

WORKPLACE 2000

A Programme of Action for Creating More Attractive Workplaces in Forestry

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BACKGROUND

The next ten years will see increased competition among companies for qualified staff, so if Swedish forestry is to succeed not only in recruiting new, competent personnel but also in keeping existing personnel, it will have to be in a position to offer attractive jobs.

Forestry today is not regarded as being an industry of tomorrow and many people associate it with low wages, heavy and dirty work, destruction of clear-felled areas, occupational injuries and so on.

A strong indication that forestry is not seen as a provider of jobs for the future is the fact that the number of applications from young people for places at the forestry schools has fallen by half over a five-year period. Indeed, in 1988 there were not enough applicants to fill the places available. Moreover, the average grades held by the applicants were also much lower than in the past.

A questionnaire survey circulated to all forest district managers in Sweden in 1988 revealed that these managers were expecting difficulty in recruiting certain categories of personnel into forestry by the year 2000.

With the year 2000 in mind, therefore, it is essential that we take the necessary steps today not only to look after and help the development of the existing, somewhat ageing, workforce but also to create jobs that will be attractive to the younger generation.

Many purchasing managers and supervisors in forestry today work under a great deal of pressure. The increasing battle to keep costs down, the uncertainty about their role

as managers, irregular working hours and difficulty in assigning priorities to different tasks - these are all factors which help to breed discontentment at work.

About two-thirds of the machinery used in large scale forestry in Sweden is owned by contractors or the employees themselves. The remaining third is owned by the forest enterprises. This ownership structure obviously poses special problems but also new opportunities in terms of work organisation.

Various muscular-related complaints affect many cutters and machine operators, for which reason a major project is being planned to counter these health problems.

SO WHAT IS AN ATTRACTIVE JOB?

The criteria governing what employees in the 1990s will regard as an attractive job probably include the following:

- The organisation develops and makes full use of the skill and commitment of its employees, allowing individuals to develop.
- Employees will have independence and freedom coupled with responsibilities and duties.
- Individuals will be members of a team, all of whom will be working as efficiently as possible towards common goals, thus inducing a team spirit.
- The organisation will be producing and providing 'green' goods and services, which do not threaten the environment. So the business will be 'green' in every respect.

- Both the employees and the organisation at large will have the same values.
- The work will be varied and will allow individuals scope for choosing their own working hours.
- Working conditions will be good for both mental and physical health.
- The organisation will be efficient, every job will have a clear purpose and the work done by the employees will be properly appreciated.
- The job of every employee will be afforded a decent status.
- The work will be well paid and the system of remuneration will be fair.
- People's places of work will be fairly close to their homes so that the journey to work will not be seen as a burden.
- Organisations and individuals who are forward looking will be able to influence and be part of future developments.

THE PROSPECTS OF FORESTRY

There is no reason why forestry should not be able to create the jobs and conditions that will be attractive to people - provided it acts soon enough! Let's examine why:

- Forestry works towards long-term goals and is involved with renewable resources.
- Forestry is making a major effort to see that its activities are environmentally friendly.
- People working in forestry share many common values, regardless of their position, which are based on a shared interest in nature and the countryside.
- Because of the physical area covered by forestry, forest workers, almost by definition, must be independent with equal shares of freedom and responsibility.

- The decentralisation that is taking place, further advances in technology and methods and the wide variety of jobs in forestry together provide excellent prospects for personnel development, not only in the work that they do but also in their freedom and responsibility for determining how to do the different jobs. Management by objectives is already making itself felt in practical work.

TOMORROW'S FORESTRY

Tomorrow's enterprises will have fewer employees and will be taking on new activities. For their part, employees will expect more of the companies for which they work and will be more demanding. If they are to secure the workforce they need, companies will have to change to meet these new requirements and it will be the companies with vision who will be successful in competing for qualified people on the labour market. The key words will be to recruit, to develop and to keep.

