to the end user without reporting it to the forest owner. This is necessary because in felling the quantity of all the harvest (lying wood) is to be reported at taking-over and dispatch of wood⁴.

⁴ Dispatch of wood includes recording and transporting the harvested wood to the end or intermediate user.

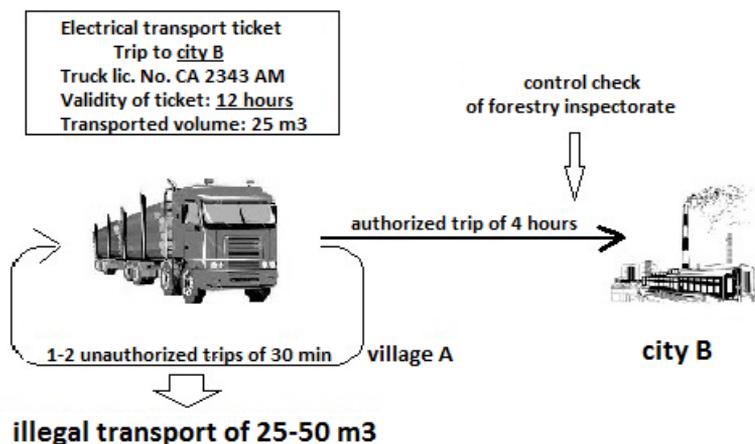
Practical experience shows that illegally harvested wood is largely transported without being recorded in the Taking-Over and Certification Protocols for the clearings and without being correctly registered at dispatch. The main pathways for concealing of illegally harvested wood at dispatch are as follows:

1. The simplest way is to transport the illegally harvested wood **without a transport ticket** (at short distances, e.g. from the forest to the village) which is practiced at night employing scout agents or under the guaranteed protection of control authorities.

2. A common practice is to use **one transport ticket** (including electronic) issued for a specific trip with validity of 12 hours, **for more than one trip**.

3. A relatively new scheme is to have **two different trucks** (one with the illegally harvested wood) **travelling with one electronic transport ticket at the same time** in the same direction but along different roads.

4. Another common approach is to **transport the illegal harvest from the forest with a paper transport ticket**, and not an electronic one. Notwithstanding that use of paper transport tickets allows for many machinations, it is still legitimate for transporting wood from private forests and from one storage to another.



Recommendations: Effective constraint of abovementioned malpractices has been achieved though introducing the timber marking and tracking system where each assortment is marked with control plastic tags. Enterprises in RFD-Plovdiv, as well as many European countries such as Germany, Serbia, Croatia, Slovenia, Greece, etc. have proven experience in using **control plastic tags**. The costs for tags are estimated at about 0.50 BGN per 1 m³. The opportunities for any misuse with electronic and paper transport tickets shall be further reduced. Further, electronic system of issuing and tracking the transport tickets should be further developed.

6. Manipulations in grading of marked trees

Grading of stems is carried out when trees are being marked for felling, as well as at taking-over and dispatch of harvested wood. **This does not alter the quantity (volume) of harvested wood, but underrated grading for instance allows for malpractices resulting in reduction of the actual monetary value of harvested wood to the detriment of the owner.** For example, saw logs (100 BGN/m³) are often graded as artisan roundwood (ARW) (at an average value of 50-70

BGN/m³), while ARW or pulpwood per 1 meter is graded as firewood (25-50 BGN/ m³), thus bringing loss to the forest owner of up to two times as compared to the actual value of wood.

The analysis of data for yields in 2013 shows underrated quality and respectively price of much more stems than theoretically possible⁵.

Recommendations: It is necessary to enhance the wood dispatch control to enable the identification of each assortment according to its subjective grading as such. An example of such follow-up control that can cut off this type of malpractices is the introduction of timber marking and tracking system where each assortment is marked with individual **control tags**.

Conclusion

Legal provisions related to the abovementioned chain of logging and dispatch opens a possibility within the framework of accuracy of measurements to “keep off records” wood stock and/or harvest amounting to 10-30% of the actual stock. In this way, at yield of about 7 million cubic meters per year, **the legal provisions allow for potential harvesting of up to 2 million cubic meters more than the officially declared volumes**. The dispatch of this harvest is implemented due to shortcomings in the so-called transport documents, insufficient control and lack of political will to address these issues.

There are also practices that are not illegal logging in their essence but lead to similar **financial losses for the county**, with quality wood being gone to waste and sold at decreased price most often as firewood.

The balance of wood through the prism of official logging, industrial production, renewable energy production, imports and exports confirm that wood used in the country exceeds the volume of harvest officially reported. This exceedance is between 0.5 and 2.4 million cubic meters of wood in reference to 2012. The difference is highest if considering the data from nationally representative surveys of “Mediana” in 2010-2011⁶, according to which a total of 1.5 million Bulgarian households use an average of 8.1 loose cubic meters of firewood per year, which sums up to 12 150 000 loose cubic meters (5 589 000 dense cubic meters), while the official statistics reports an annual harvest of just over 4 million dense cubic meters of firewood.

⁵ In practice the incorrect grading that leads to “deteriorated” assortment structure can be partially explained with the easier marketing of firewood and greater opportunities for malpractice.

⁶ <http://m.trud.bg/Article.aspx?id=1435163>

The opportunities to constrain the illegal practices in forests are as follows:

1. Administrative Measures:

- to enhance the control over dispatch and transportation of harvested wood, including through systematic enforcement of **control plastic tags**, more stringent requirements to **transport documents** and **develop the electronic ticket system**;

- to curb the opportunities for logging “per root” in order to differentiate felling from trading of wood;

- harvesting and trading of firewood and pulpwood should be priced at **one and the same measurement unit** along the entire chain from the clearing to the end customer to prevent errors and manipulations at conversion of one measurement unit to another;

- to link the **database system** for felling permits listed in www.system.iag.bg with data about wood dispatched from forests by means of issuing electronic transport tickets and establishing an **unified electronic system** to process the information about planning, marking, use, certification, dispatch and processing of wood, while ensuring public access to part of the information to enable **civil control**;

- to expand the implementation of **certification systems** by all operators along the chain of forest management and wood production and consumption;

2. Legislative Measures

- to improve the **legislative framework** for inventory, planning and control of logging to limit the possibilities for malpractice, and to launch **national inventory** in order to provide independent control on data for changes in forests;

- to secede the **Executive Forest Agency** as an independent control institution from the Ministry of Agriculture and Food which is responsible for economic activity in state-owned forests;

- to increase the **qualification and motivation of forest inspectors**, as well as to raise the requirements for **qualification and responsibility of foresters**, without whose participation it is difficult to undertake malpractices in forests;

- to promote the **transparency and competition** in the processes of contracting and implementing the logging and trade in timber and timber products to combat the grey sector in forestry, including through launch of **open electronic tenders**;

- to raise the collectability of penalties for violations in forests off the current 10-15%.