Health and Performance in Mechanised Forest Operations

- a five step process for contractor businesses

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Improving health and performance

“Of course I may improve. It is only to work harder. But there is not much left to take, and I have a life beside as well” (comment from a harvester operator).

Health and performance have been kept as separate issues for too long. Seeing the connection between the two offers hope, a solution might be not to work harder but to be better organised. To stay profitable COMFOR offers contractors a method for detecting early signs of operator ill health or lost motivation.

For contractors using forest machines

This handbook provides guidance for you and your employees on improving and maintaining your health, safety and well-being. The aim is to inspire you to start an improvement process.

The guidance describes a process for work improvement in five steps. Furthermore there are references to seven useful tools, specially adapted to contractor businesses demands. They can be downloaded for free at www.enfe.net → COMFOR.

Put focus on the human factor – your operators are most important for your profit!

Health makes profit

Costs are not always visible. When your operators start getting complaints they loose in performance, then they might be absent due to pronounced illness and in the worst case your operators might be forced to leave the business.

In the situations below, the following production losses can be estimated:

1. Operator working whilst ill, with say 10% reduced performance
   ⇒ up to 21 days of lost production per year

2. Operator absent without replacement causes machine stand still
   ⇒ the loss is the total production value less variable costs

3. Long-lasting illness might cause recruitment and training of a new operator. It may take 1 year for a harvester operator to reach 100% performance
   ⇒ up to 3 months lost production
Five steps for managing health and performance

The five steps can be summarized as follows.

1. **Develop a policy and routines.** Settle a policy about working conditions and routines for management of the human factors. Write it down, since this enables you to manage it. Discuss the policy regularly with your employees.

2. **Assess risks.** If you notice reduced performance, ill health, accidents, or severe incidents; try to find out about the causes. Perform a health risk assessment when you plan larger changes to the activity or if work has an assumed risk. Discuss findings together in your company.

3. **Find solutions.** Involve your employees in developing the solutions. Pay attention to the fact that changes and development measures are differently received and accepted by different people. Prioritise the measures you identify.

4. **Implement.** Agree upon and carry out measures and solutions. Enter measures which cannot be fulfilled immediately into a plan, with clear scheduling, indicating priorities and responsible persons. Apply a budget to each measure.

5. **Follow up.** Monitor the results of your accomplished measures as well as the fulfillment of your action plan. Use key indicators that verify accomplishment or the necessity of further actions, e.g. revisions of routines.

In the following pages the five steps are described in more detail.
1. Policy and routines

The time you spend on management of the work environment can achieve considerable benefits and improve your profit. With sound working conditions you obtain a good reputation and are seen as a reliable partner. Recruiting and keeping competent operators become easier.

Policy

A policy expresses your company's will. Make it concrete and easy to understand. Start with the workplace risks. Then consider the crewing and the scheduling. Improving operator skills enabling rotation between machines and ground-based work is also an item for the policy, as well as up to date machines.

Routines

Your routines should indicate for whom, when, how and by whom work environment management is to be conducted. Base the work on existing routines and try to develop key indicators, able to catch early signs of ill health, lost motivation and reduced performance. For this you might use records for payment and sick leave, site inspections and machine maintenance. Discuss the findings at regular meetings.

Indicators of change

You can follow up operator performance by monitoring:

- Harvested volume,
- machine availability,
- fuel consumption, and
- if more mistakes come about towards the end of the work shift or the week.

These key indicators reflect your operators' capacity, which depends on their well-being and motivation. More direct key indicators on health are:

- Stiffness, aches or pain in the neck and shoulders,
- accumulating fatigue at the end of the day or during the week-ends, and
- sleeping problems, aches and pains in the head or stomach.

Assess data per week, per month or other period, as suitable in your company.

