

Diversity in the socio-economic role of the main non-wood forest products for the inhabitants of small villages and large towns in Poland

Anna Barszcz ✉, *Alicja Suder*

Agricultural University, Department of Forest and Wood Utilization, Al. 29 Listopada 46, 31-425 Cracow, Poland, tel. 4812 6625085, e-mail: zulid@ar.krakow.pl,

ABSTRACT

The NWFPs (non-wood forest products) sector is of the crucial importance to the Polish households but its social and economic role is varied and depends on place of residence. For the inhabitants of villages and small towns forests are the place of working and NWFPs sale provides an additional financial resource. City-dwellers do not treat NWFPs as a source of income but rather as an element of recreation and they use these products mainly for their own needs. Some remarks for the developing of this sector in Poland were given in this paper.

KEY WORDS

non-wood forest product, household income, living standard, villages, towns

INTRODUCTION AND AIMS

The traditional connection between man and forest still has great importance. Picking berries, mushrooms and other forest products is one of the oldest customs. What distinguishes NWFPs from agricultural ones is the wild or semi-domesticated mode of production and great part of them can be considered as alternative to agricultural products without any chemical means. Polish forests are open to the society and their non-wood products can be picked without any payment. Also entrance to forests is unrestricted and free of charges. For these reasons forests are very attractive places for recreation and offer an opportunity to support family budgets and current consumption.

The official forest sector usually perceive NWFPs as commodities with marginal economic contribution and their significance in all aspects of forest manage-

ment has been neglected. However during the last decade forest functions other than timber production have gained international importance and recognition (FAO 2002).

In the light of recent investigations the role of NWFPs in society depends on many factors like institutional framework, economic characteristics, demography and forest resources (Jansea and Ottitschb 2005). It is well known that regional and local differences in the importance of non-wood forest products are wide (Šišak 1998, Saastamoinen *at al.* 2000). However most of studies are limited to rural population or focused on comparisons among countries regions without consideration of size of residential village or town. For this reason there is a considerable lack of knowledge about their different meaning for small and great communities and more comprehensive studies are needed.

In order to acquire a better understanding of socio-economic role of NWFPs in the small and great communities in Poland this study aims at:

- determining the size of NWFPs harvest performed by households in small villages and large towns,
- estimating the differentiation of the assortment and use of these products,
- indicating their different economic significance for the inhabitants of small villages and city-dwellers.

MATERIALS AND METHODS

This research followed up with a previous investigation project and publications (Barszcz 2005, 2006). During the autumn 2004 and winter 2004/2005 in the whole area of Poland 600 questionnaires were spread and 442 were returned. The response rate was 73,7%.

The survey consisted of 30 questions which were divided into two groups. All respondents answered questions from 1 to 9 which concerned the basic demographic features (voivodship, size of residential town or village, sex, occupation, living standard of the family) and the main purpose of visiting forest, whereas the rest were addressed only to families which harvest NWFPs.

The obtained set data was divided into 5 groups in accordance with the size of village and town (3 groups of small villages – up to 500, 2000 and 10 000 inhabitants and 2 groups of large towns – up to 100 000, above 100 000 city-dwellers). Number of questionnaires for particular class' ranges is following: 172, 124, 91, 35, 20.

The results, in the form of percentage values characterizing the analysed population, are presented in diagrams. For the purpose of this publication only results showing differences among households of villages and towns were chosen.

In the analysis of each survey question, the number of obtained replies served as the adopted reference level (100%). The mean values referring to the amount of harvested products and influence of harvest on living standards was therefore calculated with relation to the number of households which collect NWFPs. In some questions, the respondents could choose more than one answer; in such cases the sum of shares of groups exceeds 100%.

RESULTS

1. Among persons declared to be family heads more people in small communities worked as foresters or in similar professions (gardener, farmer) whereas in large towns most of them were employed in other professions (Fig. 1).

