

Professions and Training in Forestry

Summary of the Results of an Inquiry in Europe and North America



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Background

Education systems throughout the world are in transition. Education is one of the key resources available to us to meet the challenges of the future. This applies to education, in general, and forestry training, in particular, and to guaranteeing the sustainable development of the forest and the inestimable services it provides for us. International mobility has increased significantly and, hence also, the demand for a basis on which professions and training can be compared at international level.

The requirements and framework conditions of forestry training in Europe have changed significantly over the past years:

- changes in the socio-economic environment with impacts on the content of training,
- changes in the technological environment with impacts on the use of resources and subject specialisations and
- changes in the training systems through fundamental reforms as implemented, for example, in the course of the Bologna and Copenhagen Processes.

Objectives

In this context, an inquiry was conducted from 2010 to 2012 on behalf of the Swiss Federal Office of the Environment (FOEN) that had the following objectives:

- Produce an overview of the most important forestry training programmes in Europe and North America.
- Create a basis for establishing the equivalence of forestry training programmes in different countries.
- Identify international trends and changes in the forestry training systems.

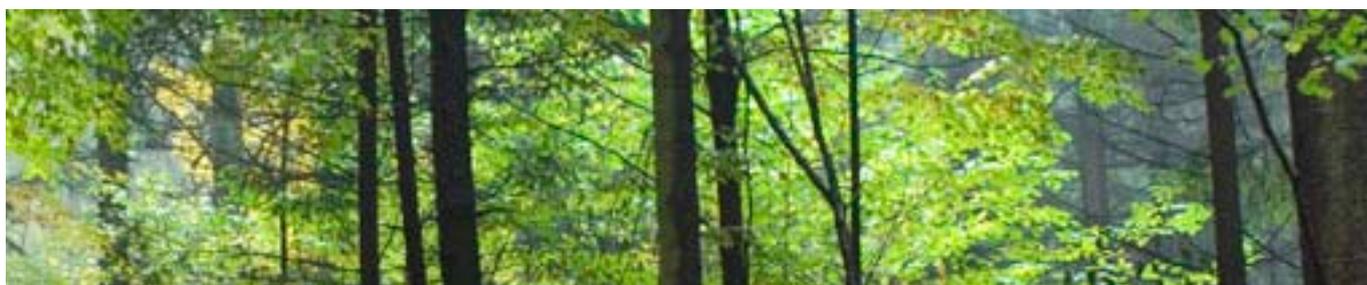
Approach

The tasks were completed in five stages:

- Preliminary clarification
- Basic research (literature and Internet research, expert interviews)
- Surveys for each country (written questionnaires, conversations with competent experts)
- Evaluation, preparation of fact sheets and drafting of a final report
- Dissemination of the results and conclusion.

Participating countries

A total of 23 countries in Europe and North America and 298 education institutions took part in the inquiry: A, B, CDN, CH, CZ, D, DK, E, F, FIN, FL, GB, I, IRL, L, LT, N, NL, S, SK, SLO, TR, UA.



Different education and training systems

The world's education and training systems differ significantly in relation to their structure and content. In principle, it is possible to identify two types of education and training systems: first, the dual system, comprises combined vocational and school education and training, and the second exclusively involves school-based education and training.

In the dual system, the emphasis is placed on rounding out general theoretical education with practical training. The theoretical education takes place in the vocational school in parallel to practical training, which is carried out at the workplace.

In the majority of countries in the world, in contrast, a form of education became established which is based on a uniform organisational principle – i.e. school-based instruction – from primary school level through to university.

The International Standard Classification of Education (ISCED) developed by UNESCO was used as a reference framework for this study. All forestry training programmes were classified according to the following 4 levels.

Number of training programmes by level in the 23 participating countries

Levels	Education programmes (number)
Basic training	43
Secondary training	23
Tertiary level, vocationally oriented	37
Tertiary level, academically-oriented	93

A wide range of forestry training programmes in Europe and North America

The inquiry revealed the wide range of training forestry programmes in Europe and North America. A specific fact sheet was prepared for each participating country showing the training programmes that are offered at the various levels. Below are a few examples of programmes at each level.

Selected examples of the level basic training

- Forest warden (B)
- Skilled forest and landscape craftsman (DK)
- BPA travaux forestiers bûcheronnage (F)
- Expert in environmental-forestry sector (I)
- Forest worker and forest machine operator (N and S)

Selected examples of the level secondary training

- Conduite d'engins, bucheronnage, grimpeur-élagueur (B)
- Forest Ecosystem Technology diploma (CDN)
- BTEC Higher Diploma in Forestry (GB)
- Advanced Certificate in Forestry (IRL)
- Harvester operator (S)

Selected examples of the level tertiary education, vocationally oriented

- Applied MSc in Agriculture and Biotechnology (B)
- Forestry Technician (CDN)
- Professional Bachelor of Forestry (LT)
- Forestry and hunting engineer (SLO)
- Technician in Wildlife (TR)

Selected examples of the level tertiary education, academically oriented

- Forest Engineer in Forestry Management (INGENIERO; E)
- Forestry Engineers (FIN)
- BSc Forest and environmental technologies (I)
- Master in environment and natural resources (N)
- BSc in Forest and Nature Management (NL)

International trends

According to participating experts, the following trends have a significant influence on forestry and forestry training:

- society's demands and expectations on the forest and its management will continue to increase in the future
- globalisation will endure and labour market mobility will continue to grow
- the mobility of trainers and students will increase further – on all levels
- the possibilities for the mechanization of forest maintenance and the wood harvest will increase further (new technologies available in the IT and social media sectors)
- the changes to the climate will have a very profound impact on the forest and forestry organizations
- the importance of biomass as a fuel will further increase.

Challenges

The following key challenges were identified for forestry training and continuing education programmes:

- the requirement and training profiles will have to undergo a continuous process of adaptation by the relevant training and research institutions
- many of the forestry and forestry-related training courses are cost-intensive however the market for the courses is small, hence, from an economic perspective, many forestry training courses are a critical issue for the training institutions
- attracting sufficient numbers of motivated young specialist employees for forestry training will pose a challenge
- the importance of transnational and international processes will continue to increase and have a direct influence on the orientation of the training courses.

In conclusion, the central challenge may be summarised as follows: Against the background of unfavourable demographic development, how can better quality of training be ensured in the context of limited or even reduced resources, increasing expectations and demands and segregating market interests?

Conclusion

- The study gives a good overview of the main forestry training courses in Europe and Canada.
- Greater transnational and international cooperation represents a possible solution to overcoming the key challenge – increasing range of topics and greater demands with simultaneously small or even shrinking market.
- Proactive and broad training on all levels constitutes the precondition for ensuring sustainable forest management.
- Cooperation, knowledge transfer and innovation force are success factors for future-oriented, economically and socially relevant forestry training.

Link to report in English:

www.bafu.admin.ch/ud-1052-e

Link to report in German:

www.bafu.admin.ch/ud-1052-d

Other downloads and fact sheets for countries:

www.eduforest.eu

Publisher

Federal Office for the Environment (FOEN)
ECE United Nations Economic Commission
for Europe

FAO Food and Agriculture Organisation of
the United Nations

ILO International Labour Organisation