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Importance of non-wood forest product collection and use for inhabitants in the Czech Republic

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ABSTRACT: The article investigates the socio-economic importance of collection and use of non-wood forest products (NWFP) for inhabitants in the Czech Republic (CR) in 2005 and brings a comparison with former investigations and research projects. The research project consisted of these parts in 2005: 1. Analysis of hitherto performed research projects and their results in 1999–2003, 2. Investigation of quantities and values of NWFP collected in 2004 and 2005, 3. Specific investigation of socio-economic importance of NWFP collection and use. The results of respective investigations prove NWFP collection being quite important for the inhabitants of the CR. The importance consists in the material value of picked commodities on the average annual level higher than 3,000 mil. CZK. Nevertheless, collecting NWFP is considered as a very important recreational activity. Only a small part of the population collecting NWFP (about 12%) collects NWFP to save money.

Keywords: non-wood forest products; collection; socio-economic importance; Czech Republic

The importance of the collection and use of non-wood forest products (NWFP) for inhabitants in the Czech Republic (CR) has been systematically investigated in the framework of several research projects every year since 1994. Nevertheless, the structure of research projects in individual years, quantity and quality of collected and processed data were influenced by the fluctuating amounts of financial means released for the research projects by different grant agencies, including the Ministry of Agriculture of the Czech Republic.

Before the investigations started, there was no rational knowledge (based on figures) of the amounts and importance of NWFP for people in the CR. Therefore, the main goals of investigation were as follows:

– better insight into the resource situation and the present utilisation status of major NWFP;
– awareness of the importance of NWFP production, collection and use for inhabitants in the CR and for rural development;
– recommendations and measures for policy and decision-making, for research and institutional spheres.

During the period of investigations (1994–2005), various methods were used in individual projects and years. Nevertheless, all the projects put through the integral idea, philosophy and theory of the problem, and were performed by only one institution, the Department of Forestry Economics and Administration of the Faculty of Forestry and Environment, Czech University of Agriculture in Prague.

The following important methods were used for data collection in 1994–2004, for more details see Šišák (2005):

(a) *Background research* consisting of the analysis (information retrieval) of relevant written materials and publications related to the issue.
(b) *Personal interviews* with Czech Republic residents using questionnaires about forest visits and NWFP collection (representative samples of the CR inhabitants, quota selection).

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(c) *A survey of foresters* from forest districts of the Forests of the Czech Republic, State Enterprise.
(e) Analysis of data dealing especially with bilberry (*Vaccinium myrtillus* L.) and cowberry (*Vaccinium vitis-idaea*), using mainly forest management plans.

The following main kinds of NWFP were included into the surveyed NWFP set: mushrooms without species specification, bilberry (*Vaccinium myrtillus* L.), raspberry (*Rubus idaeus* L.), blackberry (*Rubus fruticossus* L.), elderberry (*Sambucus nigra* L.) and cowberry (*Vaccinium vitis-idaea* L.).

METHODOLOGY OF INVESTIGATIONS IN 2005

The recent research project aimed at the importance of non-wood forest product collection and use for inhabitants in the CR consisted of three parts in 2005.

(1) Analysis of hitherto performed research projects and their results in 1998–2003 (Šišák 2005)

(a) Proportion of household consumption and/or sale of collected NWFP based on figures from a questionnaire survey of a representative sample of the CR inhabitants (households) in 1998 (Šišák 1998). The research was performed in collaboration with the Institute for Public Opinion Research (IPOR). A selection plan for 1,200 questionnaires (the inquired) was composed according to the quota selection. The set of respondents was structured according to the main demographic features of the total population (sex, age distribution, level of education, profession, size of residence and number of inhabitants in individual districts and regions) – so called quota selection. Personal interviews were performed by professional inquirers in the framework of the inquiry network of IPOR. 1,028 filled questionnaires out of 1,200 returned for further processing, the response rate was 85.7%.
(b) Amounts (in kg) and values (CZK) of picked NWFP per unit (ha) of forest land in the period 1999–2003. Average annual figures were derived in the framework of the CR for using them in intended fees for deforestation or destruction of forests.