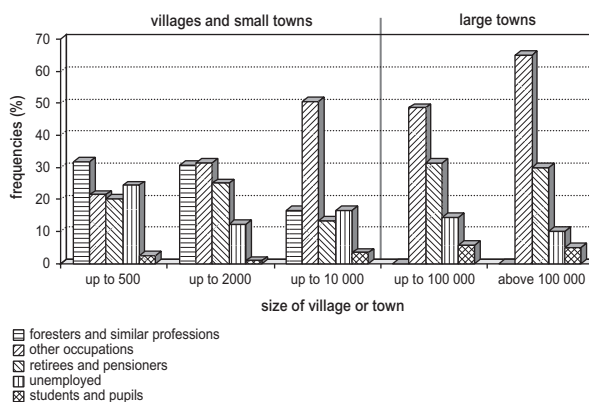


Fig. 1. Occupation of head of family

2. In comparison with city-dwellers, the families living in small villages have better access to forests due to localization of their households near them (up to 5 km) (Fig. 2). Therefore in most cases they do not bear any costs of transport.

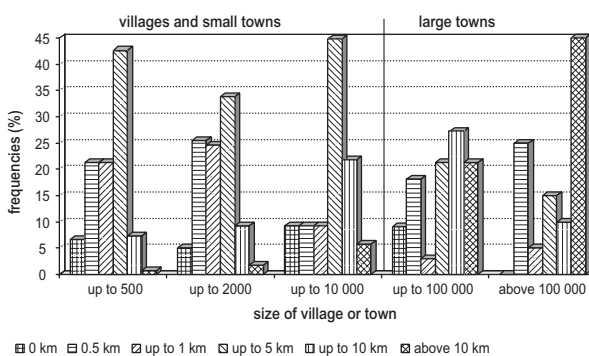


Fig. 2. Distance from the forests

3. As opposed to city-dwellers, a greater number of surveyed households in small villages indicated harvesting of NWFPs as the main purpose of their visit to forest (Fig. 3).
4. In small villages more people take part in NWFPs harvesting (Fig. 4). This may be due to a greater number of family members in comparison with city-dwellers' families.

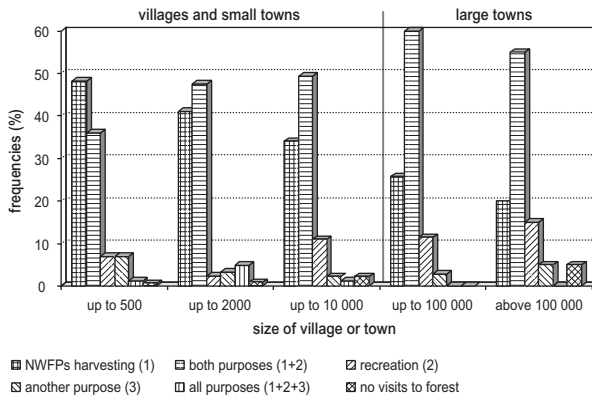


Fig. 3. Purpose of visits to forest

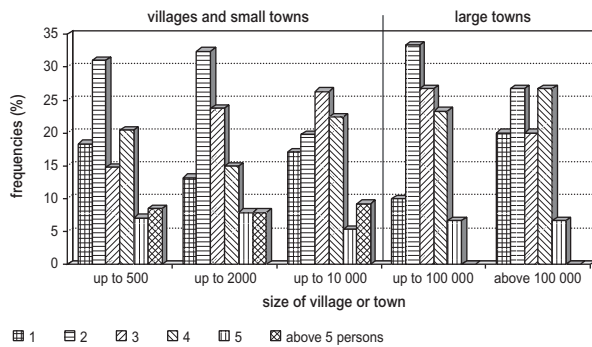


Fig. 4. Number of persons who harvest NWFPs

5. Those who harvest NWFPs are mainly retirees and pensioners or working persons and unemployed (Fig. 5). However in small villages more household members employed in family care take part in collecting (in this question, the respondents could choose more than one answer – that is why the sum of shares of groups exceeds 100%).

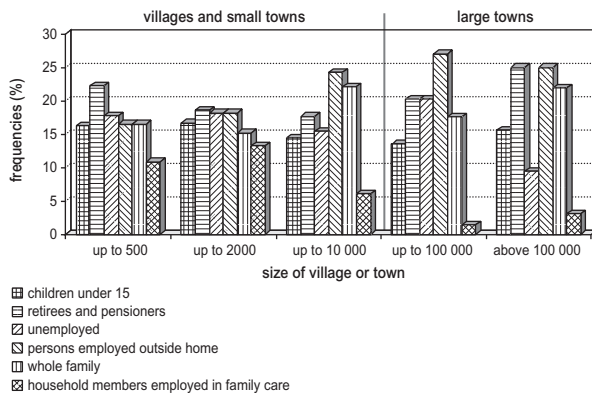


Fig. 5. Structure of persons who harvest NWFPs in a household

6. Most households report that during the last 10 years the size of harvest has not changed (Fig. 6). Fewer families note a decline of its size and the fewest respondents indicate its increase.

