Research supporting the forest programmes in Finland

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Metla since 1917-

subordinated to the Ministry of Agriculture and Forestry

Staff of Metla in Finland
- over 700 employees
- incl. 300 researchers

Budget 2011
- 56 Mio €

Four Regional Units:
- Southern Finland (Vantaa)
- Eastern Finland (Joensuu)
- Western Finland (Parkano)
- Northern Finland (Rovaniemi)
Research required by forest programmes

I. The basic elements for creating the forest programmes:
   NFP = National Forest Programme and
   RFP = Regional Forest Programme

   1. Data on forest resources, and their location
   2. Utilization possibilities of wood including restrictions
   3. Monitoring the status and changes in forests, as the result of practised forest policy
   4. Evaluation on the status of forests at national and regional level

II. Timely and relevant research supporting the strategic goals of forest programmes (NFP and RFP)
1. Data on forest resources:
The Forest Inventory System in Finland for NFP and RFP

**National Forest Inventory (NFI) by Metla**

- Multisource inventory methodology combining satellite images and the data collected by field measurements
- Today the NFI generates annually updated information on trends in forests resources
- **Country, district, and municipal level results**
- Systematic, statistical sample based inventory
- Covers whole country area of Finland, all land area and all ownership groups (private, state, companies, municipalities and churches)
- 5 year cycle, latest inventory NFI 11 started in 2009, ends 2013

Data collection for management planning of **individual holdings** takes place by laser scanning
- Aim is to produce data for management plans (10 year period) for private forest owners, State Forest Service and forest companies for their own forests
NFI11 Sampling Design

6 Sampling regions, each with different design

- Ankenanmaa
- Etelä-Suomi
- Väli-Suomi
- Pohjois-Pohjanmaa
- Lappi
- Pohjois-Lappi

District border
1. Data on forest resources: Biodiversity

• The Finnish Environment Institute (SYKE) is commissioned by the Ministry of the Environment to conduct

• **assessments of the endangered status of Finland’s species** every 10 years (Red Book) and

• **assessments of the endangered status of Finland’s biotopes** at regular intervals
2. Utilization possibilities of wood including restrictions

-Metla is responsible for the field work and calculation of the results by National Forest Inventory (NFI)

- MELA- calculations are basis for the cutting alternatives for National Forest Programme
2. Utilization possibilities of wood including restrictions

Annual increment of growing stock (1935–2009) and annual drain (1950–2009)

Share of increment by tree species
3. Monitoring the status and changes in forests, as the result of practised forest policy

**Metla’s official tasks**
- National forest inventory, monitoring the forest resources annually
- Greenhouse gas reporting
- Monitoring of forest health
- Forest statistics, Statistical Yearbook of Forestry in Finland, annually
- Testing and inspection of pesticides
- Forest damage diagnostic and advisory service
- Genetic resources, tree breeding programme

**TAPIO**
- Quality of forest operations such as water protection in cuttings

**SYKE**
- Biodiversity, especially threatened species, and protected forest areas
- METSO programme together with Metla
- Collaboration of two ministries (Agriculture and Forestry, and Environment)
4. Evaluation on the status of forests at national and regional level

Status reports based on criteria and indicators

- Main users are governmental officials by their decision making
- For informing on the state of forests for various stakeholders
- Educational and research purposes
- Forest management and certification

Report is considered as important because of three aspects:

1) showing long-term trends and changes in the forests,
2) integrating the forest policy goals and decisions with the measurable indicators
3) making a continuous base for the international comparability
II. Timely and relevant research supporting the strategic goals of forest programmes (NFP and RFP)

The strategic goals of NFP 2015

Pioneer in bioeconomy

1. Forest based business and the value of production
2. Profitability of forestry
3. Forest biodiversity, environmental benefits, welfare

Metla is the principal research results provider for NFP 2015

Metla’s strategy is renewed 2011, and is parallel to the goals of NFP

Metla’s strategic research activities:

1) entrepreneurial and business activity based on forests,
2) forests and the society,
3) sustainable silvicultural chains
4) maintenance of the data bank on the forest resources and forest sector
Current Research Programmes of Metla

- Renewing wood product value chains and timber procurement solutions (2009-2013)
- Welfare effects of forests (2008-2012)
- Cost-efficiency and quality in silvicultural operations (2007-2011)
- Functioning of forest ecosystems and use of forest resources in changing climate (2007-2011)
- Bioenergy from Forest (2007-2011)
- Production forestry in drained peatlands (2007-2011)

Starting from 2012:
- Wood Energy Research and Innovation programme – pathways to 2020 and beyond
- Forest management alternatives and future forests
Research in Forestry in Finland

• There are about 650 researchers in Finland working on subjects involving forest and wood.

• About 300 of them work at the Finnish Forest Research Institute (Metla),

• **Other institutes:** University of Eastern Finland (Joensuu) and the University of Helsinki with forest faculties
  Aalto University, at the Universities of Jyväskylä, Turku, Oulu and Lapland, and at the Tampere University of Technology and the Lappeenranta University of Technology, TTS (Work Efficiency Institute), Pellervo Economic Research PTT and Metsäteho Oy.

• the **Consortium of Natural Resources and Environmental Research (LYNET)**, as members Metla, RKTL, MTT, Evira, GL and SYKE

• **The Strategic Centres for Science, Technology and Innovation (SHOKs):**
  Forestcluster Ltd, CLEEN Ltd, Finnish Wood Research Oy

• The **national Centre of Expertise Programme 2007–2013**
Metla’s Bioenergy from Forests Research Programme
- projects in Europe, joint implementation with VTT and national partners

- **BEE**
  - Biomass Energy Europe
  - Harmonization of biomass mapping methods in EU

- **EUWood**
  - Estimation of realistic availability of woody biomass for energy

- **ForestPower**
  - Nordic project for efficient wood based energy production

International forestry, especially forestry in Russia and Eastern European countries

Topic research area (8 scientists, wide network with Russian institutes)
Internet based data bank
Extended to Eastern European countries

- development of Forest Sector in Northwest Russia and its impact in Finland

- development of the normative basis of sustainable forest management at regional level

- global forest energy resources, certification of supply and markets for energy technology

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Thank you