As far as forestry employees are concerned, their jobs will be more complex and more varied and will therefore require expertise and skills in both greater depth and covering a wider field than is currently the case in the majority of jobs. This will be true at all levels. To a much greater extent work will be done in groups under a system of management by objectives, with the individual groups having wider responsibilities. This means that each member of the group will have to be able to work independently and also be versatile. Quality will be paramount in all work, not only as regards products and services but also working conditions and work content.

Work in the future will be physically less demanding, with all heavy work being done by machines. This means that a higher proportion of women will be able to work in forestry.

Tomorrow's work will require different skills and a higher level of competence than today, probably with less emphasis on technique and greater emphasis of human-

istic psychology. The dividing lines between blue-collar and white-collar workers will gradually be erased altogether.

Having access to competent personnel and developing the level of competence will be of strategic importance to the industry. To a far greater extent than today, forestry tomorrow will not only have to attract the right people but will also have to nurture them and help them develop their competence, if the enterprises are to remain competitive.

With keener competition on the labour market, employers will be recruiting younger people earlier and providing the necessary training internally, within the company.

panies in their work to develop attractive jobs. The job will be characterised by participation in these processes of change.

Our ambition is to create a change in attitude towards man as a resource. This is necessary to make attractive workplaces in forestry permanent.

THE PROGRAMME WORKPLACE 2000

Goal

The goal is to develop and to participate in a programme for Swedish forestry which speeds up the development of more attractive jobs for the individual.

Hypothesis

Swedish forestry's good potential gives possibilities to create more attractive jobs. This development can be speeded up if a number of areas, which are listed below, are developed. It is necessary to be able to recruit, develop and keep personnel. Well being, health and security at work build the foundation for attractive jobs and thereby also contribute to long-term profitability.

Procedure

On the basis of a preliminary study, the following priority development areas have been identified; leadership, team work, competence, goal structure and communication.

It is our intention to develop different types of aids and document examples of successful solutions for each area of development. These can then be used by the forest com-

	A (wealth)	industries	development
Goal	Survival	status	quality of life
Purpose		of living	
Raw material	land	capital	information
Product	food	goods	knowledge
Philosophy	village	organisation	network

more manual → mechanization
 people are fired ! → industry needs people
 job is lonely ! → people enjoy working in groups

Fewer & fewer motivated people are coming into the industry
 need motivated people to work in more sophisticated jobs

A attractive job
 → makes use / competitive + enthusiastic
 → have responsibility + authority so feel free
 → working hours that suit the individual
 → part of a team - friendship + respect
 → because not bad job environment
 → good working environment
 → good wages
 → status → vision of a better future

Training and Working Conditions in Swedish Forestry*

Ingemar Nordansjö

The future of Swedish forestry is totally dependent on our loggers and foresters. Considering our adverse climate we must have competent and motivated people working at all levels in forestry if we are to continue to compete on the tough export market.

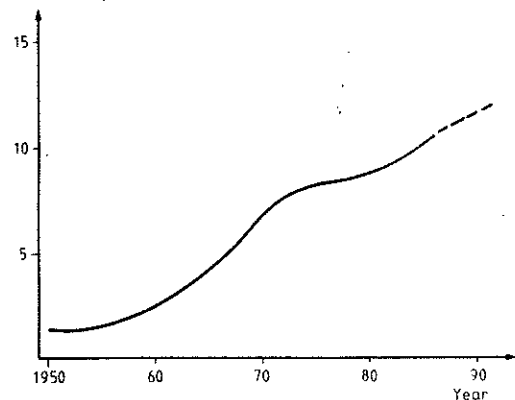
Forest workers are highly skilled professionals

We expect our forest workers to be able to perform a number of tasks efficiently, safely and to a high standard. They shall be able to

- Plant
- Clean young stands
- Thin selectively
- Use and maintain a chainsaw
- Decide best bucking of a stem
- Operate a forwarder or a harvester
- Carry out servicing, inspection and fault diagnosis on machinery
- Plan the work within a tract.

