
University of West Hungary
Faculty of Forestry

Theses of PhD dissertation

**Utilization and marketing of
non-wood forest products**

Prepared by:
Attila Hegedűs

Sopron
2007

Doctoral school Roth Gyula Forest and Wildlife Management
Sciences

head: Prof. Dr. Sándor Faragó

Program: Forest Assets Management (E3)

head: Prof. Dr. Károly Mészáros

Supervisor: Dr. Magdolna Stark, associate professor

1 Theme definition

Recently, the importance of natural lifestyle, bio- and green products (forest fruits, mushrooms, medicinal herbs etc.) has been appraised. An increasing demand can be observed for environment-friendly products in industrialized countries. There is great a number of traditional products, which were utilised and consumed previously by rural, low-income people and currently these products are reappearing on the customer market as natural, sustainable products.

Forest products have two main divisions. In one respect, there are wood products (logs, paper wood, and fuelwood), and all other forest products grown without respect to the main product (wood) are classified as non-wood forest products (e.g. forest mushrooms, forest fruits, Christmas trees).

In international relations investigating the definitions it can be told that the definition of non-wood forest products include the forest services as well. Integrated approach has been applied in the dissertation: either analysis of European situation or analysis of Hungarian customer's behaviour the products and the services are discussed together and not separated products from services.

Fluctuation of wood market, and new demands from society against traditional forest management have resulted that forest enterprises have to diversify their own activities. This reform means that forest enterprises are on the way to market forgotten products and new services.

In recent years, EU rural development policy has prosperously influenced the market of non-wood forest products and services. The reform of Common Agriculture Policy (CAP) strongly prefers diversifying the rural activities and generating new non-agriculture based incomes in the rural areas of EU member states. In this manner, the incomes from non-wood forest products and services can become as significant source for local people in certain regions and certain periods.

2 Objectives

The dissertation was prepared in such a period that Europe has been under integration. Countries from former East and West blocks are enforcing their rights and assuming obligations in the framework of European Union. The author of the dissertation is convinced that Hungary has to know its divisions of national economies of EU member states and has to position itself. Forestry sector has also to focus on information search and market segmentation.

The aim of this research is not only to draw attention to further improvement for general marketing approach, but also to highlight the role and importance of forest products marketing in forest sector. Marketing always starts from customer's need and if there is no exact knowledge regarding to society's demand towards forest products and services, the forest sector cannot exactly cover needs.

3 Hypotheses

Research hypotheses are the followings:

1. On European level the sector of non-wood forest products and services is extremely comprehensive. Certain non-wood forest products and services has become successful in the customer's market, others have failed.
2. In Hungary, the non-wood forest products and services are differently considered by final urban customers. The value order for wood/non-wood/service is variable determined by different population segments, dissenting economical and social viewpoint.
3. Society has simple-minded expectation for cost free forest services; however, many of the services are costly (produced service). Hungarian urban customers have different willingness to pay. Hungarian society indicates non-wood forest products and services as free goods, but all of these goods have market value.
4. Characteristics of market can be applied to non-wood forest products and services, but it works in a particular way. It may

presume that the market of non-wood forest products and services has dissatisfied the customer demand in Hungary.

4 Research methodology

The methodology of research has essentially concentrated on two directions. On one hand, the research was conducted according to the European situation (secondary research). The exploration of the European circumstances was carried out with the support of COST E30 research project. On the European level, the market analysis of non-wood forest products and services has focused on stressing of marketing features. In 1999, the analysis of Hungarian conditions was started in frame of a diploma study.

On the other hand, the research was aiming at the analysis of Hungarian customer's behaviour in deeply. Eight Hungarian large cities were selected, where altogether 1200 customers were questioned (primary research). Questionnaires were filled in at the well-attended place (malls, supermarkets, restaurants) of the cities. The field research was realized between 23/02/2006 and 31/03/2006, during office hours. The primary research was carried out by quantitative method. This research was connected to FAO development project realized in 2006 in Hungary. The analysis of questionnaires was examined by statistical methods.

Furthermore, the paper builds upon methods of project cycle management (PCM): goal tree – problem tree analysis, SWOT-analysis.

