

# CHANGES OF THE PRIVATE FOREST PROPERTY STRUCTURE IN SLOVENIA INFLUENCE ON MANAGEMENT BY FORESTS

Mirko Medved

## ABSTRACT

This paper deals with the fragmentation of private forest estates in Slovenia and is based on plans issued in the year 2001 (315,000 estates/806,000 ha). Within the last 30 years the number of estates increased by approximately 60,000, especially in the category of up to 1 ha. In the same period, we have experienced the pronounced fall in rural population. Family farms own less than a half of all private forests. The rise in the number of non-farming owners is also a consequence of the inheritance and denationalisation processes after 1991. The average private forest estate covers just over 2.5 ha and is owned by 1.6 (co)owners. Family farms possess forest property with an average area of 5 ha, which is thrice larger than that of non-farmers. The proprietors still carry out the major part of all work in forest on their own, yet the hiring of services in timber harvesting operations is also on the increase. The utilization of wood is primarily linked to domestic needs, with the remaining part sent to market. Owners of smaller estates consume the majority of wood at home. Family farms use more than a half of the wood as fuel. The structure of the wood consumed by non-farmers offers a similar picture. The owner's interest for forest management depends mostly on the size of the forest estate as well as on the socio-economic status of the concerned household.

**Keywords:** Private forest, small-sized forest property, forest owner, family farm, forest harvesting operations, wood utilization

## INTRODUCTION

Forests and the society that manage them are subjected to perpetual transformations. Within the society one may detect two concurrent processes that are of vital significance for management of private forests. The first one is related to the decline of the rural population, which exerts a substantial impact on the changes in socio-economic structure of private forest owners. The second process, however, is linked to the fragmentation and shrinking of forest estates. The judicial practice in our state allows the distribution and partition of forestland owned by unprotected farms. Since procedures of physical division of the land that would be carried out on the terrain are exceedingly costly, the co-ownership of the same forest property by several natural persons is particularly gaining ground. Both processes exert the notable influence on the property structure of private forests and on the harvesting and utilization of wood, as well as on the entire forest economy.

No less than 60% of the entire area of Slovenia is covered by forests. Three quarters of them are in private hands. In the period from 1945 until 1991, during the times of socialism, private property has been statutory restricted according to the size of the estate (farmers were allowed to possess up to 50 ha, non-farmers up

to 5 ha) as well as with respect to its management (obligatory tree cut and sale of timber). After 1991, when Slovenia stepped on the path of democratisation, the state conducted the denationalisation of all possessions expropriated after the World War II. Forest owners were granted more responsibility and rights in managing their forests. The wood market before 1991 within the competence of state forestry companies was liberalized. In accordance with the new Constitution (Article 67), in 1991, the acquiring and exploitation of property is restricted since the forests have to perform, besides economic function (for owners), also social and ecological functions (for the society). The movement through private forests in Slovenia thus remained unrestricted. The obligations and rights of owners are defined in further detail by the Forestry Act issued in 1993.

In our country the Slovenian Forestry Service (SFS) elaborates the forest management and silvicultural plans on the basis of the Forestry Act (adopted in 1993) and Rules on the Forest Management and Silvicultural Plans for all forests adopted in 1998), regardless of their ownership. The fragmentation of forest estates is exceptionally widespread. Private owners' interests and needs have to be harmonised with the state of the forest, size of the estate, and public interest. The person's needs and interests in forest management depend on numerous factors yet they are primarily limited and conditioned by forest's dimensions. Results presented by various researches demonstrate that interests and the size of property influence the structure of the tree cut. The implementation of modern forest management principles, where we endeavour to imitate the functioning of nature, proves to be much more difficult on smaller estates. By the shrinking of forest estates, parcels and property complexes decrease also potentials for the rational implementation of plans. Persons responsible for the realization of planned measures are by the end of the day forest owners themselves. In case of fragmented forestland the planning as well as realisation of quality measures and directing the forest development on right track is much more difficult task. The owners' interest to manage their forests is linked with their needs and their socio-economic status. The property structure, regulations, plans and owner's interests, related to wood, lead to the realisation of that type of forest management, which is to the largest extent manifested solely by timber production.

The average size of a forest estate amounts to less than 3 ha and is, on average, additionally fragmented in three complexes. The rural population is declining, plus our entrance in the EU makes conditions for existence of small sized farms—which are the prevalent farm type in Slovenia—even harder to comply with. All these processes exercise a major impact on the forest management, on production and utilization of wood, and especially on the fragmentation of the private forest estates.

