



Non-timber forest products (NTFPs) as market possibilities for both forest owners and bioeconomy

Non-timber forest products (NTFPs) are products of biological origin that are derived from forests, but not timber. In Finland, berries and mushrooms are commonly known and used NTFPs in households for food and nutritional diversity. At the local, national, and international markets, there is a wide variety of other NTFPs that are used increasingly in the food sector, cosmetics, and health-promoting products. Still, NTFPs are a minor forest product in terms of their direct monetary value compared to timber, despite their potential use in products with high added value. In most cases, the production of NTFPs is not in conflict with timber production and the joint production is feasible. Thus, boosting NTFPs value chains is needed in the Finnish rural bioeconomy.

At the market, Finnish NTFPs are highly competitive due to their natural purity, high nutrient contents and reliable source of origin. Since labelling organic products has been found to affect consumers' perceptions of a product, the aim is to make Finnish private forest owners aware of the need for certified organic forests and get them involved. The challenge is that the forest owners who do not utilize the NTFPs of their own forests do not benefit from the organic certification.

The production of NTFPs not covered by everyman's right (e.g., birch sap and cultivated mushrooms) can create significant additional income for forest owners compared to timber production alone.

Birch sap is one of the most abundant NTFPs in Finnish forests. In large-scale sap tapping, where thousands of birch trees are tapped, requires investments in equipment (e.g., spouts, drop lines, tubes, fittings, installing tools, sap tanks, and a vacuum pump) and labor costs in installing and maintenance. Also considering the possible decrease in timber quality and value due to taphole wounds, sap tapping is profitable for forest owners. Despite its huge potential, there are only a few local companies buying sap collected by forest owners mainly as a family activity.

New value chains, based on specialty mushroom cultivation, have recently been introduced to Finnish forestry. Living birch trees (*Betula* spp.) are inoculated with pakuri (*Unonotus obliquus*) by drilling holes in trunk and installing inoculation plugs in the holes. Cultivating pakuri in set-aside birch stands, there is no conflict with timber production. Specialty wood-decay mushrooms can be cultivated on stumps without any effect on timber production. For example, reishi (*Ganoderma lucidum*) could be cultivated in connection with harvesting operation like spreading the control agents in stump treatment against *Heterobasidion* spp. root rot. Both mushroom species are collected from forests naturally grown but the cultivation will increase the quantity supplied to the market.



Cultivated pakuri on birch.
Photo Pyry Veteli/Luke.

KEY WORDS

Non-timber forest products; forest owners; multi-use of forest; organic certification; everyman's right; joint production.

COUNTRY

Finland

AUTHORS

Jari Miina (Luke)
Hanna Mutttilainen (Luke)
Henri Vanhanen (Luke)
Juha Vornanen (Finnish Forest Centre)

DISCLAIMER

This Practice Abstract reflects only the author's view and the Branches project is not responsible for any use that may be made of the information it contains.

DOWNLOAD

www.branchesproject.eu

ADDITIONAL INFORMATION

Forest owners play a key role in the supply of natural products and providing permission to collect them. The availability of raw materials has been a bottleneck for natural product entrepreneurship and growth in product supply. In many cases, forest owners are neither committed to production nor aware of its opportunities in their forests. To make forest owners more aware of NTFPs, the Metsään.fi service was modified to estimate potential forest sites for e.g. sap tapping and mushroom cultivation and to present the sites to forest owners to support their decision making. Forest owners need information on yields, markets, costs, effects on timber production and profitability analyses on NTFPs production. Also, more effective communication, cooperation and networking between forest owners, forest professionals and NTFP suppliers are called for. Increased knowledge, improved technologies, and especially new innovations would support the NTFP supply chain, and consequently the development of the NTFP sector in rural areas while advocating NTFPs as a relevant part of the Finnish bioeconomy.

References

Miina, J., Peltola, R., Veteli, P., Linnakoski, R., Cortina Escibano, M., Haveri-Heikkilä, J., Mattila, P., Marnila, P., Pihlava, J.-M., Hellström, J., Sarjala, T., Silvan, N., Kurttila, M. & Vanhanen, H. 2021. Inoculation success of *Inonotus obliquus* on living birches (*Betula* spp.). *Forest Ecology and Management* 492, article id 119244.

Muttillainen, H., Hallikainen, V., Miina, J., Vornanen, J. & Vanhanen, H. 2022. Forest owners' perspectives concerning non-timber products, everyman's right, and organic certification of forests in Eastern Finland. Manuscript.



Natural reishi mushrooms on a stump. Methods are developed for cultivation in connection of timber harvesting operations. Photo Petro Penttinen/Luke.

ABOUT BRANCHES

BRANCHES is a H2020 "Coordinaton Support Action" project, that brings together 12 partners from 5 different countries. The overall objective of **BRANCHES** is to foster knowledge transfer and innovation in rural areas (agriculture and forestry), enhancing the viability and competitiveness of biomass supply chains and promoting innovative technologies, rural bioeconomy solutions and sustainable agricultural and forest management.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101000375

THE PARTNERSHIP

