

Abstract

There is a growing interest in competence validation. Up to day, for forest harvesting work no tool for validating workers' competence exists. As a part of a project focusing hardwoods in the South Baltic region, an easy-to-use tool for assessing forest workers' competence of hardwoods harvesting were developed. The tool documents competence requirements as well as actual level of competence, reports training needs, and opens for mutual reflections on competence. A preliminary version of the tool was tested in practice and revised due to experiences made. An industry effort to develop more general and extensive systems for validating forest workers competence is also suggested.

Key words: assessment, competence, forest harvesting, hardwoods, validation

Foreword

The limited volume of merchandisable hardwoods in the countries of the South Baltic region as well as separate national markets for forestry services hampers business development and entrepreneurship within the part of the forestry contracting sector oriented towards hardwoods. The EU financed project Hardwoods are good targets this problem. Main target

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group of the project is the contractors of the hardwood forestry – wood chain. Actors within the project are:

Swedish Forest Agency (Sweden) - lead partner

Forest Owners Association of Lithuania (Lithuania) - partner

Regional Directorate of State Forests in Gdansk (Poland) - partner

HCN - High Competence Network (Germany) - partner

Immanuel Kant State University of Russia (Russia) - associated organisation

Wood Centre Foundation Växjö (Sweden) - associated organisation

SÖDRA Forest Owners' Economic Association (Sweden) - associated organisation

European Network of Forest Entrepreneurs - associated organisation

Confederation of European Forest Owners - associated organisation

Forestry Association Mecklenburg-Vorpommern (Germany) - associated organisation

Swedish university of Agricultural Sciences in co-operation with DELO - Organisationsberatung are acting as consultants regarding the development of a competence assessment tool.

This report is a compilation of experiences during development of a system to validate the hardwood competence of forest workers and contractor firms. The work reported here have been led by PhD Oscar Hultåker at Department of Forest Products, Swedish University of Agricultural Sciences. In the work has also participated PhD Ewa Lidén, DELO - Organisationsberatung.

Content

Abstract

Foreword

Content

1 Introduction

1.1 Current tools and requirements

1.1.1 PEFC

1.1.2 COMFOR

1.2 Aim

2 Theoretical perspectives on competence

2.1 An organisation research perspective

2.2 An educational oriented perspective

2.2.1 Formal versus actual competence

2.3 Validation

3 Method

3.1 State-of the-art

3.2 Development of a test version of the assessment tool

3.3 Evaluating the assessment tool

3.4 Development of the final version of the assessment tool

4 Results

4.1 State-of-the-art

4.2 Functioning

4.3 Themes to be assessed

4.4 The preliminary assessment tool

4.4.1 Forest worker competence

4.4.2 Contractor firm competence

4.5 Experiences from evaluation

4.6 The final assessment tool

5 Final remarks

References

Appendix 1 - Methods manual

Appendix 2 - Manual for evaluating the assessment tool

Appendix 3a - Test version of the assessment tool; individual forest worker competence

Appendix 3b - Test version of the assessment tool; contractor firm competence

Appendix 4a - Final version of the assessment tool; individual forest worker competence

Appendix 4b - Final version of the assessment tool; contractor firm competence

1 Introduction

Main stream forest competence in the South Baltic region focuses on soft woods. There is often said to be a lack of competence on hardwoods, especially regarding harvesting. Moreover, in forest harvesting the competence level might generally be low. Thus there is a need to achieve an over all increase in hardwood competence in the forest industry and especially in forest harvesting (e.g. Kastenholz, 2011). On the other hand, there are also previous reports stating that forest contractors might be rather well educated, at least in the transition economy countries (e.g. Hudson, 2008). In general, in the forest harvesting industry of today the bulk of actors are SMEs and their employees. While the labour market grows more mobile crossing national borders, the SMEs in the forest harvesting business and their clients lack resources to

assess competence not fitting into national classification schemes. There is thus a need to increase industry capacity to assess competence of single forest workers and of contractor firms. This has been shown by e.g. Bohlin & Hultåker (2005) and Lewark (2009).

The vision driving the project reported here is a functioning tool for assessment of forest worker hardwood competence primarily targeting forest contractor SMEs and their employees. A secondary focus is the needs of forest owners, forest industries, and other organisations utilising the services of forest contractors. Assessing forest worker competence is important in order to ensure quality. A functioning Pan-European assessment tool would make mobility between countries easier.

A preliminary tool was developed due to state-of-the-art and needs expressed by hardwood industry actors in the South Baltic region. The preliminary tool was tested during the course of the project and revised due to the experiences from testing.

A difficulty in developing Pan-European assessment systems is national differences in e.g. educational system, vocational certificates, administrative systems, etc. Further more even within each country different organisations raise different internal requirements for identical issues (Hudson, 2008). The cross border system to be developed in the current project therefore only can include common issues. Other requirements have to be complemented at national or organisational level.

1.1 Current tools and requirements

Currently no tool exists neither for assessing forest worker competence of hardwood harvesting nor contractor firm competence. Neither exists any widely accepted comprehensive

tool for assessing general forest worker harvesting competence. However, in specific areas of forest contracting and forest work efforts have been made which could be applicable as models.

1.1.1 PEFC

The PEFC system of forest certification is a system for certifying forest contractor businesses.

The Swedish PEFC contractor certification scheme includes the following main items (PEFC, 2006a; b):

- Competence
- Sub-contractors
- Legal restrictions and trade customs
- Work environment and welfare
- Fuels and lubricious
- Prevent spill
- Accidents and fire
- Dangerous goods and waste

Several items within the PEFC forest contractor certification scheme may also apply to contractor employees.