Obviously, to do all this a worker must be a highly skilled professional, with a sound knowledge of biology and technology, and he must possess many practical skills. In return, an employer must offer terms and conditions that match the requirements and make a job in forestry attractive compared with jobs in other fields. A basic requirement here is that a worker can be offered a permanent job, all the year round. Only then will the job offer the necessary status for the employee and make it worthwhile for the employer to invest in training and improving the skills of the workforce. Nowadays, the only seasonal workers in forestry in Sweden are employed either at nurseries or in silvicultural operations such as planting.

Productivity in Swedish forestry
m³/man-day



Two-year basic training for forest workers

The basic training for forest workers is provided as an integral part of secondary education. Forestry is one of 25 courses of study open to pupils at upper secondary school. A two-year forestry course is provided at 26 schools throughout the country. Pupils enrol for forestry training at the end of their nine years of obligatory schooling, usually at the age of sixteen. Some 700 pupils gain the basic qualification every year. For older students, who may already have completed another course of study at upper secondary school, a one-year course is available. About 300 students take this course every year.

After completion of the basic course, students should have acquired the following level of competence:

1. They should be able to perform general forestry work satisfactorily in terms of the standard of the work, efficiency and safety.
2. They should be able to use and maintain conventional manual tools and motormanual equipment (e.g. chainsaws) and also forwarders.
3. They should be conversant with the general conditions applying to forest operations, understand the importance

* Digest of paper presented at APA Annual Meeting Boston, May 1988.

of coordinating various operations, be familiar with the economic considerations within a forest enterprise, and be receptive to rationalization and change within an enterprise; and

4. They should have sufficient knowledge to qualify them for further training in forestry or a related trade.

Right now we have the intention to extend all two-year courses at upper secondary school to three-year courses. For forestry this means that a greater part of the timetable will be devoted to practical work. The students will thus have a higher level of proficiency when leaving school.

Curriculum

Subject	Total no. of periods	
	Grade 1	Grade 2
Swedish language	160	-
Working-life orientation	40	40
Mechanical engineering	360	280
Forest production	200	240
Logging	320	560
Mensuration and wood technology	80	80
Nature conservancy	40	80
Ergonomics	80	40
Physical education	80	80
Reserve period	40	-
Optional subject: e.g. English language or Mathematics	120	120

The most important subjects in the curriculum are mechanical engineering, forest production and logging.

In mechanical engineering, the students learn about the basic design of forestry machines and equipment, how to use them and how to repair and service them.

Forest production covers such disciplines as soil science, botany, economic geography for forestry, and the planting and tending of stands.

Logging includes such items as planning, felling, transport and rationalization.

In mensuration and wood technology the students learn how to calculate volume and estimate the quality of different stands and species, how to get the maximum value of a stem and how to identify common types of timber damage and defects.

Vocational advisory bodies

The forestry sector is able to influence forestry education through local vocational advisory bodies and a national forestry employment board. The members of all these vocational bodies include both employer and union representatives.

Additional training as machine operators

When a newly qualified forest worker starts work, he will usually be employed in motormanual work or operating a forwarder. In time, he will progress to working on a processor or harvester, in the beginning often as a relief operator. New operators are given two-week's training by the machine manufacturer. This will often be preceded by a refresher and further training course in machine technique. After training the new operator will be accompanied by a machine instructor for a few days on site, with the operator working on the actual machine he will be continuing to use.

The purpose of all this training is to teach the operator how to work efficiently and safely with the machine in question, and also to enable him to carry out routine servicing, maintenance and fault diagnosis.

Regular further training

Nobody today, in whatever field they work, can ever be regarded as having no need for further training. This applies not least to forest workers. Regular training is required to maintain professional skills and to keep up with new advances. On average, forest workers undergo about five days of further training every year.

This training takes a variety of forms. Many enterprises have their own instructors who visit the different districts, study the way in which work is carried out, take corrective action when necessary, demonstrate new technical aids and provide instruction in new techniques.

On other occasions, for instance when a new method is to be introduced, a standard training course may be more appropriate. If the employer lacks the facilities, he can call on the services of schools, manufacturers or independent consultants.