(2) Investigation on quantities and values of NWFP collected in 2004 and 2005

(a) Elaboration of the results of questionnaire investigation on quantities and values of NWFP collected in 2004, and comparison with previous data from 1994–2003. Personal interviews in 2004 with residents of the CR using questionnaires in representative samples of inhabitants of the CR (quota selection). The survey was performed in close collaboration with AMAZIA, Ltd. (institute engaged in public opinion research) within its continual surveys. Results on quantities of NWFP collected in 2004 were compared with previous data obtained by research in 1994–2003.
(b) Questionnaire investigation on quantities and values of NWFP collected in 2005. Personal interviews in 2005 with residents of the CR using questionnaires in the same way as mentioned above. The survey was performed in collaboration with AMAZIA, Ltd. within continual surveys in November 2005. A selection plan for 1,100 questionnaires (the inquired) was composed according to the quota selection. 1,058 filled questionnaires out of 1,100 returned for further processing, the response rate was 96%. The processing of results from 2005 still continues.

(3) Specific investigation of socio-economic importance of NWFP collection and use

The investigation based on personal face-to-face interviews in random samples of respondents in chosen areas of the CR, using questionnaires, was performed in 2005, and divided into two basic parts (Havlíková 2006).

(a) Survey focused on households in CR, performed by instructed students of the Faculty of Forestry and Environment Czech University of Agriculture in Prague. Total number of addressed respondents reached 204. The structure of questions was as follows:
- Which listed forest products do you collect, and in what amount annually: mushrooms, berries, medicinal plants (dried), fuelwood?
- How much of the listed forest products do you sell in the market: mushrooms, berries?
- Why do you collect forest products, what is the amount of forest products you sell, what is the income?
- How many hours do you spend gathering the forest products per year (average year)?
- How much does the collection of forest products cost your household annually?
- What is the distance between the forest you collect NWFP and your residence?

Respondents were classified by average monthly income per member of the household, number of the household members, sex of the respondent, the size of the place of residence, and region of residence.

(b) Survey focused on individual pickers in Dačice Area, residents of the Area in South-Eastern Bohemia. The survey was done directly in the forest (forest stands, edges or forest meadows), orientated exclusively on the pickers who were collecting the NWFP at the time. Total number of addressed respondents was 140. The structure of questions was as follows:
- How often do you visit forest in an average year?
- Which listed forest products do you collect, and in what amount annually (average year): mushrooms, berries, medicinal plants (dried), fuelwood?
- How much of the listed forest products do you sell in the market: mushrooms, berries? What is the income?
- Why do you collect forest products?
- How many hours do you spend gathering the forest products per year (average year)?
- How much does the collection of forest products cost your household annually? The distance between the respective forest and residence?

Respondents were classified according to age, education, profession, average monthly income per member of the respective household, number of the household members, sex of the respondent, the size of the place of residence, and region of residence.

Dačice Area forms an eastern part of Jindřichův Hradec District, which falls within the South Bohemian Region. The Area of the town of Dačice has generally been viewed in the long term as an agricultural area with developed forestry. Geographically the Area is surrounded by Českomoravská vrchovina (the Bohemian-Moravian Uplands) in the west and north and it is surrounded by the Pannonian plateau in the east. Major part of the region's southern borderline is formed by the frontier with Austria. The town of Dačice with 8 thousand inhabitants forms the centre of the Area, which has one of the lowest population densities in the CR, amounting to about 60 inhabitants per km^2. The registered unemployment rate was 7% at the end of the year 2003. The region's GDP per inhabitant amounts to 89% of the national average in the CR.