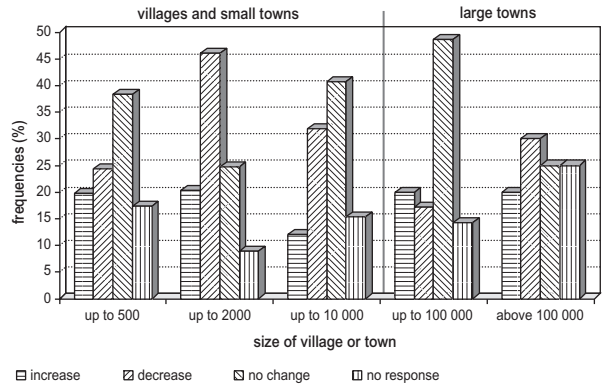


Fig. 6. Changes in harvest size

7. Decreasing of harvest size indicated mainly by the families living in small villages is connected with smaller fructification according to their opinion. Fewest families associate a smaller harvest with an improvement in their financial status or with difficulties in access to forest (Fig. 7).

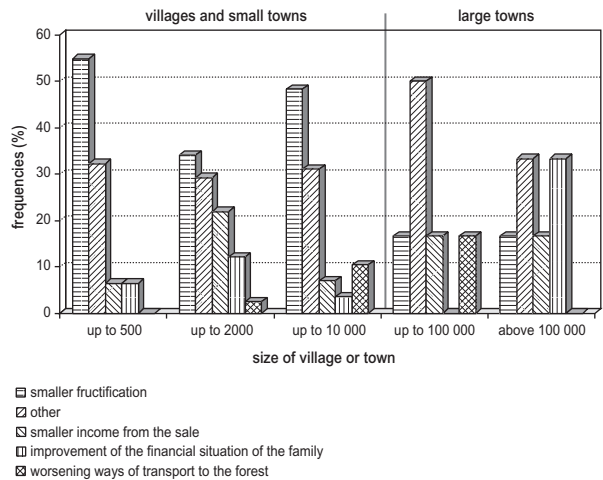


Fig. 7. Reasons for harvest decrease

8. The residents of villages and small towns which report a harvest increase, give the reason of a deteriorating family financial status or a higher income from NWFPs sale, while the inhabitants of large towns indicate mainly other factors (Fig. 8).

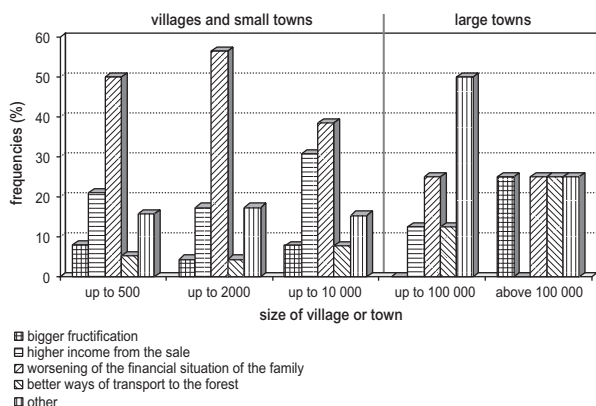


Fig. 8. Reasons for harvest increase

9. The greatest number of households declared harvest of all NWFPs, but mostly they collected mushrooms and fruit, rarely only fruit. Medicinal herbs and other NWFPs as: bark, decorative branches, fuel were less significant products (Fig. 9).