## OBJECTIVES AND METHODS

The objective of this presentation is to analyse the property structure in the Slovenian private forests and its influence on production and utilization of wood. The private forest estate may be owned by a single proprietor or by several co-owners, who do not necessarily live within the same household. What poses additional problems to the property analysis on the state level are also the boundaries between administrative units and forestry regions, since

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the same owner may be registered more than once and dealt with in the inappropriate estate's size category. Along the national border zone the owners may possess the propriety also in two different countries.

In order to ensure proper comprehension of this study's contents, following are definitions of some terms used in this paper:

**Private forest estate.** The total area of forests owned by one or several natural persons, which is on the terrain and in cadastre partitioned by a parcel border and is in the land register entered in the same proprietorship document. The private forest estate may consist of several parcels, which are frequently also spatially separated. The private forest estate is not necessarily identifiable with the household that possesses the forest, yet in rural households it coincides in 90% of cases and in other non-farming households in 75% of cases (MEDVED 2000).

**Private forest owner/co-owner.** Any natural person, who independently or collectively owns a forest and whose property is recorded under his/her name or whose co-proprietorship share is registered in the Land Register. The co-ownership is entered in case of individual parcels. A private owner may also demonstrate his/her ownership with a purchase agreement, decree on distribution or some other document. In case of several owners the forest estate is usually managed by one of them—an authorised overseer.

**Family Farm.** In organisational and managing sense a complete, rounded-off unit (agricultural land, forests, buildings and premises, equipment) owned by one or several natural persons, who in the framework of the same household work and manage for the collective account and which also comply with Comparable European Criteria (CEC). These criteria are especially related to the area of land in direct use and to the number of larger farm animals (livestock units-LSU) or beehives. Conditions for complying with CEC are fulfilled by the farm that uses 1 ha of agricultural land or 0.1 ha of agricultural land and 0.9 ha of forests or that possesses at least 1 LSU or more than 50 beehives.

**Non-CEC holding.** All households that own only forest or do not meet the Comparable European Criteria (CEC).

For purposes of the analysis of property structure and of production and utilization of wood we made use of the data from forestry plans as well as from questionnaires and statistic research:

The property structure was analysed on the basis of the latest data from Forest Management Plans (FMP) by Forest Management Units (FMU) collected in the period 2001–2010 (ZGS 2001). In combination with the data gathered by the census of farm estates (Agricultural Census), which was in Slovenia conducted in the year 2000 on farms comparable to European criteria we analysed also the forest owners' social make-up (SURS 2002).

Timber harvesting in connection with the size structure of estates was examined by interviewing forest owners (n = 926), which is extensively represented in the doctoral thesis of the author of the present paper (MEDVED 2000).

Utilization of wood in private forests was analysed by means of data acquired in the census of farm estates conducted in 2000 (SURS 2002) and was compared to findings of the inquiry from the year 1995 (MEDVED 2000).

## RESULTS

### Property by the Agricultural Census in 2000 and Forest Management Plans (2001–2010)

According to the data obtained by the census on farm estates in 2000, 76,653 family farms (88.8% of all embraced by the census) owned 393,370 ha of forests (SURS 2002). Family farms (defines defined in the census) are those farms that comply with Comparable European Criteria (CEC). They use at least 1 ha of agricultural land, whereas other farms with less than 1 ha of agricultural land in use must also fulfil some other conditions. The average size of a forest estate owned by a family farm amounts to 5.13 ha.

Total area of private forests in Slovenia amounts to 806,240 ha [Forest Management Plans (FMP) for all Forest Management Units (FMU) 2001-2010], which signifies that 412.870 ha of private forests are owned by non-farming households (51.2%). Included with these "non-farming" households are those farming households that do not comply with the CEC criteria. The number of all households that own a forest in Slovenia remains unknown to us. According to the data provided by FMP FMU, 314,569 forest estates (average size 2.56 ha) exist in Slovenia, which does not equal the households who own a forest.

The number of (co-)owners of Slovenian private forests has (according to information compiled by FMP of FMU) risen to almost 499,000. It is quite likely that the actual number of co-owners is lower, since the records do not reflect the co-ownership in other administrative and management forest units. Thus, the average forest area per (co-)owner amount to only 1.62 ha.

The decline in farming households along with denationalisation (which has been going on in Slovenia since 1991), as well as the almost unlimited inheritance of property, resulted in further fragmentation of private forest estates. In the year 1971, the size category of up to 1 ha represented 43.9% of all estates, twenty years later it attained 54.7%, whereas in 2001 this share rocketed to no less than 62.5%. In the size class from 1 to 5 ha the number of estates decreased only within the last ten years by around 13,000 and represents in 2001 only 27.6% of private forest property. Comparisons in other size classes are not feasible due to the changes in the structure of forest estate size categories introduced within the last plans. Due to denationalisation, private forest property increased especially in northwest Slovenia's mountainous farms, where an even more pronounced rise occurred in the number of large non-farming forest proprietors.