The forest land covers more than one third of the region. Major part of the area is situated at the altitude of 400–600 m above sea level. The area of the region has always had a recreational rather than an industrial character. Regarding the environment, the region has suffered quite low environmental damage. There is a very low load of pollutants, and the level of emissions is gradually decreasing. Eighty-five per cent of forests are classified as not damaged at all and the remaining part as slightly damaged. A good indicator is the quite clean atmosphere the quality of which is one of the best in the CR. All the above-mentioned aspects indicate that the Area has very good conditions for production and collection of NWFP (above the average of the CR).

RESULTS

1a) Proportion of collected NWFP consumed directly by the pickers and their households

The acquired data (Šišák 1998) proved that the proportion of households consuming prevailing amounts of collected NWFP was very high. 62% of the answering respondents consumed all or nearly all, i.e. 90–100%, of gathered NWFP. More than 25% of respondents used a significant portion of the harvested NWFP, i.e. 70–90%. Only 3.6% consumed a smaller portion of the harvested crops, i.e. up to 50%. The rest of collected NWFP is sold or mostly given free of charge to relatives, friends, etc. (Table 1).

The proportion of the sale of collected NWFP was surprisingly low according to the answers of respondents. The respondents' objectiveness in this question is rather doubtful. Under the Forest Act

Table 1. Share of collected NWFP consumed directly by the pickers and their households in the CR

	No response	Up to 50%	Up to 70%	Up to 90%	Over 90%	Number of resp.
Frequencies	362	24	57	169	416	1,028
Frequencies %	35.21	2.33	5.54	16.44	40.47	

Table 2. Share of sale of collected NWFP in the CR

	No response	Up to 25%	Up to 50%	Up to 75%	Over 75%	Number of resp.
Frequencies	1,007	8	1	5	7	1,028
Frequencies %	97.96	0.78	0.10	0.49	0.68	

Table 3. Amount of main collected NWFP in the CR in kg/ha of forestland (1999–2003)

NWFP	kg/ha
Mushrooms (total forestland)	8.2
Bilberries and cowberries (area of the cover)	50.7
Raspberries (area of the cover)	44.0
Blackberries (area of the cover)	44.7
Elderberries (area of the cover)	32.8
All the commodities on bilberry and cranberry forestland	62.0
All the commodities (total forestland)	15.6
Commodities apart from bilberries and cowberries cover	12.4

(289/1995) the harvest of the above-mentioned commodities is allowed only for personal use, however these products are commonly bought and sold, even in the public market places.

Out of the whole set of respondents (1,028) only 2% answered they sold the product they harvested. Out of them 1/3 households sold more than 75% of harvested commodities, on the other hand 38% sold a significantly less – up to 25% of harvested quantity (Table 2).

The data can be compared with the results of specific investigation of socio-economic importance of NWFP collection and use in 2005.

1b) Amounts and values of collected NWFP in the CR in kg/ha of forestland (1999–2003)

Average annual amounts of collected main NWFP in the CR in kg/ha of forestland in the period of 1999–2003 are presented in Table 3 according to individual commodities or sets of commodities covering the respective areas of forestland.

There are considerable differences in the intensity of NWFP collection per unit area between the regions in the CR. The differences are probably caused by the percentage of forest cover in the respective regions, number of households per unit forestland, and fertility of the forest for the forest crops. NWFP collection intensity in regions is also substantially influenced by Prague citizens. Therefore, considerably higher amounts of NWFP were collected in Central Bohemia Region (surrounding the Capital of Prague) – on average more than twice higher – compared to other regions.

Average socio-economic values of NWFP collection, i.e. values of non-market forest production service (forest externality value), in CZK/ha in the period 1999–2003 are presented in Table 4 according to the respective commodities. Values are differentiated into average annual and capitalised ones using a 2% interest rate.

The values in Table 4 are derived from the volume of collected NWFP in shadow current market prices in 1999–2003. In the Central Bohemian Region, the values are twice higher compared to the average values in the CR (presented in Table 4). The socio-economic value is calculated both as the annual value and as the capitalised value using a 2% interest rate. Apart from the informative value the data in Table 4 has been intended to be employed as a part of fees for deforestation or compensation for destruction of forests (destruction of the respective forest service) in the CR.