Within the FSC forest certification system no contractor certification scheme is at hand. Thus the current PEFC certification scheme was chosen as a departure regarding items to be included in a competence assessment tool.

1.1.2 COMFOR

The EU-funded project COMFOR focused common problems of occupational health and performance in mechanised forestry. The project aimed at developing tools for improved health and performance. Two tools focus contractor and operator skills respectively. The tools assess specified skills according to needs experienced by actors within the industry. The result is documentation on training needs and non utilised competence (ENFE, 2009a; b). The two tools form a departure for the current development efforts regarding methodology and simplicity to use.

1.2 Aim

This report targets the specific aim of developing a tool for measuring and assessing forest workers and the forest contractor firm competence on hardwood harvesting in the South Baltic region. The work is based on state-of-the-art in the forest industry and by needs expressed by industry actors. Further, experiences from testing the preliminary tool is reported and a slight revision of the tool.

2 Theoretical perspectives on competence

2.1 An organisation research perspective

The stream of literature within organisation research labelled the resource or competence based view stresses the importance of the resources in general that a business control and often points at competence as a key resource. E.g. Wernerfelt (1984) exemplifies resources as among others an educated work force. Prahalad & Hamel (1990) uses the notion of competence as a collective asset writing: “Core competencies are the collective learning in the organisation, especially how to coordinate diverse production skills and integrate multiple

streams of technologies. --- If core competence is about harmonising streams of technology, it is also about the organisation of work and the delivery of value.” (s. 82) Core competencies are distinguished by utility, to be of use for customers and to be difficult to imitate. In comparison to commodities competence is not consumed.

In order to solve the problem of identifying the important resources or capabilities Oliver (1997) argues that the competitiveness of a firm has to build upon on the one hand the resources and competence that the firm controls and on the other on the institutional context where the firm acts. According to Oliver the institutional context puts restrictions on how firms can use their resources. Thus, competence or any other asset has to make sense in the context where they are to be used.

2.2 An educational oriented perspective

A draw back of the competence based view is that the authors seldom, if ever, manage to specify the distinguishing features of competence. An educational perspective offers a complement. Firstly it is important to stress that the wide concept of competence should not be reduced only to formal competence. The issue of competence should at least be viewed from the perspective of formal competence on the one hand and actual competence on the other.

2.2.1 Formal versus actual competence

Formal competence includes i.e. diplomas, certificates, marks, etc. In the South Baltic countries there might be different demands on formal competence. These demands have to be identified and documented (Keen, 2002).

Actual or tangible competence on the other hand includes knowledge, skills and proficiency, no matter how a person has acquired the competence. At everyday's work the actual competence is decisive when it comes to fulfilling the tasks. It is therefore the most important type of competence (Keen, 2002).

In the current project it is essential to identify what key or core competence and qualification that are necessary for logging contractors and their employees. In order to systemise the search for items to be included in a competence assessment tool, it is useful to break down the idea of competence further. Often the following dimensions can be used (Keen, 2002):

- Facts; memorised knowledge, what we know, methods we have learned
- Skills; being able to apply our knowledge, what we can
- Understanding; having made experiences, personalised knowledge, ability to learn from mistakes and successes
- Values and attitudes; ability to share common approaches and culture, being responsible
- Interaction and exchange; co-operation, communication, management, networking, power of initiatives

2.3 Validation

During recent years there has been a growing interest in identifying, documenting and developing workers individual competence. Such efforts might be systemised in competence validation schemes which may be described in three dimensions (Hult & Andersson, 2008).

- Convergent – divergent: A validation system may focus fulfilment of pre-defined knowledge requirements or focus the actual competence of an individual.

- Summative – formative: A validation system may focus on documenting and evaluating an individual's prior knowledge or focus being a basis for continued learning.
- Formal – non-formal – informal: A validation system may focus formal education typically resulting in a standardised documentation, focus non-formal learning outside formal educational system and often resulting in documentation without formal status, or focus informal learning in every day life as being part of another activity.

In practice, every validation system is positioned somewhere in between these extremes. Validation systems may differ whether they depart from individuals' actual competence or from industry requirements. Generally validation schemes are rather comprehensive. Within the limited task of the current work it does not seem possible to develop such a comprehensive system. Instead of a validation system our efforts will be put at an easy-to-use system for assessing competence.

Comparing the different European countries regarding validation of workers competence a much split picture of aims, methods and results appears. Validation may grow from bottom-up as well as top-down initiatives. Examples of bottom-up initiatives are industry organisations developing validation systems in order to meet skills shortages and guaranteeing worker level of competence. Examples of top-down initiatives are legislative requirements guaranteeing the right of the individual to get competence validated towards defined requirements aiming at empowerment and combating social exclusion. Several other possible perspectives also exist (Hawley et al., 2010). It is out of the scope of this report to make any synthesis of the field.

3 Method

Cross-national studies are often impeded by data being more or less accessible in different countries or in some instances might be non-accessible. Difficulties accessing data in one country while available in another can be due to differences in legal and other institutional systems as well as in attitudes (c.f. Bohlin & Hultåker, 2009). Thus it seldom makes sense streamlining cross-national studies. Instead there is a need to keep a big room to adjust the course of action to local circumstances. Differences in institutional conditions as well as the attitudes among those we suppose should contribute with information will otherwise be disincentive to the quality of data.