Supervisors hold a key position

As regards training, a vital resource, of course, is the supervisor or foreman. It is the supervisor who is often first in identifying a training need. He will provide the necessary instruction himself or call on the services of an instructor or school.

The supervisor therefore holds a key position that requires competence in silviculture, wood technology, working technique, economics, management, etc. These skills are acquired through training after compulsory schooling:

- Two-year forestry course at upper secondary school
- At least ten months' practical experience
- Two-year forest technicians' course

The four colleges in Sweden together have a pass-out of 145 forest technicians every year.

Hourly rates introduced in 1975

The 1st October 1975 saw a major change in Swedish forestry: the industry abolished the piecework rates, which had been totally predominant in forestry up to that time, and adopted a system of hourly rates. The change was forced on the industry by extensive wildcat strikes, and the new wage form created a totally new situation which neither the employees nor employers were prepared for. The main effects of this can be summed up under three headings:

- A decline in both the frequency and severity of accidents
- A fall in productivity
- A progressive deterioration in wage levels compared with workers in other industry

Hourly wage plus bonus dominant today

The situation today is that only about 35% of work is done for a fixed hourly wage, the remaining 65% being in the form of an hourly wage plus a bonus. Average income at the end of 1987 was US\$8.50 for those with a fixed hourly wage and \$9.50 per hour for those receiving an hourly wage plus bonus. The average industrial wage during the same period was \$9.40 an hour.

In addition, forest workers are given an allowance of \$5.20 per day and on average \$1 per working hour (1986) to cover travelling expenses and travelling time.

Besides these direct costs, the employer has to pay social costs in the form of employer contributions, insurance and holiday pay on about 65% of the payroll bill. Thus, in practice, the hourly cost for a forest worker amounts to about \$17.

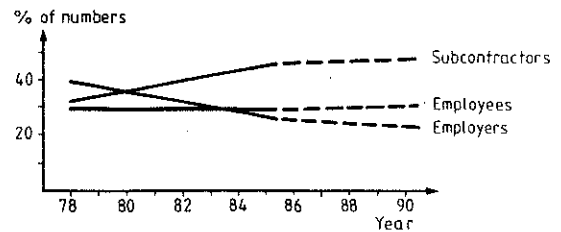
Wages and general employment conditions are determined by central agreements. The agreement specifies pay differentials, with the highly skilled, experienced workers and also difficult jobs, such as machine operations, being awarded higher rates.

Machines owned increasingly by subcontractors and employees

From the days when mechanization was in its infancy right up to the early 1980s, the majority of forestry machines were owned by the employers. However, in recent years a new trend has become apparent. The ownership is more and more left to subcontractors and employees.

The reasons behind this rapid turnabout are simple: the employers have found that their costs have been reduced; and the new machine owners have been able to earn more. The fact that both parties benefit from the new system can be explained by the personal involvement and hence greater motivation that machine ownership entails.

One of the drawbacks with the subcontractor system is the danger that the subcontractors become left on the outside and do not have the same opportunity as employees to keep abreast of developments. Most employers, though, are aware of the danger and include the subcontractors in their development and training programmes.



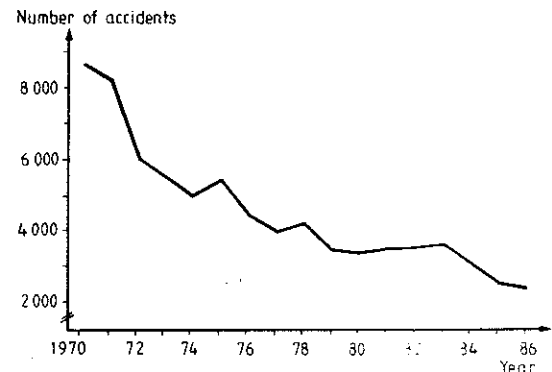
Accidents on the decline

Forestry has always been an accident-prone branch of industry. The situation has improved considerably during the 70s and 80s. A variety of measures and changes have played an important part in this.