It is possible to compare the presented values with average incomes from timber market sales in 1999–2003 that reached the level of 7,797 CZK/ha of forest land, the capitalised value equalled 389,850 CZK/ha with average timber cut 5.5 m^3/ha

Table 4. Mean socio-economic value of NWFP production service in CZK/ha (1999–2003)

NWFP	Yearly	Total
Mushrooms (total forestland)	775	38,750
Bilberries and cowberries (area of the cover)	3,956	197,800
Raspberries (area of the cover)	3,170	158,500
Blackberries (area of the cover)	3,379	168,950
Elderberries (area of the cover)	1,656	82,800
All the commodities on bilberry and cranberry forestland	4,944	247,200
All the commodities (total forestland)	1,315	65,750
Commodities apart from bilberries and cowberries cover	987	49,350

Table 5. Amount of collected main non-wood forest products in the Czech Republic (kg/household) in 1994–2004

Years	NWFP						Total
	Mushrooms	Bilberries	Raspberries	Blackberries	Cowberries	Elderberries	
1994	6.15	2.95	1.11	0.70	0.17	1.03	12.11
1995	7.76	3.90	1.52	0.74	0.34	1.00	15.26
1996	4.79	2.47	0.82	0.46	0.19	0.39	9.12
1997	4.66	2.28	1.04	0.43	0.25	0.57	9.23
1998	4.63	2.69	1.28	0.61	0.16	0.68	10.05
1999	5.28	3.39	0.92	0.61	0.31	0.83	11.34
2000	6.21	2.27	1.06	0.70	0.19	0.46	10.89
2001	6.11	2.32	0.96	0.61	0.19	0.37	10.56
2002	5.55	2.84	0.94	0.56	0.24	0.55	10.68
2003	3.52	1.70	0.68	0.52	0.09	0.37	6.88
2004	4.30	1.91	0.67	0.47	0.57	0.43	8.35
Average	5.36	2.61	1.00	0.58	0.25	0.61	10.41

Table 6. Total amount of collected NWFP in the CR (mil. kg) in 1994–2004

Years	NWFP						Total
	Mushrooms	Bilberries	Raspberries	Blackberries	Cowberries	Elderberries	
1994	23.6	11.3	4.2	2.7	0.7	3.9	46.4
1995	29.7	15.0	5.8	2.8	1.3	3.9	58.5
1996	18.4	9.4	3.1	1.8	0.7	1.5	34.9
1997	17.8	8.7	4.0	1.7	0.9	2.2	35.3
1998	17.7	10.3	4.9	2.3	0.6	2.6	38.4
1999	20.2	13.0	3.5	2.3	1.2	3.2	43.4
2000	23.8	8.7	4.1	2.7	0.7	1.8	41.8
2001	23.4	8.9	3.7	2.3	0.7	1.4	40.4
2002	21.2	10.9	3.6	2.1	0.9	2.1	40.8
2003	13.5	6.5	2.6	2.0	0.4	1.4	26.4
2004	13.7	6.1	2.1	1.5	1.8	1.4	26.6
Average	20.3	9.9	4.0	2.2	0.9	2.3	39.6

Table 7. Amount of collected NWFP (mil. CZK) in 1994–2004

Years	NWFP						Total
	Mushrooms	Bilberries	Raspberries	Blackberries	Cowberries	Elderberries	
1994	1,314	881	180	161	22	140	2,698
1995	1,658	1,164	248	169	43	137	3,419
1996	1,082	456	173	129	42	113	1,995
1997	1,510	585	202	96	72	95	2,560
1998	1,578	727	260	138	51	118	2,872
1999	1,880	973	197	144	105	149	3,448
2000	2,087	628	290	218	66	72	3,361
2001	2,298	710	294	176	65	93	3,636
2002	1,922	821	261	162	89	111	3,366
2003	1,399	562	218	170	36	80	2,465
2004	1,420	538	198	138	194	102	2,590
Average	1,650	731	229	155	71	110	2,946

(Šišák 2005). It can be said that the value of NWFP collection reaches 16.9% of the incomes from timber sale in the CR. Nevertheless, in forest stands with blueberries and cowberries cover, the proportion is 63.4%, and even in timber production conditions worse than the average in the CR. Therefore, many localities with bilberries and cowberries cover are more important for the society from the point of NWFP production and collection value than the market value of timber production.