In practice, during data collection national partners were asked to deliver data on state-of-the-art as well as needs of competence and assessment of competence expressed by hardwood industry actors in the South Baltic region. Later partners were also asked to report experiences of testing a preliminary version of an assessment tool. All data was first analysed by national partners. Ourselves we have only had access to secondary data delivered by national partners.

On a meta plane the data collection got characteristics of case studies (e.g. Parlett & Hamilton, 1976; Stake, 1995; Yin, 2003) but within this frame we supposed a wide pallet of data collection methods to be used (c.f. Silverman, 2001). A weakness of the chosen method is the low degree of standardisation. Considering that comparisons between the different countries are not the aim of the report the low degree of standardisation is acceptable and opens for catching a wider pallet of perspectives. It gives rise to a qualitative data material effectively extracted from the available national sources.

3.1 State-of-the-art

Data collection was split into twice. The first part was a summary of competence needs and current assessment tools in the partner countries and within the European Union. Part two was a collecting of cases how current tools for competence assessment in hardwood logging are working in practice.

A common question guide was developed together with a short methods manual presenting possible data collection methods as well as instructions for a first national analysis and data compilation (Appendix 1). Our intention with this approach was to give partners the opportunity to design their data collection due to local circumstances but with support from us the consultants. The methods manual consisted of short introductions to data gathering and to competence. The methods manual also consisted of a list of items to be covered during data gathering and a list of items conceivable to be included in a competence assessment tool, the latter to be ranked.

3.2 Development of a test version of the assessment tool

Current assessment tools from adjacent fields were to be used as a departure for developing the competence assessment tool for hardwood logging. The current Swedish PEFC contractor certification scheme (PEFC, 2006a) was used as a departure for items to be included. Once receiving data from national partners we synthesised their reports regarding items to be included, items to be excluded, and other issues to be considered. As a methodological departure the skills checks from the COMFOR project was used.

3.3 Evaluating the assessment tool

Later on partners were asked to evaluate the preliminary assessment tool and report their experiences. For this purpose national partners were supposed to translate the tool into national languages. As a common basis for reporting experiences a separate reporting manual were developed (Appendix 2).

3.4 Development of the final version of the assessment tool

The reports from national partners regarding experiences of using the test version of the assessment tool were analysed regarding requirements for revisions in the same manner as the reports on data gathering. Due to reports from partners a final version of the assessment tool was developed.

4 Results

4.1 State-of-the-art

Although not the case for every forest worker, in the data material received from partners it appears that the formal competence level among hardwood forest workers can be very low. This is certainly not new knowledge. Neither is it new knowledge that forest contractors might be better educated than their employees, especially in the countries in transition. Also previously reported are national differences on requirements of certificates (cf. Hudson, 2008; Bohlin & Hultåker, 2009).

In the data material several types of certificates valid in only one single nation or even in one single organisation are reported. From Poland are reported of obligatory certificates for tree

felling and of certificates for operating a crane. From Lithuania is reported of a certificate to become a logger which has to be renewed every fifth year, otherwise you are only allowed to work for private forest owners. A draw back of the Lithuanian system of certification is a lack of teachers and relevant literature for education needs, which might restrict the number of forest workers. In Russia there have previously been requirements for several standardised competence certificates. From Sweden is reported of a chain saw certificate however not compulsory by law. Anyway, the chain saw certificate is a necessity of other certificates, e.g. PEFC and FSC. In the Swedish case is however stressed that most important when selecting a contractor or a forest worker is his reputation, as long as the contractor fulfills basic demands such as being certified by PEFC when working in PEFC certified forests. The same is stressed in German data.

“If you are an experienced forest worker you get a work even without documented experience.”

The citation from Swedish data also illustrates the current Swedish system where the most common way of assessing competence in forest harvesting is through assessment of the work performed. In Sweden much of common standards on certificates have been lacking, the content of certificates to a high degree depending on the issuing organisation. Validity outside the issuing organisation has often been limited. This informal system is now step-by-step being replaced. The standardised PEFC contractor certificates keep nation wide validity. A strong force in the development towards a commonly accepted contractor standard has been the Swedish forest contractors association. In the data material there is explicitly questioned if standardised competence assessment systems more general than to individual organisations or nations would not prove more effective than the systems available today. In that case the

spread in the level of formal education as well as the national and organisational differences has to be considered when developing a tool for assessing competence of hardwood forest workers.

Workers safety and societal issues seem to be a significant item in all countries and are generally more strictly regulated. In these cases any assessment system has to conform to national regulation. This makes it difficult to develop extensive cross-border systems in these areas.

Certification systems might be governmental driven or stake holder driven. From Lithuania is reported of a governmental driven system for certification of loggers that seems to work well. From Poland is reported of a formal stake holder driven system for certifying forest contractor services. The system illustrates the difficulty of implementing stake holder driven systems, since the certificates does not seem to be required in practice in the purchasing of harvesting services. On the other hand, from a Polish perspective there is a well defined minimum level of quality that every forest contractor has to reach in order to receive commissions due to public policy. From the German horizon is reported how PEFC is implemented as a system used by a state forest agency and also that such a system requires continuous development. Another example of a functioning stake holder driven system might be the Swedish system of PEFC certification of forest contractors which has been rather widely accepted within the Swedish forest industry. From Sweden is also reported how purchasing organisations previously have developed develop their own organisation specific certificates, when general certificates were lacking, in order to document and assess requirements on contractors and contractor employees. Nowadays instead they step-by-step accept the PEFC contractor certification scheme. In German data the draw back of every formal system is illustrated

resulting in bureaucracy and higher costs for single actors although keeping over all system transaction costs at a lower level.