5 Research outcomes

5.1 European level research results

All over Europe there is great potential improvement of non-wood forest products and services, and in this respect the establishment of new enterprises has good opportunities, it also means that in the sector there are many business possibilities in the mid- and long time. The most important reason for above the mentioned statement is that a steadily increased demand on unique, bio-, luxus products can be observed parallel with the rise of the living standards. However, the sector has a number of impeding factors. On national level, the forest policy instruments (legal, organizational, informational, financial) prefer much better the traditional forest management than utilization of non-wood goods of forest. At time same time to tell the truth, these products have minor incomes (below 10%) compared to incomes from wood products. Another impeding factor is that the customer society indicates a major part of the non-wood forest products and services as public property, namely the society has no willingness to pay, in spite of the fact that these products and services have market value.

Based on Europaen level research the paper points out that the sector of non-wood forest products and services includes a large variety of both products (from food to handicrafts) and services (from recreation to funerals), and it is connected with many branches of the economy, such as food industry, education, recreation and tourism, decoration, health care, sport, and even art and music. Both marketable (food products, tourism packages) and non-marketable (landscape, clean air, biodiversity) products and services are supplied. Different system of property rights regulation (more liberal Scandinavian, harder Mediterranean control) influence the marketing potentials of non-wood forest products and services in different socio-economic contexts.

Every single product and service requires different marketing strategies. Therefore, it is almost impossible to lay down rules applicable for the whole sector.

In regional respect, the differences between Eastern and Western Europe are appeared in connection with non-wood forest products and

services as well. Typically, the large west-european customer markets (German, English market) have small amount of domestic products, they have given preferences to imported non-wood forest products from East-Europe (Romania, Bulgaria etc.), where there is a strong orientation to export market and the national market is quite weak.

It has been found that the more non-wood forest products become industrial products, meaning that the products appear on the market at the wholesaler scale (e.g. Christmas trees in Denmark, foliage in Ireland), the less non-wood forest products are connected to the natural forest.

In the light of the above mentioned restrictions, based on European scanned case studies the following statements can be summarized.

Generally, the whole sector can be described as very product oriented. There is a clear need to change this approach towards a more customer oriented direction. After small and micro enterprises in the rural areas cannot access market information by themselves, therefore public institutions (chambers, developing centres, consulting offices etc.) have to support this development. Market actors have the knowledge and access to the customers in the marketing channels and can play important role in this process.

On the basis of analysed case studies the paper points out that it can be separated non-wood forest products as mass, respectively specialized products and services, as well as complementary products and services.

In favour of business success, the mass products companies need to develop greater product differentiation and move into the value chain towards more innovative specialized products. For successful marketing one of the most important conditions is to check the quality. This leads to standardization and trademarks of mass products and to different kinds of certification systems for specialized products.

Territorial marketing is one of the new forms of efficiency. Formation of marketing needs networking: co-operating companies, institutions, authorities, private persons. These market participants are acting on the market as using the positive possibilities of their own synergies.

The cooperating organizations offer a certain product-service package in a certain region towards the customers. It is important to emphasize

the tight conformity between the region and the product/service. The connection between the region and the product/service means a certain kind of differentiations, for example a chestnut tour in Tuscany cannot mix up with anything. The analysed international cases prove that the territorial marketing turned out to be marketable and successful. This requires high level organizational cooperation and indicates that there is a need for innovation at the organizational level.

Regulations and property rights vary from product to product and from one country to another. This variety can be seen from North to South in Europe. While Everyman's right works in Scandinavian region, meaning that every citizen has a right to pick up mushroom and berries, or camp out in the forest – irrespective from ownership of forest - free of charge. In Italy, however, there is strict law for gathering forest mushrooms, truffles, herbs; it means that collectors have to buy so called gathering permissions (tickets).

The gathering tickets are valid for certain quantity (e.g. 1 kg), and certain species. The possibilities and the barriers of gathering permissions change by province in Italy.

External factors, such as climatic conditions, pests, diseases, and the seasonality of demand or raw material supply could be signalized as a problem for all non-wood forest products and services. The best way to overcome the risks is offered by complementary products.

5.2 Hungarian level research results

Research results reveal that a typical Hungarian, urban forest visitor lives a family, mainly visits forest in spring and summer, at least holds high-school graduation, earns gross 160-300 thousand HUF, and at 95% probability is not a member of any nature and environmental protection association.