To discuss in your company

- How does operator health influence profitability in your business?
- How does your company handle operators' early symptoms of illness?
- Which effects do you want to follow up? Can they be turned into key indicators?
- Is work organized with clear responsibilities?
- Have you discussed how good quality and safety can be rewarded?
- Do you have methods to monitor your routines and decisions taken?
2. Assess risks

What makes operating a forest machine attractive? Is it the use of modern technology, the high production, or the possibility to work in a nice cab in a team of likeminded colleagues? However, time pressure, accidents and illness can spoil the attraction. The particular hazards in forest machine operating include:

- Long operating hours in fixed seated positions with continuous repetitive hand, arm, and head movements,
- high levels of attention,
- whole body vibrations, bumps and inclined seating.

Working alone, shift work and production pressure enhance these hazards. Risks are increased if instructions are unclear or if equipment is missing or not kept in good condition.

How to classify risks for ill health and accidents

Identify and express risks together in your company. Discuss risks regularly at meetings. Examples of risks are missing handholds for use when cleaning the lighting, conflicts on machine maintenance and physical pain, e.g. frequent neck pain. Classify the urgency as:

Green: The risk is negligent.
Yellow: The risk requires action within some time.
Red: The risk requires immediate action.

Use your policy while setting priorities. If health issues are difficult to assess or if you have recurrent problems, contract a competent occupational health service. Contact your branch organisation for recommendations on what service to buy in.

Document your findings. Your risk assessment may identify problems which have existed for long periods without being resolved.

To discuss in your company

- Do your operators suffer from health problems or other complaints like being over-tired, having sleeping problems, etc?
- How will you investigate risks at work in your company?
- Which situations and tasks involve the largest risks?
- Do you plan and manage work efficiently, with regard to health and performance?
- Have you estimated the costs of illness and reduced performance in your company?
- Are your machines and equipment up to standard on factors affecting health? Do the machines fulfil recommended ergonomic standards?
3. Find solutions

Finding solutions is a task for you all; you as manager, your operators, and in some cases even your customers. Try to communicate in an open, simple and direct way.

In the search for solutions you usually need to combine several measures; technical (e.g. new seat), individual (e.g. further education), organisational (e.g. shift re-scheduling) and management measures (e.g. re-allocation of responsibilities). Take your time, since if this phase is forced, you may end up addressing the symptoms rather than the problems. Focus on the future, so may even conflicting goals be satisfied.

Examples of corrective measures

The most important is to start remedial activities, to document changes and to follow up the results.
Possible activities are:

- Micro pauses and rest breaks
- (Professional) evaluation of the operator’s working postures and movements
- Training in work technique including good working postures
- Reduction of the machine working hours

In the long run an operator developing pain has to work fewer hours in the cab and do other work tasks instead. These tasks, however, have to be sufficiently remunerated. Exploit your unique knowledge about your region. Contact forest owners and wood buyers to find out their interest in new services. Perhaps it is possible with staff-sharing between employers with different work tasks, e.g. to alternate between machine operation and tourism at different seasons.

To discuss in your team

- How can you and your company avoid work-related illness?
- Could the overall efficiency benefit from operators having broader tasks? What tasks? How would efficiency increase?
- Do your operators have special competences, which can be utilized to develop new businesses?
- Which tasks really have to be carried out by you as manager? Why? Delegation?
- Is work organised according to individual operators' requirements?
- Do you trust each other regarding maintenance and other joint tasks?
- How could the understanding between the harvester and forwarder or skidder operators be increased?
- Should operators concentrate on one machine and not do additional tasks? Why? In a short or a long perspective? Are there any 'costs'?
- What are the short and long term costs and benefits of different measures? What are the direct and indirect costs and benefits?
4. Implement

Good intentions often fail because of adherence to old habits and since the measures are not accepted as being necessary. With a shared idea of the future (your company policy), actions have a better chance to bring about change and improved revenue.

Operators perform well when they can actively influence what, how and when to work. But this is not enough. They also need to feel part of a social grouping with both work mates and superiors.