4.2 Functioning

A synthesis of the analysed data and literature result in the conclusion that it might be possible to pre-define general competence criteria in specific areas. Since the system has to work in different national settings in most areas it is probably hard to pre-define exact competence. Thus main focus should be on the actual competence of the individual in relation to the competence required. Furthermore, focus should be on informal competence of the forest workers since most of their competence is in fact achieved that way. The system should be possible to use both as a summative system and a formative system. Convergent summative systems can be useful for purchasers of hardwood logging services while the management of contracting firms and the individual employees could benefit from for divergent formative systems in order to identify core competence as well as identifying training needs.

4.3 Themes to be assessed

In the data material it is stressed that compared to soft woods every single stem in hardwoods usually keeps a very high value. The individual forest worker needs the competence to refine these high values.

From Swedish data the most important items of hardwood harvesting competence are:

- Marking of wood and cross cutting; requirements are not standardised and differ between the purchasing organisations.

- Working technique; even in highly mechanised processes harvesting of hardwoods calls for motor-manual logging, especially for bigger trees.
- Technical skill; the fact that the wood are hard put stress on equipment requiring a high level of technical competence.
- Forest management; compared to soft wood forest management, hardwoods raises specific requirements on forest management competence.
- Nature conservation; the great biodiversity in hardwood forests increases the requirements on nature conservation competence.

The German data requires knowledge of species regarding tree and wood characteristics, appropriate working technique adjusted to the specific situation, and competence regarding environmental aspects. German data results in a ranking in three levels of importance: Prioritised items are technique and equipment, preparation of wood, safety, and legal restrictions and trade customs. Secondly are mentioned documentation of formal qualification and nature conservation, biodiversity and environmental issues. Thirdly are societal issues.

The Lithuanian material as well pointed out that hardwood logging put higher requirements on forest worker working technique than soft wood logging due to the bigger tree sizes. One main problem is workers' safety. More specific safety problems relate to farmers working part of year in own forest lacking loggers certificate and people making fire wood, i.e. people lacking an employment relation.

Especially in the Swedish material is shown that from an industry perspective not only forest workers competence needs to be assessed and certified but also firm level competence, i.e. the competence and other resources that the forest contractor business is set up of.

4.4 The preliminary assessment tool

The assessment tool has three basic sources of input summarised above: Partner reports, the PEFC forest contractor certification scheme, and the tools of the EU-funded COMFOR project for assessing contractor and operator skills. The result is a competence assessment tool divided into six main categories. Each category includes several sub-items:

- Technique and equipment – Equipment for manual and mechanised work as well as experience of operation
- Education, training, and other qualifications – Personnel, what courses they have taken, course duration, and examination
- Skills – Knowledge and capacity to select the appropriate procedures
- Understanding – Comprehension of the forest to industry wood chain
- Values and attitudes – Sharing of common values and attitudes within company and sector
- Interaction and exchange – Communication and exchange of experiences with co-actors

Literature on competence points at an important distinction between individual competence and firm level competence. The assessment tool is thus divided into one part assessing individual competence of hardwood forest workers and another part assessing firm level competence. The two parts might be used separately.

The test versions of the assessment tools are included in Appendix 3a and b.

4.4.1 Forest worker competence

Focus of the tool assessing individual forest worker competence is on forest workers' current competence in relation to the requirements, i.e. not only current competence but also the competence requirements for each item need to be defined during the assessment. The tool thus meets convergent as well as divergent demands. The assessment tool also meets both summative and formative requirements. For each item, competence should be documented in relation to requirements. If the competence of the forest worker does not fully fill the requirements a training need exists. The assessment tool should also include a documentation of formal forest worker education and certificates held, as well as work experience. Besides documenting and assessing competence and identifying development needs the tool may also serve for identifying unused competence. If broadly accepted within the industry it may serve as a certificate of quality at workers level.

The assessments should preferably be made by the contractor or other trustworthy person and the individual forest worker in co-operation in order to open for mutual reflections on competence, requirements, and training needs.

4.4.2 Contractor firm competence

Focus of the tool assessing contractor firm competence is on the collective bulk of competence of the firm. The tool meets convergent as well as divergent demands and also meets both summative and formative requirements. Competence should be documented in relation to requirements. If the competence does not fully fill the requirements the competence of the firm needs to be complemented. The assessment tool should also include documentation of main technique and equipment, number of personnel and their levels of competence. Besides documenting and assessing competence the tool may also serve for

identifying previously unused competence resources of the contractor firm. If broadly accepted within the industry it may serve as a certificate of quality at firm level.

The assessments should preferably be made by the contractor in co-operation with his employees in order to open for mutual reflections on firm competence, development needs and capacities.

4.5 Experiences from evaluation

Partner reports on evaluation show a pallet of different experiences. Swedish reporting on the whole value to the tool rather good and useful. Polish reporting on the other hand builds on an evaluation where workers' self-administration of the tool has been compared to a method where the forms have been used by forest workers being assisted in answering questions. The self administration method results in all works giving high scores to every item and is thus probably of little use. The assisted method, on the other hand, seems to result in more a more reliable assessment.

We think that the different Swedish and Polish experiences reflect differences in the general work-place culture between the two countries. It is thus important when using the tool to choose a method appropriate for the cultural context. Further more, self administration of the tool by forest workers has never been the main alternative. The tool is constructed to be used by the contractor or other trustworthy person and the individual forest worker in co-operation in order to open for mutual reflections. The Polish experiences show that the tool might work rather well in the circumstances for which it is constructed.