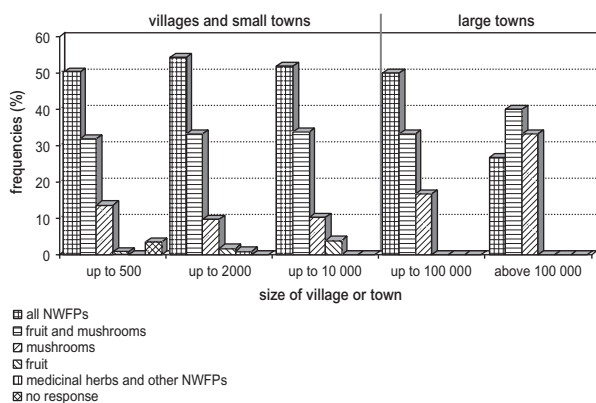


Fig. 9. Harvesting structure according to groups of NWFPs

10. Average harvest size (kg per household of fruit and mushrooms) is greater in small villages (Fig. 10). The maximum value reported in one of the households for fruit harvest was 2560 kg and for mushrooms was 960 kg.
11. The total amount of NWFPs harvested by households under analysis adds up to about 41.5 thousand kg of fruit and nearly 30 thousand kg of mushrooms. The percentage which reflects their harvest intensity (taking into account mass of gathered fruit and mushrooms) is different with respect to size of a residential village or town. The maximum

values are reported by households of small villages (Fig. 11).

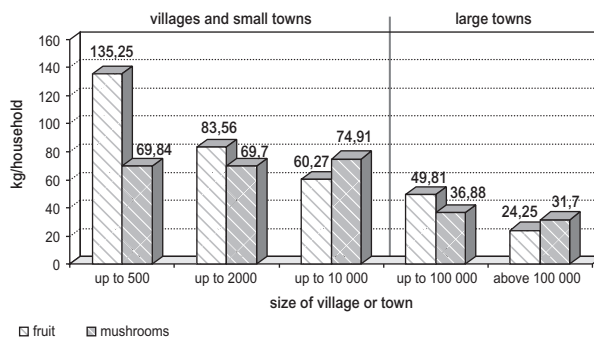


Fig. 10. Average harvest size of main NWFPs in households (kg/household)

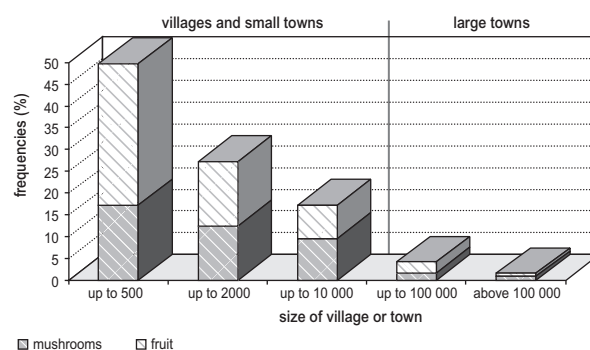


Fig. 11. Harvest intensity of fruit and mushrooms

12. Most inhabitants of small villages declare sale of NWFPs, while the city-dwellers use these products mainly for their own needs (Fig. 12).

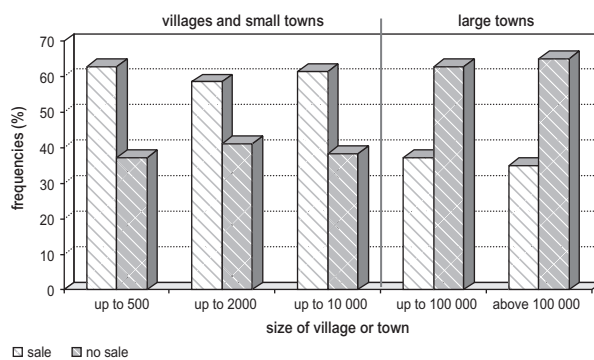


Fig. 12. Sale of harvested NWFPs

13. A greater number of households uses the income from NWFPs sale to purchase food but many of

them chose more than one answer, e.g. clothes or expenses for school (Fig. 13). Only the families of the largest towns use the income from forest products sale mainly to overcome other cash needs.

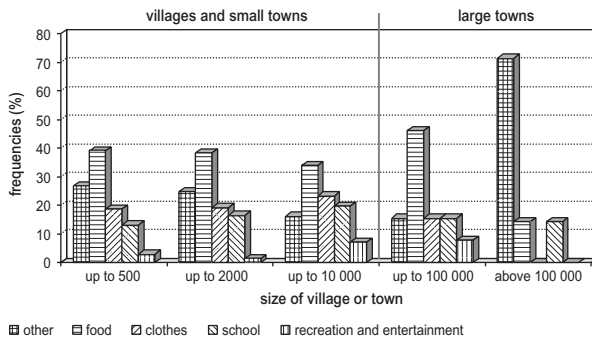


Fig. 13. Use of income from NWFPs sale

14. In the question concerning willingness to set up a firm many respondents chose as their answer „no opinion”. The majority of families do not want to establish their own processing plant for forest fruit or mushrooms (Fig. 14).