During forest visits the most important things are the fresh air and quietness. In the visited forest the most characterized tourism objects are the thematic trails (e.g. learning trail). It is connected with the most frequented activities as rest, walk, and excursion. But next to these or instead of them urban customers are also keen on hunting and horse-back riding. Due to lack of free time people visit forest less.

According to asked urban customers, the most important problem is the missing of clearness; it means that there is too much rubbish in the forest. Definitions, activities of traditional forest management are not known by typical forest visitor.

In relation to financing of forest activities the forest visitors are willing to pay 1% of personal income tax and offer voluntary work, but concrete payments are mostly rejected. There is a relation between willingness to pay and income, educational level, because higher salary, educational level fit higher willingness to pay. The forest visitors are not able to recognize costs connected to forest services, but they are ready to spend limited amount of money for forest service. Forest service costs are expected to be covered by everybody else (government, forest managing company, hotels etc.). Analysing of concrete payments for forest service it can be told that horse-back riding, forest entertainment (e.g. concert), forest exploration (e.g. learning trail) and forest schools have got the highest rate for willingness to pay. In regional respect, Győr and Pécs hold the highest rate for willingness to pay, but with complete certainty non-adjustable that there is connection between willingness to pay and country districts.

Based on asking urban people a consumption list was occurred with 200 different non-wood forest products.

Maximum number of listed non-wood forest products was found in Salgótarján, the least in Debrecen. The well known non-wood forest products are forest mushrooms, respectively food products derived from them. The Christmas tree as well as charcoal was not come to their mind as non-wood forest products.

After deep analysis the dissertation states that the non-wood forest product market in present conditions is not able to satisfy customer's needs, because in case of each product the potential demand exceeded the actual demand.

The most significant potential demand can be observed for body medications (e.g. body lotion) made from forest plants, the smallest difference between potential demand and actual demand can be indicated in the case of Christmas trees.

It cannot be clearly reported that the buyers of non-wood forest products have higher income level; it means that these products are not expressly belonging to premium customer's segment. As a result of obtained answers, there is a relation between habit of forest visiting and later realized buying attitude, namely buyers of forest products are simultaneously more frequented forest visitors.

Analysing the background of Christmas tree purchasing it can be laid down as a fact that the greatest number of Christmas trees are bought by members of age-group 40-49 years old. Furthermore, it can be observed that the younger age-group (18-29 years old) is less interested in Christmas tree purchasing; it means this activity belongs to older members of the family. The lower educational level follows lower willingness of Christmas tree purchasing, but this assumption was not verified. On the other hand, the income and Christmas tree purchasing show a relation: higher income level is attached to bigger willingness of Christmas tree purchasing.

According to asked urban customers for the whole non-wood forest products sector the most important factors influenced on purchasing are price, quality, environmental-friendly products, its ecological character and quality certificates.

6 Theses

1. This paper demonstrates that in favour of business success, the mass product companies need to develop greater product differentiation and move into the value chain towards more innovative, specialized products. For successful marketing one of the most important conditions is to check the quality. This leads to standardization and trademarks of mass products and to different kinds of certification systems for specialized products.

2. On the basis of analysed case studies the dissertation concludes that territorial marketing is one of new forms of efficiency in non-wood forest product/service sector. The cooperating organizations offer a certain product-service package in a certain region in direction of customers.

3. It has been found that the less non-wood forest products connects to the natural forest the more non-wood forest products become industrial products. In case of forest services, the natural forest characters are falled off, if forest service intensity is increased.

4. The study points out that the forest visitors are not able to recognize costs connected to forest services, but they are ready to spend limited amount of money for forest services. Costs of forest services are expected to be covered by anybody else (government, forest management companies, hotels etc.). Analysing of concrete payments for forest services it can be told that horse-back rinding, forest entertainment (e.g. concert), forest exploration (e.g. learning trail) and forest schools have got the highest rate for willingness to pay.

5. It is verified that the non-wood forest product market in present conditions is not able to satisfy customer's needs, because in case of each product the potential demand exceeds the actual potential. There is expansion possibility on improvement of marketing tools in order to stimulate the market. The most significant potential demand can be observed for body medications (e.g. body lotion) made from forest plants, the smallest difference between potential demand and actual demand can be indicated in case of Christmas tree.