Table 1.— Property and social structure of the private forest ownership in Slovenia.

	*Data by FMP of FMU 2001 - 2010	Census of farm estates SURS 2002	Difference FMP – SURS »Non-farming estate«
Number of forest estates *	314,569		
Number of family farms (CEC) Wit forest property		76,653	
Difference: No. of estates - no. of CEC			237,916
Total area of forests (ha)	806,240	393,370	412,870
Average estate size (ha)	2.56	5.13	1.73
No. of (co-)owners* and the average area owned by co-owner (ha)	498,825 1.62		

\* The calculation is based upon data presented in the LS table: property structure of private forests FMR (FMP of FMR 2001 -2010). Since the data is not collected in entirely uniform manner the figures in the second column serve more as an estimate. In case of FMR that do not have a data on the number of estates and co-owners (TO, PO, KO, MB, SE) we considered the ratio 1 : 1.4. Checking of the data is in progress with the Slovenian Forestry Service.

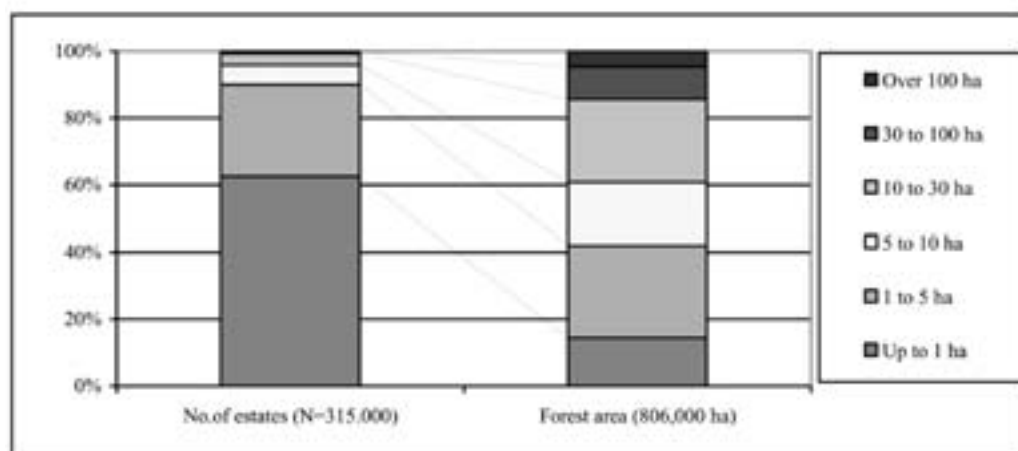


Figure 1.—Structure of number of estates and appertaining forest area with regard to the estate size category.

Table 2.—Intensity and number of tree cuts and consumption of one's own time (households members) in timber harvesting.

Forest estate size categories	Average tree-cut per unit (m <sup>3</sup> /ha)	Number of tree-cuts in 10 years and the average quantity of cut wood in the year intended for felling		*Own work in tree-felling (%)	**Average consumption of one's own time in timber harvesting (hours/year) (h/ha) (h/m <sup>3</sup> )		
		(n)	(m <sup>3</sup> )				
Up to 0,99 ha	5.2	3.0	7	52	7	15	7
1 to 4,99 ha	2.9	5.0	13	67	22	9	6
5 to 14,99 ha	2.0	6.6	25	79	58	7	5
15 to 29,9 ha	2.1	7.4	54	85	109	5	4
30 ha and more	2.1	8.8	127	77	248	5	3

\* Similar proportion of the own work was to be found in skidding, while in transport the differences were larger

\*\* In last two columns the calculation of the consumption took into account the area, quantity of felled trees and the share of own work in tree cut, skidding and transport of wood.

In the Figure 1 we demonstrated the structure of the number of estates and appertaining areas of forest. The estate larger than 30 ha is owned by 0.1% of proprietors and represents 14.4% of the area. Its total forest area is equal to the total of estates up to 1 ha, only that the latter are owned by 62.5% of proprietors. The described estate categories (up to 1 ha and over 30 ha) represent slightly less than one quarter of all Slovenian private forests, for that reason we may claim that the most important size categories in Slovenia are those between 1 and 30 ha. The category from 1 to 5 ha represents just over one quarter of all property with regard to the number and forest area. Less than 6% of estates in the category from 5 to 15 ha cover just below one fifth of all private forests. Only 3.5% of estates in the category from 10 to 30 ha represent one quarter of the total forest area.