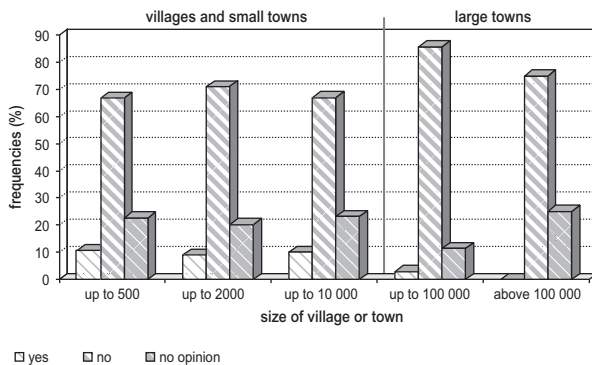


Fig. 14. Willingness to set up a processing plant or purchasing centre for NWFPs

15. The families explain that in their opinion the processing plant could be unprofitable or that they have no financial means for such an investment (Fig. 15).

16. Mainly residents of small villages think about creating their own purchasing centre for NWFPs because of the small income from other sources and expectation of high profits from their marketing (Fig. 16).

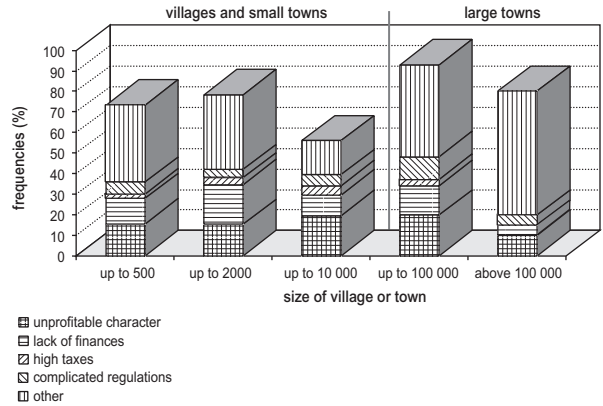


Fig. 15. Reasons for unwillingness to set up a company

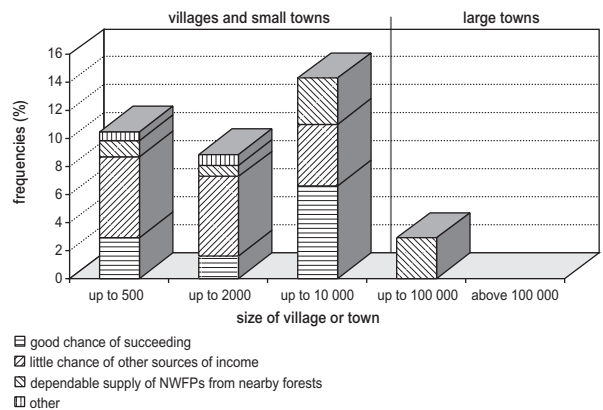


Fig. 16. Reasons for willingness to set up a company

17. The most frequently selected answer to the question concerning living standards of families is “average” standard and, next, “very low and low” one. 20 respondents do not answer this question (Fig. 17).

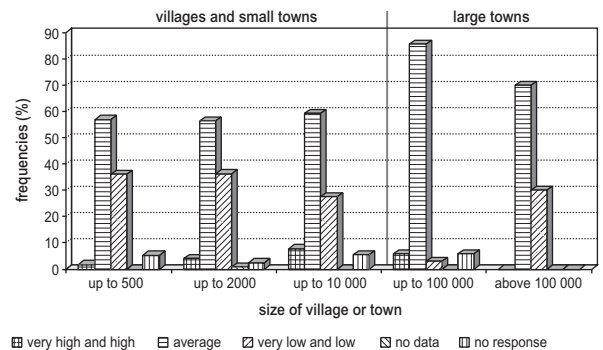


Fig. 17. Living standards in households' opinion

18. Sale of NWFPs provides a way to increase a household income in small villages more often than in large towns. However in the majority of cases the families have no opinion on this question (Fig. 18).