6. The paper states that the buyers of non-wood forest products have not higher income level; it means that these products are not expressly belonging to the premium customer segment. As a result of obtained answers, there is relation between habit of forest visiting and later realized buying attitude, namely buyers of forest products are simultaneously more frequented forest visitors.

7 Recommendations

After the customer analysis the goal tree of non-wood forest product/service sector was prepared. There are three fields that can be suggested for developing utilization of non-wood forest product/service.

In so far as forest policy instruments (legal, organizational, informational, and financial) would draw attention to the whole forest products/services on the same level, it could be expectably important development for both private and state-owned forestry.

Concerning legal issues, it is important to establish clear regulations for forest owners, collectors of non-wood forest products. At present, the Hungarian forestry act says that the non-wood forest products are free to collect in state-owned forests for own need, but not for commercial need. For collection on a commercial level, written permission from forest managing organization is required. In private forests, rights of utilization of non-wood forest products belong to the owner of the forest. Visitors are allowed to locate in private forests, but activities like mushroom picking or honey making cannot be accomplished without permission from the owners. This regulation is difficult to execute in practice and pickers collect non-wood forest products without any payment for the owners. Furthermore, it should be declared the own need definition per person per day per volume.

It would be very useful to create a written agreement between forest managing organizations and collector companies of non-wood forest products, forest service provider enterprises (e.g. riding-school, etc.) in order to make a frame for utilization of non-wood forest products,

services. This agreement would also include the price for gathering and forest utilization.

Generally, the whole sector can be described as a very product oriented. There is a clear need to change this approach towards a more customer oriented direction. To achieve these goals it is needed further efforts on marketing research. In this process the tools of forest product marketing must have a significant role. At planning of forest visiting promotions (PR campaign etc.) the marketing research results have to be taken into consideration.

If there is a possibility to create a real market for public goods (society acceptance, establishment of legal-organizational background), this could generate meaningful development on the whole non-wood forest product/service sector.

Strengthening of the entrepreneur side can influence the unsatisfied customer segments. Local non-wood forest product processing can be added to the ecotourism services, village accommodations. This activity can improve the diversification of the rural area, create jobs and extend the value of other non-wood forest products as well. In this matter the territorial marketing has an important role, because this type of marketing is based on networking of market actors and territorial branding.

It can be expected further development on companies dealing with non-wood forest products. It is needed to monitor these companies in order to make clear market picture, respectively prepare database for this sector as well. At this moment, there is no database at all, which makes any development program difficult.

In future research and development projects it can be significant to stress improving and market extending of non-wood forest products and services. Economic Monitoring Network of Private Forests ensures research base, it can be suggested to carry out a supply market research.

This paper proposes to issue professional leaflets and organize workshop in order to promote non-wood forest products and services. Furthermore, series of article are expected to publish in forest newspaper “Erdészeti Lapok”.

8 Author's publications

Articles in newspapers and conference proceedings

- 1. Héjj B. - Hegedűs A. (2007):** Survey on the Public Needs and Market Demands from Forest Land Use in Hungary. - In: Building Insights of Managerial Economics and Accounting Towards Sustainable Forest Management. Proceedings of the IUFRO Conference, Lviv, Ukraine, p. 20.
- 2. Mészáros K. - Jáger L. – Hegedűs A. (2005):** Hungary - Country Report – In: **Jáger L. (ed) (2005):** Acta Silvatica & Lignaria Hungarica, Special edition for COST E30 research project - Economic integration of urban consumers' demand and rural forestry production, Forest sector entrepreneurship in Europe: Country Studies. HU ISSN 1786-691X Volume 1: 297-333.
- 3. Hegedűs A. (2005):** Sienet yksi tarkeimmista luonnontuotteista Unkarissa. Luonnontuote, Seinajoki, Suomi/Finland, p. 10-12.
- 4. Hegedűs A. (2003):** Modelling of Marketing Channels in Wild Edible Fungi (WEF) Business in Hungary. – In: **Héjj B. – Schiberna E. (ed.) (2003):** Management and Modelling Multifunctional Forest Enterprises and Properties. University of West Hungary, Sopron: 93-94.
- 5. Lett B. – Mészáros K. - Hegedűs A. (2002):** Opportunities of the Hungarian forestry apropos of EU accession. – In: X. Wood Tech Erdészeti Szakmai Konferencia. NYME-EMK. Sopron: 157-172.
- 6. Szentesi Z. - Hegedűs A. (2000):** Economic importance of non-wood forest products in Hungary.- FAO Rome, Italy. Non-Wood News 7: 51.

