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EDUCATION AND WORK SAFETY IN FORESTRY – SITUATION IN AUSTRIA

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Abstract: *Dual system: The situation of education and further education in the forestry sector of Austria is various. Principally it is based on the idea of “dual education”, which means an overlap of theoretical teaching and practical training within the educational period. This way the responsible authorities want to reach a high-level of knowledge and skills during the sustainable process of vocational qualification. Manual work in the woodland is mainly done by farmers who do the woodland management themselves or forest workers employed by forest enterprises. Partly also forest wardens do practical work in the woodland, either with chainsaws or with higher mechanized harvesting systems, in other words cable cranes and processors or Harvesters and Forwarders. So the main attention must be given on the enhancement of work safety in order to offer qualified formation and further education for those target groups.*

The author strongly believes that a connection between the level of formation and the motivation to respect safety standards in everyday working process exists. A statistics from the social insurance company for farmers shows this phenomenon in figures. Besides the fact that the total number of accidents in forest work is lower at the group of professional skilled forest workers, also the relative rate of lethal accidents is significantly lower.

There is a strong demand for professionals in forestry, competent in their fields of action. This means certified machine operators for chain saws, skidders, cable cranes, harvesters and forwarders. Managing our forests successfully within ecological, economical and technical boundaries on one hand and to enhance safety on the other, requests experts with a high level of theoretical knowledge and practical skills.

1. Introduction: Special circumstances for the future

The sector of the Austrian Forest and Timber Industries will have to face special circumstances in the near future. On one hand one can see an increasing sensibility of the society for environmental belongings and negative environmental impacts provoked by forest operations. On the other hand the worldwide climatic change elevates the risk for catastrophes like storm throw also in central Europe. In flat lands such damages can be worked up with fully mechanized harvesting systems, in mountainous regions qualified chainsaw operators are needed also in the future to work under high-risk conditions.

Never before was the international economic competition and the pressure on prices higher than today. This applies to forestry and wood industries in Austria as well.

To solve these challenges successfully, perfect education for all concerned in the sector of forest economy is of utmost importance.

2. Dual system

The situation of education and further education in the forest-sector of Austria varies. Principally it is based on the idea of “dual education”, which means an overlap of theoretical teaching and practical training within the educational period. This way the responsible authorities want to reach a high-level of knowledge and skills during the sustainable process of vocational qualification. To reach full sectoral competence it needs social competence, field-specific competence and methodical competence contemporaneously.

3. Qualifications and competences

The following table shows the different qualifications one can reach during the educational process, the centre responsible to offer curricula and the legal authorities which are in charge of the legislative regulation.

Table 1. Types of qualification and responsibilities (w. = weeks, m. = months, y. = years)

| Qualification | Educational centre | Responsibility |
|---|--|----------------|
| Forest labourer | no obligation Training Centres | Region |
| Licensed Forest worker (with examination) | Vocational agricultural school (3y.) or Vocational school and/or Training Centres (5w.) | Region |
| Master worker in forestry | Vocational agricultural school (3y.) or Vocational school and Training Centres (13w.) | Region |
| Forest warden | Training Centres (3 m.) Secondary vocational technical school for forestry in Waidhofen/Ybbs (1y.) | State |
| Forester | Technical vocational High School for forestry Bruck/Mur (5y.) | State |
| Academic Foresters | University for soil sciences Vienna (5y.) | State |

4. Manual work in the woodland

Manual work in the woodland is mainly done by farmers who do the woodland management themselves or forest workers employed by forest-enterprises. Partly also forest wardens do practical work in the woodland, either with chainsaws or with higher-mechanised harvesting systems, in other words cable-cranes and processors or Harvesters and Forwarders. So the main attention must be given to the enhancement of work-safety in order to offer qualified formation and further-education for these target-groups.

5. How to become a skilled forest worker

There are several possibilities to become a forest worker:

1. *Apprenticeship*: three years apprenticeship, during that period once a year attendance at a vocational school for three weeks, 5 weeks preparation course and examination at a Training Centre.
2. *Further apprenticeship*: three years attendance at a secondary vocational agricultural school, one year further apprenticeship in forestry, 5 weeks preparation course and examination at a Training Centre.
3. *Practical work experience* of 3 years, 5 weeks preparation course and examination at a Training Centre (minimum age 20 years).

Educational system in Austrian forestry



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6. Formation and work safety

The author strongly believes that a connection between the level of formation and the motivation to respect safety standards in everyday working process in forestry operations exists. A statistic from the social insurance company for farmers (Sozialversicherungsanstalt der Bauern - SVB) of the year 2005 shows this phenomenon in figures. Besides the fact that the total number of accidents in forest work is lower in the group of licensed professional forest workers, also the relative rate of lethal accidents is significantly lower. Per one million cubic-meters of harvested wood in the period from 2000 to 2002 the statistic shows 99 accidents in the group of licensed forest workers, in the group of farmers on the other hand 152 accidents. A similar situation shows the division of lethal accidents:

- skilled forest workers 1,05 per one million cubic meters harvested wood
- farmers 1,85 per one million cubic meters harvested wood

7. Reasons for accidents

The Austrian Accident causal research shows that only 5 % of accidents are caused by non avoidable technical reasons. Further 10 % are predicated on an unprofessional organisation and 85 % on other not specified human reasons. This means that 95 % could be prevented throughout respecting approved safety standards.

8. Challenges for the future

Besides all the important challenges we can expect from the near future in our sector we have to face the fact that the most important thing is to create risk awareness at the working place before starting with the work and to create a proper safety culture in the heads of manually working staff. All concerned have to work over this. Offensive formation programs in forestry are urgently needed. Certificates and standards of quality are a necessity in forestry and must be fulfilled by all members of a forest enterprise and by farmers who do practical work in their own woodland.

Important Catastrophes, like the storms "Paula" and "Emma" in Austria in January and February 2008, resulting in approximately 10 million cubic metres of storm damaged timber can only be processed appropriately with modern and efficient technology like harvesters and forwarders. Nevertheless,

mountainous forests inaccessible by wheeled or tracked vehicles, will remain the domain of chain saws and cable cranes.

9. Strong partners for the economy

There is a strong demand for professionals in forestry, competent in their fields of action. This means certified machine operators for chain saws, skidders, cable cranes, harvesters and forwarders. Managing our forests successfully within ecological, economical and technical boundaries on one hand and to enhance safety on the other, requests experts with a high level of theoretical knowledge and practical skills. And let us not forget the importance of a positive attitude of the individual towards work , work safety and nature.