Swedish and German experiences points at details that might call for revisions. There are conflicting requests regarding simplifications as well as increased depth. Within the current format of the assessment tool there is not much room for digging more into details. Another reason not going more into details in the assessments is given by the Polish partner quoting a contractor not seeing any value in the assessment tools since "... they only increase bureaucracy". There is a call for simplicity.

The proposals in the evaluation reports are generally applicable for both the contractor and the forest worker competence assessment tools. Most proposals regard the wording of single sub-items. Main proposals regard that:

- The forest worker rarely has an impact on choice of harvesting method.
- A question on PEFC, FSC and similar certification schemes is lacking.
- One or more of the items on understanding, values and attitudes, and interaction and exchange are unnecessary and difficult to apply.
- More dimensions of safety have to be included.

4.6 Final assessment tool

During revision work we have followed the proposals from the evaluations as far as possible and as long as they are not conflicting. We have thus revised wording of some sub-items, included a sub-item on PEFC, FSC and similar certificates, revised items on safety, and revised the headings of the items on understanding, values and attitudes, and interaction and exchange thus hope-fully making them easier to understand.

The final assessment tool is included in Appendix 4.

5 Final remarks

Most competence required for forestry work is common regardless of tree species. In the current work, focus has been on an assessment tool for requirements that are specific for hardwood forest work. The results are hampered of the fact that there is not any single accepted assessment tool for general competence requirements of forest workers. If that had existed it should have been possible to focus on differences compared to the general requirements. We argue that there is a need to develop a tool for assessing forest workers competence in general in order to then develop well functioning tools for more specific sub areas. At the best a tool for assessing general forest worker competence could be extended to a validation system.

Many requirements however depend on national or local legislation, rules, norms, and customs. It will therefor probably prove difficult to develop a common Pan-European validation system. In the current assessment tool this problem has been dealt with by comparing the current level of competence with local legal requirements, certification criteria, and trade practice. This could offer one solution to the Pan-European issue. This though, postulates awareness of the national or even more local requirements.

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Tool for confirmation of qualification in hardwood logging

The HardWood project aims at developing a system for measuring competence of hardwood logging contractors. As a result areas for improvement and competence raising activities may be identified.

The system should mainly be used by the contractors themselves to confirm their strengths, but may also be used as a competence validation instrument for customers. Focus should be put on logging skills regarding activities on site, not the business considerations within the contractor firm.

This document consists of four parts; (i) a short introduction on the concept of competence, (ii) a short manual regarding qualitative data collection, (iii) a list of issues to be targeted in data collection by partners, and (iv) a draft list of items regarding competence to be ranked by partners.

Reporting

All national reporting is to be sent to oscar.hultaker@slu.se at the latest April 15th and May 15th respectively.

April 15th

- Reporting on stage 1 of the data collection according to appendix 2 (interviews and literature)
- Ranking of items in the draft list of items regarding competence according to appendix 4

May 15th

- Reporting on stage 2 of the data collection according to appendix 2 (case study)

Questions

If you have any issues to discuss please contact Oscar Hultåker oscar.hultaker@slu.se or Ewa Lidén ewa.liden@t-online.de .

Appendices:

1. An introduction to the concept of competence
2. A manual on data collection
3. Issues to be targeted in the data collection
4. List of items that might be included in a competence validation tool

Appendix 1

An introduction to the concept of competence

Competence is a wide concept, which too often is reduced to formal basic education. A short glimpse into the area, however, indicates several basic concepts.

Formal vs actual competence

Formal competence includes i.e. diplomas, certificates, marks, etc. In the South Baltic countries there might be different demands on formal competence. These demands have to be identified and documented.

Another type of competence is the actual or tangible competence. This includes knowledge, skills and proficiency, no matter how a person has acquired the competence.

At everyday's work the actual competence is decisive when it comes to fulfilling the tasks. It is therefore the most important type of competence.

Dimensions of actual competence

In the HardWood project it is essential to identify which key or core competence and qualification that are necessary for logging contractors and their employees.

In order to systematise the search for items to be included in a competence validation tool it might be necessary to break down the idea of competence further. Very often the following dimensions can be used:

- **Facts**; memorised knowledge, what we know, methods we have learned
- **Skills**; being able to apply our knowledge, what we can
- **Understanding**; having made experiences, personalised knowledge, ability to learn from mistakes and successes
- **Values and attitudes**; ability to share common approaches and culture, being responsible,
- **Interaction and exchange**; co-operation, communication, management, networking, power of initiatives

Appendix 2

A manual on data collection

Data collection consists of two parts. Stage 1 targets the situation in general from the perspectives of stake holders within the industry. Stage 2 targets the functioning of a specific assessment system in more detail.

Please send the reporting of stage 1 at the latest April 15th and the reporting of stage 2 at the latest May 15th to oscar.hultaker@slu.se .

Stage 1 – Interviews and literature

Data will probably emanate from two sources:

- Interviews with informants being experts in the area.
- Literature in a wide sense (books, journals, news papers, other printed matter, Internet resources etc.).

Main issues to be targeted are found in Appendix 3. It could serve as a guide for questions for interviews and as a checklist for searching literature as well as for writing national reporting.

If there is a simple and a more complicated way of getting access to data and reporting it, always choose the simplest way.

Selection of informants

Informants to be interviewed have to be decided upon due to the national situation. Thus national partners themselves are best suited to make the selection.

Some general criteria

- Every informant should be supposed to deliver new information.
- A spread of informants with different perspectives is preferred.
- Perspectives to be covered might be governmental agencies, buyers of logging services, stakeholder organisations such as a contractor organisation, a forest owner association, a trade union and an industry organisation, and certifying agencies.
- It is waste of resources interviewing two informants giving the same information.