1. **Mészáros K. – Schiberna E. – Hegedűs A. (2006):** Actuality in private forestry. - In: **Sárvári J. (ed.) (2006):** Actuality in private forestry and EU co-financed afforestations. Serial of forest manager in the EU 1. booklet – Association of Hungarian Private Forest Owners, Budapest: 3-22.
2. **Pettenella, D. – Ciccacese, L. – Dragoi, S. – Hegedűs, A. – Hingston, A. – Klöhn, S. – Matilainen, A. – Posavec, S. – Thorfinnsson, T. (2006):** NWFP&S marketing: Lessons learned from case studies in Europe. – In: **Niskanen, A. (ed.). (2006):** Issues affecting enterprise development in the forest sector in Europe. University of Joensuu, Faculty of Forestry, Joensuu, Suomi/Finland, Research Notes 169. ISSN 1235-7421:367-403.
3. **Hegedűs A. (2005):** Forestry in the EU. – In: **Héjj B. (ed.) (2005):** Rural development policy in the EU. - Forest- and Wood industry. MARD Educational and Advisory Institute. Budapest: 4-15.
4. **Lett B. – Mészáros K. – Hegedűs A. (2003):** The impacts of EU integration for forestry in Hungary. University of West Hungary. – Institute of Forest Assets Management, Sopron, 46 pages.
5. **Hegedűs A. (2003):** Analysis of forest mushroom business in Hungary.- Diploma study. University of West-Hungary, Sopron, 47 pages.
6. **Hegedűs A. (2002):** Assistance of utilization of non-wood forest products in Hungary. National Forest Strategy and Forest Program. White Book. p. 60-61.
7. **Mészáros K. – Héjj B. – Hegedűs A. (2002):** Method development for evaluation of economic functions of forests. Research report. Sopron, Hungary.
8. **Szentesi Z. - Hegedűs A. (2000):** Non-wood forest products in Hungary. – State Forest Service, Sopron. 62 pages.

-
- 9. Szentesi Z. - Hegedűs A. (1999):** Importance of non-wood forest products in Hungary. – Diploma study. University of Sopron. 173 pages

Presentations

- 1. Hegedűs A. (2006):** Importance of ecotourism in Hungary – its opportunities in Abaúj-Hegyköz micro-region. - Project on tourism development in historical Abauj county. Abaújszántó, Február 27.
- 2. Hegedűs A. (2005):** Marketing tools of non-wood forest products.- MTA Veszprémi Akadémiai Bizottság, Mezőgazdasági és Erdészeti Albizottság Munkaülése, Mosonmagyaróvár, Június 23.
- 3. Hegedűs A. (2005):** Non-wood forest products, examples from Hungary. - In: INNO-FOREST: Integrating Innovation and Enterpreneurship in Higher Forestry Education. Socrates/Erasmus IP. Iisalmi, Finland, 16-27 May.
- 4. Hegedűs A. (2004):** Short Term Scientific Mission in Italy.- University of Padova, Legnaro, Italy, 05 October.
- 5. Hegedűs A. (2004):** Non-wood forest products in Hungary.- COST E30 Meeting, BOKU - Vienna, Austria, 23-24 April.
- 6. Lett B. – Hegedűs A. (2002):** Valuation of Forest Assets in the European Union – FORNET II. - Goals and Tools of Forest Policy. Sopron, Hungary. 14-18. October.
- 7. Hegedűs A. (2002):** Organizational Structure of the Hungarian Forestry. - FORNET Modul – Management in Forestry Enterprises, Belgrade/Kopaonik, Serbia, 09-12 September.
- 8. Hegedűs A. (2002):** Tools of Forest Policy – Financing. FORNET I. - Goals and Tools of Forest Policy. Sopron, Hungary. 9-15 February.