2a) Quantities and values of NWFP in 1994–2004

Free collection of NWFP is allowed on the area of 2.475 mil. ha (forest area accessible to the public – i.e. except the military forests and strongly protected natural preserves) out of the total area 2.630 mil. ha of forest land (or 2.580 mil. ha of forest stand areas).

It comes from hitherto investigations that bilberries cover 194 thousand ha of total forest land in the CR (8%), raspberries cover 79.5 thousand ha, blackberries 51.5 thousand ha, elderberries 61 thousand ha and cowberries 11 thousand ha in forests accessible to the public. The data were obtained from forest management plans and by questionnaire surveys in 1994; data that is more recent is not available. Research results from investigations in 1994–2003 and 2004 are presented in Tables 5–7.

2b) Questionnaire survey on quantities and values of NWFP collected in 2005

The first data from the survey are presented in Tables 8–11. The data will be used as input data and further processed to acquire the information about amounts and values of collected NWFP by the inhabitants of the CR in 2005.

The amount of NWFP collection was derived using the above presented data on the NWFP collection level according to the respective sets of households and the number of households in the CR taken from official statistical data (Statistical Yearbook of the Czech Republic 2003), the number of household amounts to 3.185 mil.

3a) Specific investigation of socio-economic importance of NWFP collection and use focused on households in the CR

According to data obtained from the survey (Havlíková 2006), the main reason for NWFP collection was the consumption of NWFP in respective households – 47% of respondents, followed by recreation and relaxation – 41% of respondents. The reason for saving money (or increasing the family income) was given by only 12% in the set of respondents. The high number of respondents who stated household consumption as the most important reason for NWFP gathering is understandable. The quality of wild berries and mushrooms is higher than that of those bought in the market. The high number of respondents gathering NWFP for recreation and relaxation purposes is quite surprising. It could be influenced by the increasing number of people working indoor and by the fairly fast growing economy of the CR. The proportion of people collecting NWFP for saving money should not be ignored either. We suppose that it connected with the respondents' weak position in the social sphere.

Table 8. Forest frequentation (%) in the CR in 2005

Category	Frequencies (%)
No visits	10
Very rarely (1–2 per year)	37
Rarely (once a month)	33
Often (once a week)	13
Frequently (2–3 per week)	7
Number of visits per 1 inhabitant	20.4
Number o visits per 1 ha of forestland accessible to public	85.9

Table 9. Amount of mainly collected NWFP in 2005

Items	Mushr.	Bilb.	Raspb.	Blackb.	Cowb.	Elderb.
Number of households picking the item	760	505	342	255	94	113
Average (kg) of the set (1,058)	6.12	2.39	0.80	0.41	0.25	0.42

Table 10. Market prices of NWFP in CZK/kg in 2005

Commodities	Average	Number of answers
Mushrooms	105.02	552
Bilberries	88.10	613
Raspberries	94.79	386
Blackberries	96.53	229
Cowberries	106.83	183
Elderberries	77.45	153

Mushrooms were collected by 90%, bilberries by 70%, raspberries by 43%, bilberries by 35%, cowberries by 12% and elderberries by 40% of respondent households. The figures are higher than data from previous investigations (Šišák et al. 1997; Šišák 2000). The number of households that sell the commodities is very low – 1.5%. The figure fully corresponds with former investigations (Šišák et al. 1997; Šišák 2000). The low number of households selling the products supports the significant importance of household consumption and relaxation/recreation functions of collecting NWFP. The households selling the commodities sell on average 60% of the total amount of collected products and earn on average 3,000 CZK per year.