Take use of your knowledge of the industry in order to find informants making for the required spread of perspectives. Once having commenced the interview work you may also ask informants for further informants meeting your requirements.

Please notice that an informant meeting criteria for one category may also meet criteria for another category, thus reducing number of interviews.

Participation should be voluntary. Participants should be informed on the aim of project and they should have been given their consent to participate before the interview.

Interviewing

Interviews might be carried out as formal interviews by visiting informants or by phone. You might as well make informal interviews by just discussing the issue while occasionally meeting persons that might keep relevant information.

Our aim is to get relevant information, not to standardise data collection. Every interviewee might not be able give information on all issues. Appendix 3 is a guide for questions for interviews. It has to be adapted to the national situation.

The best often is to write an account of each interview directly after having performed the interview. A tape recorder or an MP3-player might be useful instruments, but are not always possible to use. Please keep your original documentation through the project if any questions will arise.

Reporting

We propose you to document your interviews in short accounts. We are interested in the main points made by your informants. As a guideline a full interview covering all issues in Appendix 3 should be condensed to approximately 1½-2 pages A4.

Besides interviews information from literature should also be documented on approximately two pages. Formal assessment systems you have got hold of may be documented by e.g. translating main headings.

You yourself might be one of the persons with the best knowledge of the issue. Thus your own knowledge should also be included in your reporting. We are interested in your own reflections on the information. Please value the information you have received on maximum half a page per interview as well as for information from literature.

Also document contacts not giving any relevant information, i.e. number of contacts and type of informant.

Stage 2 – Case study

Focus of stage 2 should be on the most important system in your country for assessing contractor and contractor employee competence and skills, if there is any.

The purpose is to compile a description of a functioning system:

- What are the components of the system?
- How is the system working in practice?

Describe the system from the perspective of the buyer of logging services on the one hand, the contractor and contractor employees on the other, and your own as external observer on the third hand. Describe positive as well as negative aspects.

Use your experience of stage 1 in order to identify relevant cases. We would be very happy to discuss the selection of a case with you.

The case study might need further interviewing and discussions with stake holders. It should be reported in a short written account in much the same manner as the interviews and literature of stage 1. However the case has to be a bit longer, probably 2-4 pages depending on the amount of information, including your own reflections.

Appendix 3

Issues to be targeted in data the collection

N.B.! Focus should be on actual (tangible) competence i.e.:

- Facts
- Skills
- Understanding
- Values and attitudes
- Interaction and exchange

Do contractors and contractor employees need special competence and skills in hardwood logging compared to logging in general?

Describe the requirements of competence!

How does a buyer of logging services know whether contractors and contractor employees meet the requirements of competence and skills needed in hardwood logging?

In practice, how is competence and skills of contractors and contractor employees assessed today?

- In logging in general?
- In hardwood logging?

Please describe the different ways!

As far as you know. What systems for assessing contractor and contractor employee competence and skills in logging in general as well as in hardwood logging are available?

- In your own country?
- In other countries?
- At a European level?

Please describe the functioning of the systems, their components, etc.!

Are the systems useful?

What are the main drawbacks of the systems and hindrances for using them?

What are the main opportunities of the systems and reasons for using them?

Try to get hold of documentation of formal systems!

Appendix 4

List of items that might be included in a competence assessment tool

This draft list of items to be included in a competence assessment tool is based on the criteria in the Swedish PEFC certification of contractors and on the Swedish Forest law. In the final tool 20-30 items might be included.

We ask each national partner to rank the urgency of the items based on your own experience as well as from what you learn during data collection of stage 1 and the following reporting. Please also include new items that are not covered in the list.

Please send the ranking to oscar.hultaker@slu.se at the latest April 15th.

- 1. Documentation of formal qualification**
 - 1.1. updated list of employees' qualification
 - 1.1.1. basic education
 - 1.1.2. mandatory special courses
 - 1.1.3. special instructions for unskilled personnel
 - 1.2. annual plan for further qualification
- 2. Technique and equipment**
 - 2.1. Choice of suitable harvesting equipment
 - 2.1.1. mechanized harvesting
 - 2.1.2. motor-manual harvesting
 - 2.2. Choice of technique to minimize impact on forest land
 - 2.2.1. report considerable tracks and other damages
 - 2.3. Dangerous goods
 - 2.3.1. environmental approved fuel and lubricants and other articles of consumption
 - 2.3.2. prevent spill through accurate work
 - 2.3.3. clearing equipment
 - 2.3.4. declaration of dangerous goods
 - 2.3.5. destruction of dangerous goods
- 3. Preparation of wood – crosscutting and assortments**
 - 3.1. written work assignment
 - 3.2. wood quality, optimising output
 - 3.2.1. defects on surface
 - 3.2.2. decay damages
 - 3.2.3. shape and length
- 4. Nature conservation, biodiversity and environmental issues**
 - 4.1. written work assignments with maps
 - 4.2. fulfil forest standards
 - 4.2.1. preserve and protect biotopes and habitats with special values
 - 4.2.2. leave zones next to water and to cultural landscape
 - 4.2.3. protect valuable old trees or future valuable trees

4.2.4. leave dead wood

4.2.5. preserve and protect civilisation stamps, ancient, historical and cultural monuments

5. Safety

- 5.1. plan for continuous development of working environment
- 5.2. personal safety equipment
- 5.3. occupational health services
- 5.4. safety controllers if >5 employees
- 5.5. plan for handling crisis
- 5.6. first aid kit
- 5.7. list with telephone numbers to employees' next of kin
- 5.8. fire protection equipment
- 5.9. safety declarations of chemicals in use
- 5.10. approved containers and tanks for fuel

