

Cost-efficiency and quality in silvicultural operations 2007–2011

*Research Programme by
the Finnish Forest Research Institute, Metla*



Metla/Eykyki Oksanen

METLA

Further Information

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Background and challenges

In Finland the volume of forest resources is constantly increasing. The annual volume increment exceeds the actual use by 15–20 million m³. Based on this situation it seems obvious that the future of Finland's forestry and forest sector is more dependent on wood demand and well-working wood markets than on the actual volume of wood stock. The amount of round wood available for industrial buyers from privately owned forests is affected by several factors from which the overall profitability of forestry is one of the most important. In the last decades the profitability of forestry in Finland has suffered from the rising silvicultural costs. Cost-efficiency in silvicultural operations plays an important role not only in improving profitability of forestry but also in improving the cost-competitiveness of Finnish round-wood in international wood markets. In addition, cost-efficient operations create prerequisites for economically reasonable business in providing forestry services.

Aims of the programme

This research and development programme aims at turning the upward cost-trend of silvicultural operations downwards. Programme provides information mainly for the needs of forestry service and product providers and forest-owners but also for policy-makers in issues related to silvicultural works. The scope of the programme extends from the development of current working methods to studying of supply chain issues and new business concepts in providing forestry services.

Research themes

In general, the hypothesis is that the greatest cost savings in silviculture can be reached by studying and developing upper level problems such as supply chain issues and work organization, whereas the effects of developing current working methods on total costs might be smaller. Therefore, to get simultaneously both maximal impactness and reasonable entity, the R&D projects accepted into the programme were taken from each of the following categories:

- Organizational structures
- Business concepts and supply chain / network management
- Work organization and logistics
- Mechanization and automation
- Working methods and equipments
- Synthesis

The main R&D themes of the programme are networking in providing services, utilization of ICT, entrepreneurship, mechanization and quality management. The programme includes eight R&D projects:

1. Networking in providing forestry services
2. New operations models and entrepreneurship in managing of peat land forests
3. Information and communication technology (ICT) in organizing silvicultural operations
4. Usability of real-time forest inventory information in operative planning of silvicultural operations
5. Quality control methods for silvicultural operations

6. Improvement of management of young stands
7. Mechanization of silvicultural works
8. Seasonality of silvicultural operations and new business models

The programme will be complemented with new projects as the need arises. Project ideas are called and evaluated annually. The programme extends from the development of current working methods to studying of supply chains issues and new business concepts in providing forestry services.

Resources and cooperation

The annual budget of the programme is approx. 0.5 million euros, from which about 40 % come outside Metla. The programme employs 6–7 researchers and a person-year done by assisting staff.

R&D activities are done in close co-operation with hands-on service providers and thus also the results will be put straight into practice. Research partners are University of Joensuu, University of Helsinki, Metsätieto and Work Efficiency Institute (TTS).

Project homepage:

www.metla.fi/ohjelma/mkl/index-en.htm