For their compilation of data from FMP of FMU 2001–2010, the foresters had at their disposal the data base INKAT which is a software package for managing and maintaining the records on parcels, attributive data on parcels, and data on parcel owners. Up to now it had not been applied for the detailed analysis on the state level, and for that reason the data which are not processed for each region separately do not take into account the ownership of forests owned by the same owner or co-owners in other regions. Due to this fact analyses, which are split into regions may satisfactorily serve in granting the basic overlook over the current state in Slovenia yet they are still far from complete. If we would analyse the data from the INKAT database, the number of owners

and estates would probably be slightly lower; the average estate size, however, may be slightly larger. The problem of the aforementioned database is that it is extremely slowly updated with the information on both new owners and the conditions of plots of land in nature (spontaneous coalescence of deserted agricultural surfaces).

### Timber Harvesting

For purposes of tree felling during timber harvesting within Slovenian private forests one uses predominantly the chain saw. The machine felling was conducted only in individual cases. With regard to skidding work the prevailing technology is that of ground skidding by means of farm tractors. Due to relatively low concentration of felling the skid trails and tractor skidding is combined by the manual dragging of wood to the trail, also in terrain covered by ropeways.

The size of the estate exerts a major influence on the timber production. Table 2 demonstrates some results from the research conducted in 1995 (MEDVED 2000). The frequency of tree felling (number of tree-cuts in 10 years) increases proportionally with the estate's size. The quantity of cut trees in the year determined for tree

felling also indirectly rises parallel to the size. The intensity of tree-cut (m<sup>3</sup>/ha) is higher with owners of smaller estates. Relatively the largest amount of work is performed by owners themselves in the category from 5 to 30 ha. The consumption of time for the harvesting rises parallel to the quantity of felled trees. On the smaller estate they prove to be less efficient in their work and they spend more time per product unit.

The analysis of the time consumed for the work in forests took into account only one part of the time spent for managing the forest. We analysed also the time needed for the monitoring and inspections as well as the time for silviculture and preservation of forests according to size categories. The differences in the time consumption, both absolute and relative ones, were with respect to different activities extremely large. In the smallest category they spent on average 20 hours per annum for forest management, whereas in the largest one they spent almost 400 hours. The total time consumption, calculated per one hectare, is in case of the largest category five times lower than in the category up to 1 ha. The structure as well displays major differences. In the largest size category they spend 63% of work for timber harvesting, 20% for silvicultural works and 17% for inspections and monitoring. In the smallest size category they spend 37% of work for harvesting and 9% for silvicultural works, while the majority of work, i.e. 54%, is consecrated to inspections and monitoring (Figure 2).

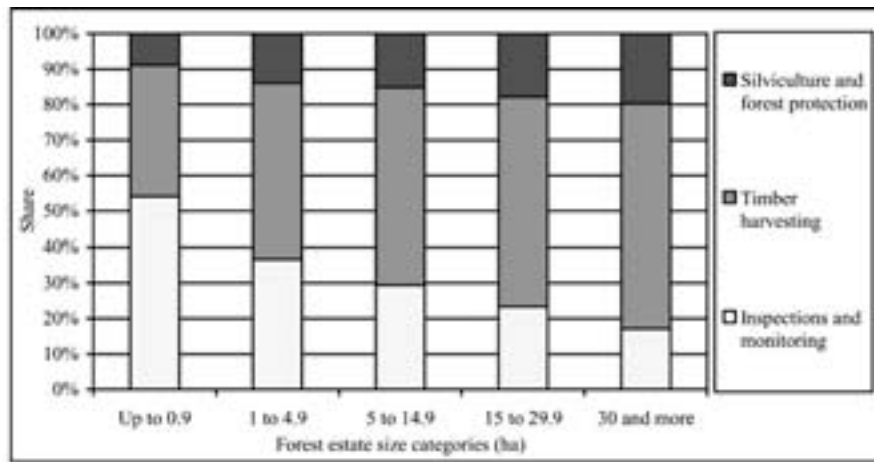


Figure 2.—Structure of the time spent for forest management .