6. Societal issues

- 6.1. taxation and insurances
- 6.2. remuneration according to collective agreements
- 6.3. employment contracts
- 6.4. description of employees' authorities
- 6.5. routines for consultation with simultaneous working contractors
- 6.6. engagement of subcontractors

7. Legal restrictions and trade customs

- 7.1. work environmental law
- 7.2. working hours legislation
- 7.3. reporting of narrow escapes, injuries and accidents to authorities
- 7.4. licence to transport dangerous goods and waste

Appendix 2 - Manual for evaluating the assessment tool

Workers Skills in Hardwood Logging

Name Employment contract since Telephone number

Main task Payroll system Average monthly pay

Text about the purpose with the tool and how it should be used

Use the following marks to characterize your current level :

Excellent - I can perform very well, no problems are left unsolved or efforts to improve work

Good - I can perform quite well and solve common problems. I am rather committed to work.

Average - I manage to get along. The output is not mainly my concern

Not applicable
Item does not occur in the company I work.

1 Basic education and training courses

Enter the names of the courses you have taken *Course provider* *Duration* *Examination year*

Enter the names of the courses you have taken	Course provider	Duration	Examination year

2 Harvesting equipment

Estimate your skill in the following: *Experience between year - year:* *My marks*

Estimate your skill in the following:	Experience between year - year:	My marks								
Working with and maintenance of a chain saw		<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
Operating and maintenance of forest machines		<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
Complete and up-to-date safety equipment		<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
Environmental friendly lubrication greese and acrylate petrol		<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								

Estimate your level for the items in sections 3 - 6. Use the same marks.

3 Skills

Skills	My marks								
I can select and apply accurate harvesting methods with regard to stand conditions	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I can prepare stand for efficient and safe operations	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I do recognise common hardwood species	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I can perform a safe felling technique with regard to current species	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I use felling methods which allow optimum wood revenue	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I handle dangerous trees in a safe way	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I can identify and estimate wood quality, shape and length	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I know how to optimize crosscutting in accordance to customers assortment demands	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
My work complies with legislation and collective agreements (working hours, breaks, safety, etc. .)	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
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I know how to preserve and protect biotopes and habitats and ensure biodiversity	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I know how to preserve and protect civilisation stamps, historical and cultural monuments	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								

4 Understanding

Understanding	My marks								
I can apply the company's follow up routines on wood quality and quantity	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I can apply the company's follow up routines on stand conditions and damages	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I take care of problems as they appear and use them for learning	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								

5 Values and attitudes

Values and attitudes	My marks								
I am aware of and share the employers business vision	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I act responsible in professional situations	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I enjoy my work and consider myself contributing to the company's profit	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								

6 Interaction and exchange

Interaction and exchange	My marks								
I strive for an effective and open communication at work	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								
I am committed and contribute to a good and inspiring climate at work	<table style="font-size: x-small;"> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> <tr><td style="width: 20px; height: 15px; background-color: #28a745;"></td><td style="width: 20px; height: 15px; background-color: #ffc107;"></td><td style="width: 20px; height: 15px; background-color: #6c757d;"></td><td style="width: 20px; height: 15px; background-color: #dc3545;"></td></tr> </table>								

Competence in Hardwood Logging

Company name

Company registration number


Telephone number

Company address

Zip code and city

E-mail address

Text about the purpose with the tool and how it should be used



The following marks are used to characterize the competence level in the company:

Very good <small>beyond legal requirements, certification criteria or trade practice</small>	Good <small>meets legal requirements, certification criteria or trade practice</small>	Improvable <small>does not fully meet legal requirements, certification criteria or trade practice</small>
--	--	--

1 Technique and Equipment for

	No.	Machine type or tool	Model, make/brand	Year	Company mark
• manual cutting					■ ■ ■
• mechanized logging					■ ■ ■
• forwarding					■ ■ ■

2 Personnel and qualification

	No.	Unskilled	Basic education	Further training	Company mark
Manager(s)					■ ■ ■
Supervisors					■ ■ ■
Cutters					■ ■ ■
Machine operators					■ ■ ■

Estimate the company level for the items in sections 3 - 6:

3 Skills

• we can select accurate harvesting equipment with regard to stand conditions	■ ■ ■
• our staff have competence to prepare stand for efficient operations	■ ■ ■
• our workers are skilled to use a safe felling technique	■ ■ ■
• our workers are skilled to fell trees of different species and optimize the wood revenue	■ ■ ■
• our workers are skilled to assess wood quality, shape and length	■ ■ ■
• we achieve optimal crosscutting in accordance to customers assortment demands	■ ■ ■
• our staff is provided with personal safety equipment	■ ■ ■
• workers safety is accounted for through first aid and accident routines	■ ■ ■
• we have skills and routines for handling of dangerous goods and waste	■ ■ ■
• we preserve and protect biotopes and habitats and ensure biodiversity	■ ■ ■
• we preserve and protect civilisation stamps, ancient, historical and cultural monuments	■ ■ ■

4 Understanding

	number of years	Company mark
• our company can offer comprehensive professional experience		■ ■ ■
• we apply follow up routines on wood quality and quantity		■ ■ ■
• we apply follow up routines on stand conditions and damages		■ ■ ■
• problems are taken care of as they appear and are used for learning		■ ■ ■

5 Values and attitudes

• our company has an outspoken vision which is shared by the staff	■ ■ ■
• our employees act with responsibility in professional situations	■ ■ ■
• our workers experience a high degree of job satisfaction	■ ■ ■
• we sign employment contracts and comply with the collective agreement and legislation	■ ■ ■

6 Interaction and exchange

• we have an effective and open communication which support high work quality	■ ■ ■
• we have a system for information exchange to assure a committed staff	■ ■ ■
• our staff attend trade exhibitions, fairs and other events to receive external input	■ ■ ■
• our staff is committed to create a good and inspiring working climate	■ ■ ■

WORKERS SKILLS IN HARDWOOD LOGGING

Name Employment contract since Telephone number

Main task Payroll system Average monthly pay

Use the tool in cooperation between the forest worker and e.g. the contractor in order to document competence and training needs and open for mutual discussions on competence requirements and training needs.