Initially, improved chainsaws incorporating kickback guards and automatic chain brakes as well as bars and chains designed specially for limbing were an important factor. The use of the new chainsaws quickly became widespread after 1972, when the employers provided the saws themselves. The employer is also responsible for ensuring that the safety devices on saws are inspected at least once every two months.

Improved protective clothing and equipment is another important factor. Occupational safety legislation in Sweden stipulates that an employer must provide the necessary protective clothing and equipment and also that employees must use and look after the equipment so provided. Thus, when working with a chainsaw, for instance, a cutter must have a hard hat, ear defenders, eye protection, safety gloves, safety leggings and safety boots. Exhaustive development work has been carried out to make such equipment more effective and also more comfortable.

The introduction in 1975 of the fixed hourly wage had also a positive effect on safety, as mentioned earlier.



Accidents infrequent among machine operators but proneness to physical stress

However, the greatest impact of all on safety has probably been that of the mechanization of forestry. The marked reduction in accidents over the last few years is more than likely due to the rapid mechanization of thinnings. An operator who, from the safety of his cab, fells, limbs and bucks trees is almost totally secure against any form of accident. Yet machine operators face other health hazards. The monotonous, fixed working position can impose a great deal of physical stress, which creates problems, above all, in the neck and back. The manufacturers are doing all they can to alleviate these problems, however. As well as equipping the cab with air conditioning, acoustic insulation and vibration-damping, fully adjustable seats with their own suspension system are now available, as are fingertip-operated controls which enable the forearm to be supported by the armrest.

Another way in which physical stress to operators can be countered is to employ a system of job rotation. There are a number of ways in which this can be organized but a common one is to have two operators to each harvester, so that they alternate between driving the machine and doing work on foot, such as planning, complementary felling, follow-up, etc. Apart from the benefits of job rotation itself, this method also helps to improve the quality of the work.

Supervisors, safety delegates and safety committees – working together towards greater safety

The main responsibility for safety in the woods rests with the supervisor. To complement the supervisor, the union appoints a safety delegate for each workplace. The safety delegate acts as the employee representative in matters relating to working conditions and is there to promote satisfactory conditions in the workplace. The safety delegates are given special training in working-environment matters.

Wider issues are dealt with by safety committees, with each forest management district and enterprise having its own. The committee must include among its members both employer and union representatives.

There is yet another function in the enterprises that monitors working conditions, namely, the occupational

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health care unit. This unit embraces expertise in the form of doctors, nurses, physiotherapists and safety engineers. These units promote safety by:

- making regular safety rounds
- preparing specifications of the working conditions
- systematic health screenings
- help with rehabilitation of those with impaired work capacity
- help with education/training
- advising in conjunction with procurement and machine conversion.

Decentralization and management by objectives

Forestry enterprises in Sweden have a traditional line staff organization comprising four levels: work gang, supervisor, forest district manager and woodlands manager. Each manager and supervisor has overall responsibility for all activities in his geographical region.

In spite of a steadily growing volume of wood harvested, the workforce in forestry is steadily shrinking because of increased mechanization. This means that the size of forest districts is growing all the time. A consequence of this increase in the size of the units is a continual decentralization of responsibilities and duties. By involving the employees to a greater extent and making better use of their expertise and experience, it is hoped to achieve not only greater job satisfaction but also increased efficiency.

Summary

- Efficient forestry is dependent on having competent personnel
- Permanent employment all the year round is a precondition for good recruitment and training.
- Broad-based two-year basic education produces versatile and independent forest workers
- Machine operators and other specialists require additional training
- Everyone requires continual further training
- The foreman/supervisor holds a key position and must be well trained
- Fixed hourly wage plus incentive bonus the most usual form of remuneration
- Increasing number of machines owned by subcontractors and employees
- Higher level of safety achieved through improved methods, equipment and organization
- Delegation and management by objectives promote greater involvement and efficiency.

Indexing terms: Training, working conditions.