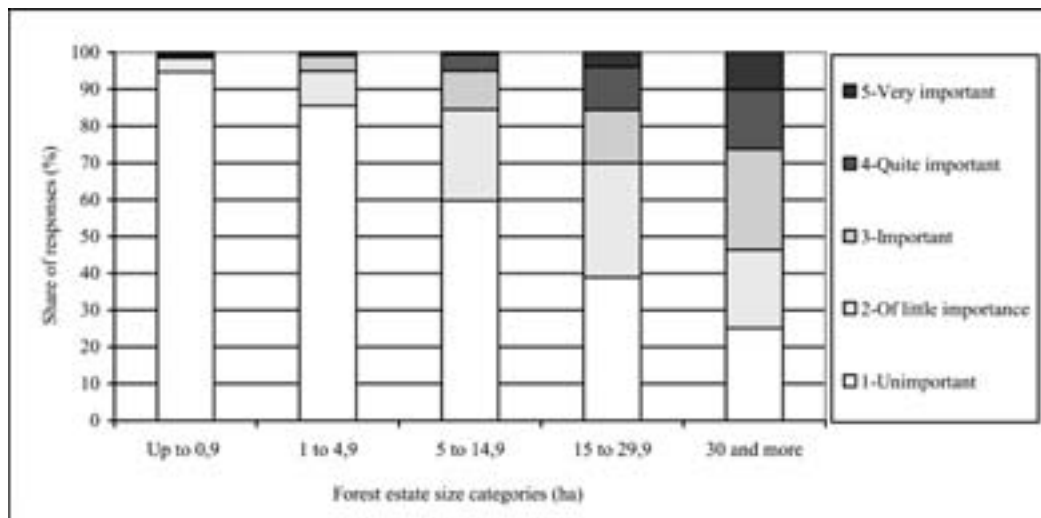


Figure 3.—The assessment of forest's significance for employment opportunities related to works in forests.

The degree of importance of various forest owners' objectives in forest management was during the inquiry and interviewing determined by means of the five-level Likert scale. The questioned persons expressed their opinion applying a grade from 1 to 5 (1-unimportant, ... 5-very important). First we analysed the replies to individual questions. For determining differences between size categories we applied various methods of variance determination, non-parameter Kruskal–Wallis test and the test of allocation of frequencies  $\chi^2$ .

Forest owners themselves perform quite a large share of work in their forests. We were interested in how they assess the significance of their forests, in relation to granting opportunities for employment in forest related works. The differences in responses, arranged according to the size categories, were confirmed by all tests, also between category under 1 ha and the category from 1 to 5 ha, where variance is relatively slight, yet statistically characteristic. No less than 99%, in other words 95% of all interviewed, in the first two size categories assess that the forest is unimportant (1) or of little importance (2) with regard to opportunities for additional employment. In other categories

this share drops to 84% (5 to 15 ha), to 70% (15 to 30 ha) and to 46% in the largest category of estates over 30 ha. Only 10% of largest owners assess that the forest is very important because of its offering opportunity for additional employment. If we take into consideration the low rate of their annual amount of work (on average 248 hours for timber harvesting—see Table 2) the owners' reply makes sense because this represents only a month and a half within an annual employment.

Owners ascribe a much greater significance to the wood as raw material for domestic needs and also for sale than to the work in forests.

### Utilization of Wood

We analysed the significance of the wood utilization by posing, similar as in the previous chapter, methodologically equal types of questions. If owners harvest timber in their forests every year we can call this regular yield of wood, whereas in the case they fell trees only every few years we apply the term occasional wood yield. We analysed the significance of regular and occasional yield separately for domestic use and for sale.

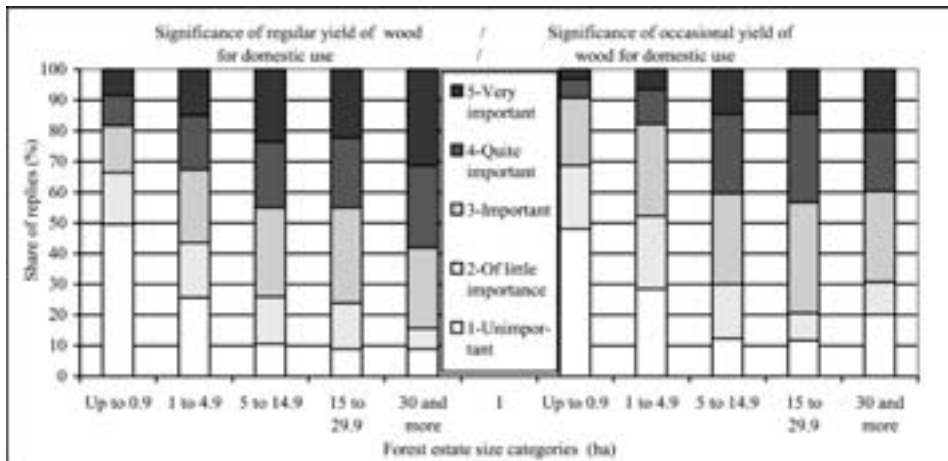


Figure 4.— Significance of regular (annual) and occasional yield of wood for the domestic use