Relationships between average income per household member and amount of collected NWFP is presented in Fig. 1. Average monthly income per household member in the CR was divided into 4 categories for the purpose:

1. < 6,000 CZK/household member in CR
2. 6,000–10,000 CZK/household member in CR
3. 10,000–14,000 CZK/household member in CR
4. > 14,000 CZK/household member in CR.

The total amount of collected NWFP slightly decreases as the average monthly household income increases, nevertheless, the correlation coefficient for the total amount of collected NWFP and the category

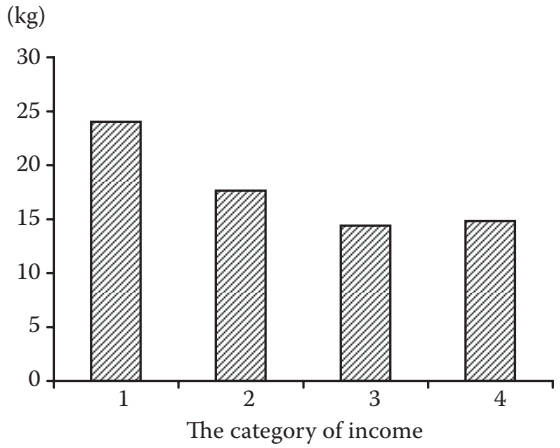

Fig. 1. Correlation between income of households and total amount of collected NWFP/household

Table 11. Amount of collected NWFP in the CR in 2005

Commodities	mil. kg	mil. CZK
Mushrooms	19.5	2.048
Bilberries	7.6	0.670
Raspberries	2.6	0.246
Blackberries	1.3	0.125
Cowberries	0.8	0.194
Elderberries	1.3	0.085
Total	33.1	3.368

of average monthly income per household member in the CR data sets is very low (equal to –0.10). Therefore, it can be said that there is not a significant relationship between the amount of collected NWFP and the average income of the households.

3b) Specific investigation of socio-economic importance of NWFP collection and use focused on individual pickers in Dačice Area

Data on the main reasons for NWFP collection prove the results in 3a). The main reason for NWFP collection is direct consumption (47% of respondents) while the importance of recreation and relaxation was stressed by 40% of respondents. A small proportion of people pick NWFP to save money (13%). The percentage of respondents collecting particular NWFP is also close to research results in 3a). Mushrooms were collected by more than 90% of respondents, bilberries by almost 61%, raspberries by 43%, bilberries by 23%, cowberries by 2% (sparsely available in the area), elderberries by14%, medicinal plants by almost 22%, and timber – i.e. fuelwood – by 28%.

No respondent sells NWFP, which proves the result of former investigations on the extremely low proportion of pickers selling NWFP in the whole CR. Nevertheless, the 0 percentage is surprising. Probably it was influenced by interviewing pickers face-to-face right in the forest (the law does not generally allow to sell NWFP collected free of charge).

Similarly to the research performed in the framework of the total CR, we did not ascertain any close relationship between the average income per household member and the amount of NWFP collected. The same can be said about the amounts of fuelwood collected free in forests.

CONCLUSIONS

The results of the investigations prove that NWFP collection is quite important for the inhabitants of

the CR. The importance lies in the material value of picked commodities on the average annual level higher than 3,000 mil. CZK, which is a high value compared to the average annual value of timber production sold in the market, which reaches 19,000 mil. CZK. The value is in fact even higher as only several collected commodities were included into the respective investigations (mushrooms and five major berries). The value is further increased by collecting such commodities that have not been yet embraced in a reliable way into investigations like medicinal plants and ornamental plants.

Even if we observe a slightly decreasing trend of collected amounts of NWFP by households with an increase in the average monthly household income, the research did not prove any statistically significant relationship between the two aspects. The correlation coefficient for the total amount of collected NWFP and the category of average monthly income per household member in the CR data sets reached a very low level (equal to –0.10). Therefore, it can be said that there is not a significant relationship between the amount of collected NWFP and the average income of the households.