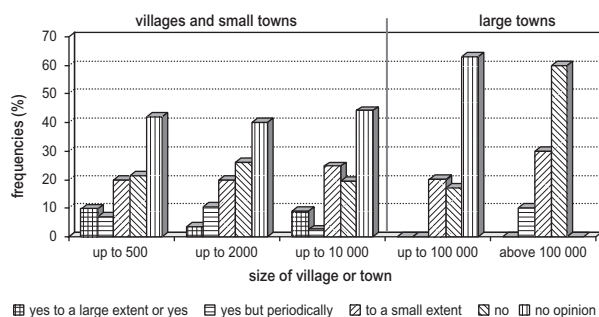


Fig. 18. Influence of NWFPs harvesting on households living standards

DISCUSSION

Forests provide a wide range of economic and social benefits to households. Economic ones include income from employment in the sector and the value of the harvested goods. The social functions of forests are connected with recreation, education and tourism (FAO 2005). Obtained results showed that their role in the life of local communities is varied.

The households of small villages which indicated higher harvest intensity then the city-dwellers contribute more to the total amount of collected NWFPs in Poland. In the light of investigations by Barszcz (2006) this harvest is very large and in 2004 (when the research was conducted) constituted 0.3% (for fruit) and as much as 1.1% (for mushrooms) of annual national purchase. In comparison with the data supplied by Saastamoinen *et al.* (2000) in Finland, and Šišák (1998, 2000) in the Czech Republic there is a considerable discrepancy concerning the amount of harvested products per household. The reason is that the presented research focused on families which have strong ties with forest while these authors carried out their research on a number of households selected randomly out of the whole population of their countries.

The harvest structure of the main NWFPs by families under the present survey is approximately the same as in the years 1956-85 (the data quoted by Głowacki (1995) on the basis of official purchase in those years).

Independently of village's size the most frequently harvested are mushrooms, and then fruit; however, fruit is collected in larger amounts than mushrooms. Other groups of NWFPs which are less frequently reported are: medicinal herbs, decorative branches, bark and fuel. Similarly trends are observed in European scale. Total annual production of forest fruits and berries in European countries in the 1990s was about 211 thousand tones, while for mushrooms this amount was lower and constituted about 77 thousand tones [United Nations 2005].

According to "Global Forest Resources Assessment 2005" published by FAO (2005), the reported value of food harvest in European forests (including fruit, mushrooms and other) was US\$ 0.4 billion. Taking into account average annual value of production of forest fruits and berries in European countries in the 1990s it was about EUR 350 million and the value of mushrooms – EUR 263 million (United Nations 2005). In Poland the estimated value of harvested fruit in the year 2004 was about 48 mln PLN and mushrooms – 59 mln PLN (Leśnictwo 2005).

According to statistical reports (Leśnictwo 2005) the total amount and value of marketed NWFPs in Poland have increased in the years 2000-2004. Results obtained from presented investigations indicate no change of harvest size. On the other hand some authors report its decrease (Głowacki 2000, Muszyński and Muszyński 2000). This discrepancy results probably from different methods of data collecting. In the first case estimation of harvest size is based on data of enterprises which assemble fruit and mushrooms. Contrary to this the presented investigations focus on data collected from questionnaire which was filled out by families' members. In the last case the harvest size was also determined by compiling of questionnaires which were spread out among workers of forest service.

Although NWFPs market could be organized by private business structure like in Lithuania or Finland (Rutkauskas 1998, Saastamoinen *et al.* 2000), this is still not too often in the present socio-economic condition in Poland just as in the Czech Republic (Šišák 2000). Among the small villages' households, which destinate a larger amount of harvested products for sale, only a small percentage of them intend to set up a purchasing centre. The main obstacles are the lack of finances and unprofitable character of such an investment.

Even if they are not marketed, NWFPs have an economic value (Delang 2006). Their harvesting joins recreational and economic functions for city-dwellers by offering an opportunity to fulfil other than basic needs, and constitute additional source of healthy food.