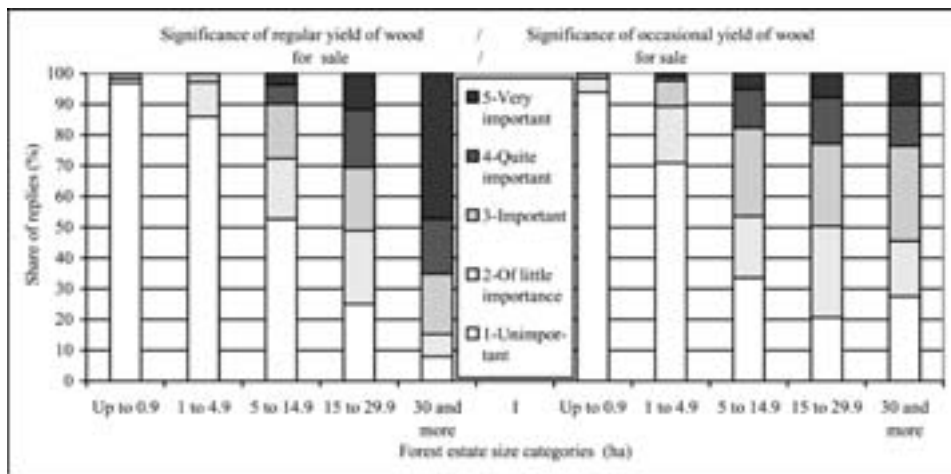


Figure 5.—Significance of regular (annual) and occasional yield of wood for the sale

The estate's size exerts a major influence on differences occurring among answers related to the significance of the wood utilization. The significance of wood intended for domestic use characteristically differs in both smallest categories. No less than one half of all interviewed in the category below 1 ha replied that the regular yield for the domestic use is unimportant, while only one third believed that they were either important or very important. Already in the next category, i.e., from 1– 4.9 ha, only one quarter of interviewees answered that it is unimportant and already 56% believed that regular yields of wood were either important or very important. The considered importance of wood in categories above 5 ha was not so evident as in smaller categories. The difference between the third and fourth forest size category appeared uncharacteristic, since owners of 5–30 ha granted to this economic objective the equal degree of significance. Among all respondents the owners of the largest estates attributed to the domestic use of wood the greatest significance.

Owners ascribe greater significance to regular, annual wood yield for the domestic use than to occasional one (Fig. 4); this attitude occurred even in categories up to 5 ha, although they perform the tree cut only occasionally. The occasional yield as well appeared less important to smaller owners than to larger

ones. The significance of occasional yields of wood did not offer any characteristic differences among categories over 5 ha. More detailed analysis demonstrated that 45% of all respondents answered to question related to occasional and regular yields presenting the same replies.

The significance of occasional and regular yields of wood increases proportionally with the estate's size and was in category over 5 ha accorded equal importance. In regular annual wood yield for the domestic use we range primarily fuelwood that is each year needed for heating. In occasional wood yield for domestic use we range mostly the wood for other needs (reconstruction of premises, construction of residential houses, erecting fences, setting up vineyards, ...)

Forest owners do not use all their wood at home—they also sell it. To some of them the revenues from the sold timber represent regular and urgently needed financial inflows into annual household budgets, while to others they serve merely as an additional income. In view of that differed also the answers on the significance of regular (annual) and occasional yields of wood for the sale. Numerous smaller forest owners even refrain from selling the timber altogether due to their own domestic needs for wood.

For proprietors owning up to 5 ha of forests the regular yield of wood for the sale were mostly unimportant or of little importance and only 2% of them considered them important. Despite relatively numerous similarities of responses in both smallest categories, where by means of the variance analysis we did not detect any differences (Scheffe, LSD), the comparison of the structure of replies ( $\chi^2$  test) revealed the statistically characteristic differences. The same result yielded also the Kruskal—Wallis test, which carried out the variance analysis by ranged values. Within the next three size categories, however, there emerged substantial differences. In the category 5–14.9 ha no less than 72% of interviewees still replied that the economic objective was as far as they were concerned of little importance or unimportant. In the next category (15–29.9 ha) such answers still reached 49%, whereas in the largest they dropped to 15%. Two thirds of respondents in the largest category, however, considered this economic objective quite important or very important.

Substantially greater significance to occasional wood yield for the sale compared to regular one was ascribed by owners in the category 5–14.9 ha. The occasional yield was of slightly larger significance also for owners in the category 1– 4.9 ha, whereas in both largest categories these yields turned to be less important than regular ones. Yet proprietors ranged in the smallest category considered neither regular nor occasional yields as an important economic objective.