Nevertheless, collecting NWFP is considered as a very important recreational activity. Only a small part of the population collecting NWFP (about 12%) collect NWFP to save money, and even a lower proportion of the population sell NWFP in the market to increase their income (about 1.5% of those who pick NWFP).

The data acquired by these investigations should be incorporated into periodic information systems as they can positively contribute to:

– a more comprehensive concept of forests and forestry (multiple-use forestry) than the hitherto ones;
– strengthening of the public consciousness about the importance of forests in the society, especially in rural areas;
– formation of policies by the state administration;
– forest administration and management in a more comprehensive view;
– decision-making on silvicultural systems, composition of tree species, age structure, spatial arrangement of forest stands and their density;
– endeavour for sustainable development of forestry;
– calculations of economic and social effectiveness of costs in forestry;
– valuation of economic and social importance of forests;
– a more comprehensive expression of losses caused by deforestation or by the damaging of forests.

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Význam produkce a sběru nedřevních produktů lesa pro obyvatele České republiky

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ABSTRAKT: Příspěvek se zabývá výzkumnými šetřeními sociálně-ekonomické významnosti sběru a využívání nedřevní produkce lesa pro obyvatele ČR v roce 2005 ve srovnání s dřívějšími výzkumnými projekty. Výzkumný projekt

v r. 2005 sestával ze tří částí: 1. Analýza dosud realizovaných výzkumných projektů a jejich výsledků v letech 1999 až 2003, 2. Výzkum týkající se množství a hodnot nedřevní produkce lesa sbírané v letech 2004 a 2005 a 3. Specifické výzkumné šetření o sociálně-ekonomickém významu sběru a využití nedřevní produkce lesa obyvateli ČR. Výzkum byl založen na osobním rozhovoru a dotaznících.Výsledky jednotlivých šetření prokázaly relativně velký význam, který sběr lesních plodin v ČR má. Průměrná roční hodnota sbíraných hlavních lesních plodin dosahuje více než 3 mld. Kč. Pouze relativně malá část populace sbírá lesní plodiny z ekonomických důvodů (12 % kvůli úspoře finančních prostředků). Ještě menší podíl domácností sbírajících lesní plodiny jejich část prodává (podle respondentů kolem 1,5 %).

Klíčová slova: nedřevní produkty lesa; sběr; sociálně-ekonomický význam; Česká republika

Příspěvek se zabývá výzkumnými šetřeními sociálně-ekonomické významnosti sběru a využívání nedřevní produkce lesa pro obyvatele ČR v r. 2005 ve srovnání s dřívějšími výzkumnými projekty. Výzkumný projekt v r. 2005 sestával ze tří částí:

1. Analýza dosud realizovaných výzkumných projektů a jejich výsledků v letech 1999–2003
   a) Podíl vlastní spotřeby a prodeje nasbíraných lesních plodin domácnostmi na základě údajů z dotazníkového šetření v reprezentativním souboru respondentů (domácností) v ČR v r. 1998 (Šišák 2000).
   b) Množství a hodnoty sbíraných lesních plodin na jednotku plochy (ha) lesní půdy přístupné veřejnosti v období 1999–2003. Průměrné roční hodnoty byly odvozeny v rámci ČR pro potřeby zjištění části uvažovaného poplatku za odlesnění nebo kompenzace za destrukci lesa.
2. Výzkum týkající se množství a hodnot nedřevní produkce lesa sbírané v letech 2004 a 2005
   a) Zpracování výstupů dotazníkového šetření z r. 2004 do formy konečných výsledků a jejich začlenění do časových řad s předchozími výsledky šetření z let 1994–2003. Byla využita technika osobních rozhovorů na bázi dotazníků v reprezentativním souboru obyvatel ČR, strukturovaném podle základních demografických charakteristik – tzv. kvótní výběr.
   b) Realizace a prvotní zpracování dotazníkového šetření o výši sbíraného množství a hodnotě nedřevní produkce v r. 2005. Osobní rozhovory založené na dotaznících byly realizovány obdobně jako v předchozím případě v reprezentativním souboru obyvatel ČR. Vstupní šetření bylo realizováno agenturou AMAZIA, s. r. o., v rámci jejích kontinuálních průzkumů.
3. Specifické výzkumné šetření o sociálně-ekonomickém významu sběru a využití nedřevní produkce lesa obyvateli ČR.
   Výzkum založený na osobním rozhovoru na základě dotazníků v náhodném souboru obyvatel ČR byl proveden v r. 2005 a členěn na dvě části.
   a) Šetření v náhodně vybraném souboru domácností instruovanými pracovníky a studenty Fakulty lesnické a environmentální České zemědělské univerzity v Praze. Celkový počet dotazovaných byl 204. Soubor respondentů byl tříděn podle průměrného měsíčního příjmu na člena domácnosti respondenta, počtu členů domácnosti, pohlaví respondenta, velikosti místa bydliště, kraje.
   b) Šetření v náhodně vybraném souboru sběračů lesních plodin v oblasti Dačic v jižních Čechách. Dotazníkové šetření bylo provedeno přímo v lese při sběru lesních plodin. Celkový počet respondentů byl 140.

Soubor respondentů byl tříděn podle věku respondenta, vzdělání, povolání, průměrného měsíčního příjmu na člena domácnosti, počtu členů domácnosti, pohlaví, velikosti místa bydliště a kraje.

Výsledky jednotlivých šetření prokázaly relativně velký význam, který sběr lesních plodin v ČR má. Průměrná roční hodnota sbíraných hlavních lesních plodin (houby a pět druhů bobulovin – borůvka, brusinka, malina, ostružina, bezinka) dosahuje více než 3 mld. Kč, což je poměrně vysoká hodnota ve srovnání s průměrnou hodnotou realizovaného dříví v ceně dřeva na pni, která se pohybuje na průměrné roční úrovni 19 mld. Kč. Skutečná hodnota nedřevní produkce sbírané v lese je ještě vyšší, protože do šetření se zatím spolehlivě nepodařilo zařadit sběr léčivých rostlin a dalších, např. dekorativních rostlin a jejich částí.

I když lze pozorovat určitý trend snižujícího se množství sběru lesních plodin s růstem průměrného příjmu na člena domácnosti, je uvedený vztah statisticky nevýznamný (korelační koeficient na úrovni –0,10). To znamená, že na výši sběru lesních plodin domácnostmi nemá průměrná úroveň příjmů domácnosti statisticky významný vliv.

Významnost sběru lesních plodin je zvyšována i tím, že kromě ekonomického aspektu má rovněž významný aspekt rekreační (hlavní účel sběru pro 41 % domácností vedle konzumace nasbírané produkce v domácnostech 47 %). Pouze relativně malá část populace sbírá lesní plodiny z ekonomických důvodů (12 % kvůli úspoře finančních prostředků). Ještě menší podíl domácností sbírajících lesní plodiny jejich část prodává (podle respondentů kolem 1,5 %).

Závěrem lze říci, že šetření obdobného charakteru poskytuje významné informace a mělo by být standardizováno a pravidelně zajištěno finančními prostředky tak, aby mohly být každoročně poskytovány informace o stejné struktuře a kvalitě. Ty by měly být pravidelně publikovány a sloužit především pro:

– komplexnější pojetí lesa a lesního hospodářství než dosud,
– zvýšení úrovně poznání o významu lesů a lesního hospodářství ve společnosti a zejména ve venkovských oblastech,
– tvorbu příslušných odvětvových a regionálních politik jako jeden ze vstupů,
– rozhodování o diferencovaném využívání lesů,
– kalkulace sociálně-ekonomické efektivnosti využívání lesů a lesního hospodářství,
– vyjadřování výše újmy a škody na lesích z jejich poškození.

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