Most of the harvesting data provided are based mainly on commercial figures. There is an increasing demand for estimation of full economic value of NWFPs, especially non-marketed ones, which are often ignored when estimates of the economic importance of NWFPs are made (Delang 2006). This issue is essential for determination the true income of gatherers and ascertain the true value of the forest resources, what in the future could contribute to more rational decisions about their use.

CONCLUSIONS

1. The obtained results show a great socio-economic role of NWFPs harvest in small as well as great communities but its importance is different and depends on place of residence.
2. The NWFPs sector is of the crucial importance to the livelihoods of populations in villages and small towns. For their inhabitants forests are the place of working. They harvest a greater amount mushrooms and fruit in comparison with the residents of large towns and NWFPs sale provides an additional financial resource for them to maintain the current level of consumption and prevent the household from falling into poverty. To develop the NWFPs marketing in these communities some barriers like low level of value added, lack of capital should be overcome.
3. City-dwellers do not treat NWFPs as a source of income but rather as an element of recreation. In majority they use these products for their household needs. Only a few of them sell NWFPs and in general they are not interested in setting up a processing companies. The fact that many NWFPs are gathered during recreational visits to forests may have some positive implication for the future supply of these goods.
4. The present research shows relations between NWFPs harvesting and the general economic situation of the households under survey. The results

allow for the conclusion that the families with low living standards mostly from villages or small towns appreciate the influence of NWFPs harvesting on improving these standards. The richest families also take advantage of NWFPs to a large extent.

5. Aiming at to encourage and force the market of NWFPs, the forest administration should prepare detailed management plans including the functional destination of area which are the base of NWFPs.

ACKNOWLEDGEMENTS

The project number 104940 „A comparative study of forests, economies and social structures” was financed by Academy of Finland.

REFERENCES

- Barszcz A. 2005. An overview of non-wood forest products in Poland. Proceed. “Non – wood forest products and poverty mitigation: concepts, overviews and cases”. University of Joensuu, Faculty of Forestry, Res. Notes, 166, 1-20.
- Barszcz A. 2006. The influence of harvesting of non-wood forest products on the economic situation of households in Poland. EJPAU, Forestry, 9, 2.
- Delang C. O. 2006. Not just minor forest products: The economic rationale for the consumption of wild food plants by subsistence farmers. *Ecol. Econ.*, 59, 64-73.
- Jansea G., Ottitschb A. 2005. Factors influencing the role of Non-Wood Forest Products and Services. *Forest Pol. Econ.*, 7, 309–319.
- FAO 2002. Non-Wood Forest Products. Source: <http://www.fao.org>.
- FAO 2005. Global Forest Resources Assessment. Progress towards sustainable forest management. Source: <http://www.fao.org>.
- Głowacki S. 1995. Wybrane materiały do ćwiczeń z ubocznego użytkowania lasu. Wydawnictwo SGGW, Warszawa.
- Głowacki S. 2000. Aktualne problemy ubocznego użytkowania lasu w Polsce. Proceed. „Stan i perspektywy badań w zakresie użytkowania lasu”. 30–31

- March 2000, Forest Research Institute, Sękokin, Poland.
- Leśnictwo 2005. Wydawnictwo GUS, Warszawa.
- Muszyński Z., Muszyński J. 2000. Problem zrównoważonego i trwałego użytkowania runa leśnego. Proceed. „Stan i perspektywy badań w zakresie użytkowania lasu”. 30–31 March 2000, Forest Research Institute, Sękokin, Poland.
- Rutkauskas A. 1998. Non-wood resources and their utilization in Lithuania. [In:] Sustainable development of non wood goods and benefits from boreal and cold temperate forests (eds.: G. Lund, B. Pajari, M. Korhonen). EFI Proceedings, 18-22 January 1998, Joensuu, Finland, 23, 93-101.
- Saastamoinen O., Kangas K., Aho H. 2000. The picking of wild berries in Finland in 1997 and 1998. *Scand. J. For. Res.*, 15, 645-650.
- Šišak L. 2000. Importance of the main non-timber forest products in the Czech Republic in 1998. *J. For. Sc.*, 46 (7), 331-339.
- Šišak L. 1998. Socio-economic importance of main non-wood forest products in the Czech Republic. *Lesnictvi-Forestry*, 44 (12), 542-548.
- United Nations Economic Commission for Europe/ Food and Agriculture Organization of the United Nation. 2005. European forest sector outlook study. Main Report. Geneva.