Use the following marks to characterize your current level :

Excellent - I can perform very well, no problems are left unsolved or efforts to improve work

Good - I can perform quite well and solve common problems. I am rather committed to work.

Average - I manage to get along. The output is not mainly my concern

Not applicable
Item does not occur in the company I work.

1 Basic education and training courses

Enter the names of the courses you have taken *Course provider* *Duration* *Examination year*

2 Harvesting equipment

Estimate your skills in the following: *Experience between year - year:* *My marks*

Working with and maintenance of a chain saw			
Operating and maintenance of forest machines			
Complete and up-to-date safety equipment			
Environmental friendly lubrication grease and acrylate petrol			

Estimate your level for the items in sections 3 - 6. Use the same marks.

3 Individual skills

I can apply an accurate working technique with regard to stand conditions			
I can prepare stand for efficient and safe operations			
I do recognise common hardwood species			
I can perform a safe felling technique with regard to current species			
I use felling methods which allow optimum wood revenue			
I recognise and handle dangerous trees in a safe way			
I can identify and estimate wood quality, shape and length with regard to current species			
I know how to follow instructions on customer demands (assortments, crosscutting, etc.)			
My work complies with legislation and collective agreements (working hours, breaks, safety, etc.)			
I know how to preserve and protect biotopes and habitats and ensure biodiversity			
I know how to preserve and protect civilisation stamps, historical and cultural monuments			

4 Individual understanding

I can apply the company's follow up routines on wood quality and quantity			
I can apply the company's follow up routines on stand conditions and damages			
I know and follow safety routines			
I take care of problems as they appear and use them for learning			

5 Sharing of company values and attitudes

I am aware of and share the employers business vision			
I act responsible in professional situations			
I enjoy my work and consider myself contributing to the company's profit			

6 Interaction and exchange at work

I strive for an effective and open communication at work			
I am committed and contribute to a good and inspiring climate at work			

COMPETENCE IN HARDWOOD LOGGING

Company name and contact person

Company registration number

Telephone number

Company address

Zip code and city

E-mail address

Use the tool in cooperation between the forest worker and e.g. the contractor in order to document competence and training needs and open for mutual discussions on competence requirements and training needs.

The following marks are used to characterize the competence level in the company:

Very good
beyond legal requirements, certification criteria or trade practice

Good
meets legal requirements, certification criteria or trade practice

Improvable
does not fully meet legal requirements, certification criteria or trade practice

1 Technique, equipment and certificates

	No.	Machine type or tool	Model, make/brand	Year	Company mark
- manual cutting					■ ■ ■
- mechanized logging					■ ■ ■
- forwarding					■ ■ ■
Certificates					■ ■ ■

2 Personnel and qualification

	No.	Unskilled	Basic education	Further training	Company mark
Manager(s)					■ ■ ■
Supervisors					■ ■ ■
Cutters					■ ■ ■
Machine operators					■ ■ ■

Estimate the company level for the items in sections 3 - 6:

3 Skills

- we can select accurate harvesting equipment with regard to stand conditions	■ ■ ■
- our staff have competence to prepare stand for efficient operations	■ ■ ■
- our workers are skilled to use a safe felling technique	■ ■ ■
- our workers are skilled to fell trees of different species and optimize the wood revenue	■ ■ ■
- our workers are skilled to assess wood quality, shape and length	■ ■ ■
- we achieve optimal crosscutting in accordance to customers assortment demands	■ ■ ■
- our staff is provided with personal safety equipment	■ ■ ■
- workers safety is ensured for through first aid and accident routines	■ ■ ■
- we have skills and routines how to handle dangerous goods and waste	■ ■ ■
- we know how to preserve and protect biotopes and habitats and ensure biodiversity	■ ■ ■
- we know how to preserve and protect civilisation stamps (e.g. ancient, historical, cultural monuments)	■ ■ ■

4 Experience and understanding

	number of years	Company mark
- our company can offer comprehensive professional experience		■ ■ ■
- we apply follow up routines on wood quality and efficiency		■ ■ ■
- we apply follow up routines on stand conditions and damages		■ ■ ■
- problems are taken care of as they appear and are used for learning		■ ■ ■

5 Values and attitudes

- our company has an outspoken vision which is shared by the staff	■ ■ ■
- our employees act with responsibility and professionalism	■ ■ ■
- our workers experience a high degree of job satisfaction	■ ■ ■
- we sign employment contracts and comply with the collective agreement and legislation	■ ■ ■

6 Interaction and exchange

- we have an effective and open communication which support high work quality	■ ■ ■
- we have a system for information exchange to assure a committed staff	■ ■ ■
- our staff attend trade exhibitions, fairs and other events to receive external input	■ ■ ■
- our staff is committed to create a good and inspiring working climate	■ ■ ■