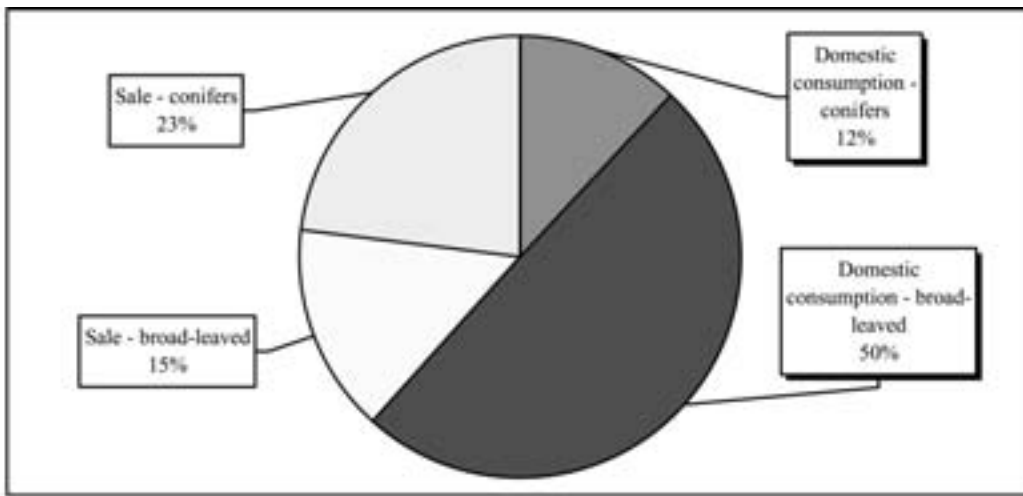


Figure 6.—Structure of domestic utilization and sale of wood according to tree type

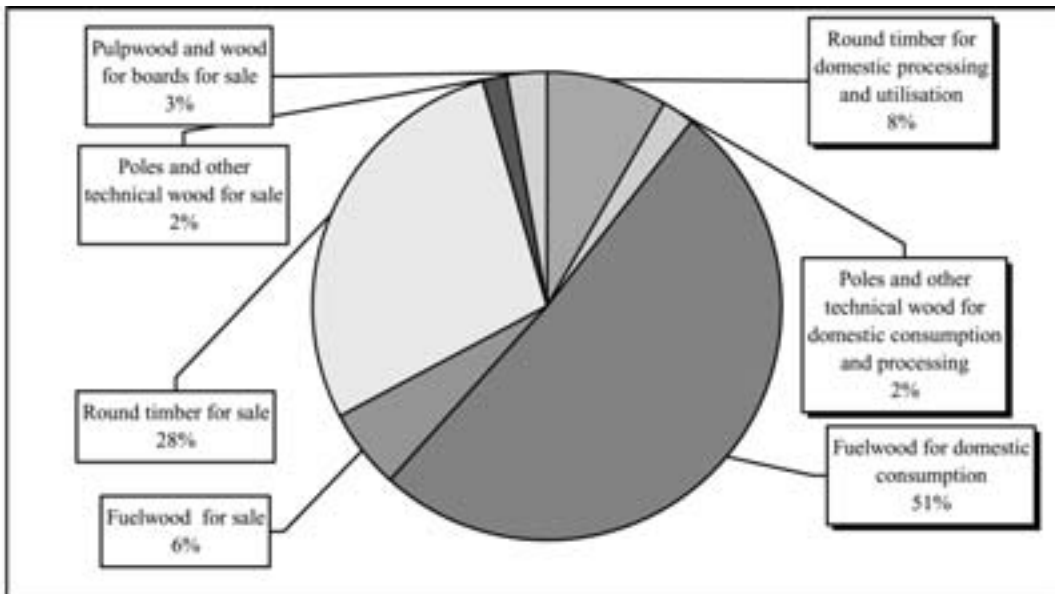


Figure 7.—Structure of domestic utilization and sale of wood (both conifers and broad-leaved trees) according to principal assortments

We may draw the conclusion that occasional yield has characteristically different and rising significance up to the estate category 5 ha, while in all three categories over 5 ha the owners exhibited a fairly similar attitude towards this economic objective. Although in the domestic utilization of wood the difference between the regular and occasional yields proved to be relatively negligible, the declared importance of the wood sale indicated that regular wood related revenues were substantially more significant than just occasional ones.

The reason why the domestic utilization of wood was considered so important may be also explicated by the data on the assortment structure of cut wood on family farms.

#### Assortment Structure of Wood Utilization on Family Farms

The data is based upon the tree cut conducted on family farms in the period from 1 June 1999 to 13 May 2000 (Agricultural Census, SURS 2000). Out of approx. 1.3 million m<sup>3</sup> of cut trees

65% were broad-leaved, out of which 15% were intended for the sale. Out of almost twice-lower cut of conifers (35%), however, the majority of timber was sold (23%).

Assortment structure demonstrates that over one half of the wood on family farms is consumed for energy purposes, while one tenth of all wood is used for further processing and utilization at home. Round timber (28%) and fuelwood (6%) are mostly sold. Remaining wood intended for the market represents the celluloid (3%), poles and other technical wood (2%).