Document activities

Document measures agreed upon. Schedule measures not carried out immediately in a plan. This enables you to follow up the results and improves the chances for completion. Keep documentation easy, just summarise your agreements specifying:

1. The activity you are going to carry out.
2. Why you undertake the activity and what you want to reach.
3. Defined key indicators (see Step 1).
4. Scheduled start, end, follow up and sub-targets dates.
5. Affected persons, responsible persons, and external help (if needed).
6. Sanctions to be taken if the activity is not carried out.
7. Costing and financing of the activity.

To discuss in your company

- Which are your new responsibilities? Are corresponding authorities delegated?
- How will you document the activities decided upon?
- How can the entire staff be involved in the development process?
- How do you agree on which activities to start with? How is it resolved if you have different aims in your company (e.g. machine utilisation vs. working hours)?
- Do you actually listen to each other and consider opinions and suggestions? Do you take points of view from all employees into consideration?
- Is the communication within the company open? Do you need external support? Do you need to carry out communication training?
5. Follow up

... just as an operator assesses his machine from listening to its sound, so may your operators learn to diagnose their well-being by talking about it and listening to each other.

There may be many reasons why a decided activity is not carried out, or why other results than anticipated are achieved. Without follow up you never know and mistakes might be repeated.

In Step 1 indicators were introduced as a means for monitoring health and performance. The use of health indicators is a way of measuring, guiding and learning about the actions taken and their effects. To see how the health indicators develop, they have to be assessed at least three times.

- If indicators show positive development: Continue process to improve even more!
- If indicators show nil or negative development: Find reasons, search new solutions, and assign new priorities and responsibilities. When necessary, change routines.

... an example

Following up on a measure revealed that 2 out of 4 operators regularly exercised at a fitness centre as agreed upon. One of the operators used to be very tired and he claimed improvements. **No further changes were observed.** Has the action been successful? The operator who feels less tired says yes. The contractor also says yes. Improved fitness will yield increased performance at a rather low cost (gym membership card).

The degree of success in this example will depend upon the view taken. If the key indicator was 'not feeling tired during leisure time', there has been an improvement. If it was 'minimising illness', the activity has not yet proved successful. The follow up must then be continued and new actions taken in line with the company policy.

To discuss in your team

- What actions have been taken and why? Has the measure reached intended results? If not, why?
- Has your operators' performance been affected?
- What was experienced as positive? What was negative?
- Have any other effects occurred, good or bad?
- What did you learn? How can you ensure the experiences are used?
- Were the resources sufficient (money, knowledge, time, personnel)?
- What is the next step for the work improvement?
- Is there a need to change routines?
Tools customized to contractor businesses demands

At the ENFE homepage (www.enfe.net → COMFOR) you can download several tools for free\(^1\).

COMFOR is a project for forestry contractors – run by forestry contractors. The tools have been tried out and piloted by 10 contractors in 10 different countries.

You will find tools suitable for the different steps in the above described process. All tools can be used independently, in case you prefer.

Some tools are in .pdf format other in Excel (.xls). You need common computer experience to work with the tools.

**General recommendations:**

1. Appoint one responsible person or a responsible development group.
2. Print the necessary number of copies or install electronic versions on appropriate computer(s).
3. Gather all involved operators/employees and explain and agree upon why a tool should be used.
4. Discuss and decide what and how data will be collected and how it will be recorded and analysed.
5. Agree upon when the results will be presented and mutually discussed.

**List of tools (type)**

Tool 1: Health&Performance-Check (.pdf)
Tool 2: Costs/Benefit-Check (.xls)
Tool 3: WORX for SMEs (.xls), incl. Questionnaire (.doc)
Tool 4: Skills-Check (contractor) (.pdf, .xls)
Tool 5: Skills check (operator) (.pdf, .xls)
Tool 6: Ergo-Check (.pdf)
Tool 7: Sitting-Check (.pdf)

**For a description of the tools and for free download, visit:**
www.enfe.net → COMFOR

\(^1\) The tools are partly based on tools developed in the ErgoWood project, partly on other national tools and partly developed within the COMFOR project (Collective Research Project, in the 6\(^{th}\) Framework Programme -COLL-CT-2006 -030300).