We compared the structure of domestic utilization provided by the census of farm estates in 2000 with results of the inquiry conducted among forest owners in 1995. We processed these data once again, namely for all types of rural households separated from non-farmers. Doing this we analysed also the structure of consumption of wood for domestic needs—separately for fuelwood and for other needs as well as for the sale.

Differences in the structure of wood consumed by farms (uninterrupted lines) were in both studies minimal. Although trends in the structure of wood consumption in non-farming households were similar, variances pointed out indicate that the socio-economic status of

household exerted a significant impact also on the structure of utilization and sale of wood. Nevertheless in all cases the size of the estate proved to be of the decisive importance.

## DISCUSSION AND SUMMARY

Property structure of private forests is due to the established practice of distribution of inheritance in Slovenia constantly deteriorating. After 1991, the denationalization process further contributed to this aggravation. The number of forest proprietors is on the rise and simultaneously also the total number of all owners is due to the increase of land distribution. Within the last 30 years we have witnessed the biggest rise in the number of smaller estates with an area of up to 1 ha, which in total structure exceeds six-tenths of the entire area. Despite the fact that these estates are in their total area of a relatively modest size (14% of all private forests), they still represent an important source of self-

supply with wood. Due to denationalization the property structure of larger forest estates has improved, particularly in the category of non-farmers.

Parallel, with the increase in number of owners, conditions for active and well-planned management in the fragmented property structure also deteriorated. It is the owner's needs that dictate, especially in categories up to 5 ha, exceptionally large needs for wood of broad-leaved trees for domestic use. More than one half of the wood on family farms is consumed for energy purposes. The sale of wood, particularly the regular one, is by those owning up to 5 ha of forests considered unimportant. Proportionally to the increase in estate's size rises the share of conifers in the structure of tree cut and simultaneously grows also the share of wood intended for sale.

In general, owners still carry out a fair amount of the work in their forest on their own. The time of the occurrence of the severest accidents in private forest (one third in the afternoon and on third during weekends) indicates that the major part of tree felling is conducted in time periods, when owners and their assistants work on their own and concurrently reveals also the real picture of owners' social status—the predominance of non-farmers. Because of the limited amount of work on smaller estates, their owners tend to be less rational in performing their tasks and spend twice as much time for timber harvesting than owners of largest holdings. In order to make the work on smaller estates more rational and to optimise it, particularly the transport of wood, their owners decide for the tree felling only occasionally—every few years. Due to the lack of capability to perform the work (aging, fall in rural population) one may, in private forests, notice an increased need for hiring from the service sector. Since such services tend to be less appealing for the smaller property structure (tree cut of only few m<sup>3</sup> per annum), their share is much greater among proprietors who own larger holdings. For that reason a large portion of services in private forests are still carried out as neighbor assistance.

Forest owners use their working equipment for a very long time, until it is worn out or is at least partly amortized. Investing into the purchase of technologically advanced, modern equipment is economically risky, yet due to the need for independence and especially because of the seasonal concentration of work in forests this frequently proves to be a necessity.

The property structure, determined by the size and the socio-economic category, has also consequences for forest economy in general (MEDVED 2000, VON INA 1997). The detailed analysis of data for two forest management units demonstrated that the growing stock in forests increases proportionally with the estate's size, which is a consequence of the owners' permanent need for wood in the form of fuelwood. The realization of the allowed tree cut is higher in case of smaller size categories. The largest amount of actual annual cut is accomplished on part-time farms (100%), while the smallest is realized in forests owned by non-farming households (83%), which are economically the least dependant on the forest related revenues. The farming holdings with their 92% of annual cut realization prove that for the farmer the forest still represents an important source for raw material and a financial reserve. We attained similar findings also by comparing data from some forest management units, which have a predominance of private forests. In units with the largest forest estate the growing stock is as a rule generally higher. Of course the estate's size is not the only factor, which influences the forests' conditions, yet it is a fact that already for decades the forest management proves to be, due to energy needs, more intensive on smaller estates. The fragmentation of forest property exerts a major impact on forest management. The socio-economic status and needs for wood additionally dictate the structure of wood utilisation.

The work in the forests remains in the domain of owners. Yet, we may also notice the increase in the number of entrepreneurs, who are providing forestry services. In order to attain superior results both owners and entrepreneurs should get more organized, connected, and united in vocational and local associations. Nevertheless, this alone will not solve the problem of further fragmentation of private forest estates. This issue should be resolved not only on the local level, but moreover on the state level by means of adequate policy in the domain of inheritance distribution (of forestland), taxation, environment, agriculture and forestry.

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## AUTHOR

Mirko Medved, Ph.D.  
Head of Department  
Department of Forest Technique and Economics  
Slovenian Forestry Institute  
Vecna pot 2  
1000 Ljubljana  
Slovenia  
Ph: (+386)1-200-7814; Fax: (+386)1-257-3589