

## CAREER ASPIRATIONS AND INDUSTRY PERCEPTIONS OF POLYTECHNIC FORESTRY STUDENTS - A PILOT STUDY

Janelle Byers

### ABSTRACT

*Students completing one-year full-time forestry courses at Nelson, Telford (Balclutha) and Manawatu Polytechnics were surveyed in a pilot study. Information was obtained about their reasons for choosing a forestry course, their perceptions of the forest industry and their career aspirations.*

*The majority of the students stated that "good employment prospects" and "type of work" were their most important reasons for choosing the forestry course. Of the students surveyed, 69% found employment in the forest industry.*

### INTRODUCTION

Gaskin, Smith and Wilson (1989) stated that the training and development of a skilled and larger workforce was a prerequisite to any future growth within the logging industry. As mechanisation and the demand for higher value recovery

increases, forestry jobs will become increasingly complex, requiring a higher level of skill from workers. The projected increases in production further highlight the need for a highly trained and motivated workforce to obtain the maximum benefit from this additional resource.

Training has been found to improve work methods, lower production costs while increasing productivity, and through upgrading the status of the job improve overall morale (Evans, 1984). Therefore, training has a major role to play in the New Zealand forest industry. This has been recognised by the New Zealand Forest Owners Association (NZFOA) who, in their recent Health and Safety Strategy, stated that one of their main objectives is:

*to ensure that 100% of people working in the forest are qualified or in training for the work which they are undertaking by 1st January 1996.*

Gaskin et al. (1989) found that the level of formal training in the logging workforce

was 29%. The NZFOA estimated in 1993 that the current level of trained workers was approximately 30% (NZFOA, 1993). A 1993 survey of the Otago/Southland forestry workforce found that 55% of loggers and 52% of silvicultural workers had received some formal training (Byers and Adams, in prep). A further 1993 LIRO survey (Gibson, in prep) reported that 50% of workers had one or more Forest Industry Record of Skills (FIRS) modules. These figures suggest that the level of formal training in the industry is slowly increasing. However, there is still a long way to go to attain 100%.

One of the factors that makes it difficult to achieve the NZFOA's goal is turnover. A seven year New Zealand Forest Products Limited (NZFP) study of turnover among their logging workers (Adams, 1993) showed an average annual turnover of 57.8% (workers who left NZFP completely), and an additional 18% turnover within the crews. Bomford and Gaskin's (1988) earlier analysis of logging workforce turnover also found a high turnover among new recruits. They reported a turnover in excess of 80% over 2.5 years, and an average turnover of 42% in the first six months.

A considerable difference was evident between the turnover of trained and untrained logging workers. Of those workers with certification 68% remained in the industry, whereas only 19% of those without certification remained (Bomford and Gaskin, 1988). Adams (1993) reported that the percentage of certificated loggers leaving NZFP was lower throughout the seven year study than the percentage of non-certificated loggers. This level of turnover creates problems when workers move between crews or out of the industry, as their skills and the cost of their training are lost to the contractor and/or the industry as a whole.

## **ACKNOWLEDGEMENTS**

*LIRO acknowledges the assistance of Nelson, Manawatu, and Telford Polytechnics, forestry tutors Colin Condon, Rick McAslan and Laurie Milne, and their students.*

## **STUDY OBJECTIVES AND METHOD**

The primary objective for this study is to determine the link between training, turnover, absenteeism and safety.

The secondary objectives are to; determine the students' motivations for choosing a forestry course, their perceptions of the forest industry and the effect of formal polytechnic training on career stability and progression.

LIRO has been following the workplace progress of forestry polytechnic students since 1989. Students from the 1989-1992 classes at Nelson Polytechnic and the 1991 and 1992 classes at Tairāwhiti (Gisborne) Polytechnic have been tracked through the workforce and their progress documented (Byers, in prep).

A new pilot study was completed in 1993 which obtained more detailed information from a larger group of students. The results from this pilot study are discussed here. These students have completed full-time one year forestry/logging courses at Nelson, Manawatu and Telford Polytechnics.

A questionnaire was developed that asked for basic demographic information, the students' backgrounds and work histories, their perceptions of logging and forestry and their reasons for choosing a forestry course.

The questionnaires were administered to all thirty-two students (from Nelson, Manawatu and Telford Polytechnics) during class time. The students also consented to being contacted every three months by LIRO.

## RESULTS AND DISCUSSION

### General Characteristics

All of the thirty-two students were male, with an average age of 21 years. Age and ethnic group of these students is shown in Table 1.

### Ethnicity

Only 9% of the sample identified themselves as being Maori. This figure is low in comparison to the industry average of 67% in forestry and 60% in logging (Gibson, in prep). However, this percentage is consistent with the national

average of Maori students at polytechnics (10.7%) (Ministry of Education, 1993).

The relatively low percentage of Maori students may also be related to the geographic location of the polytechnics in the pilot study. A recent LIRO study (Gibson, in prep) found that the forestry workforce in Otago was 10% Maori and the Nelson workforce was 6% Maori. This pattern may partly account for the low percentage of Maori taking forestry courses at these polytechnics.

### Education

The Logging Workforce Survey (Gaskin et al., 1989) found that 18% of the workforce had School Certificate, and 3% held University Entrance (UE) or Sixth Form Certificate. In general, the polytechnic students have a higher level of formal education than the workforce as a whole. It is considered that the reasons for this group having a higher level of education could be: that the school leaving age has been raised from 15 to 16, youth unemployment allowances have been cut, and the high youth unemployment rate.

*Table 1 - Age and ethnic group*

Age Group (years)	European	Percentage (%)	Maori	Percentage (%)
15-20	21	66	0	-
21-25	2	6	3	9
26-30	4	13	0	-
31-35	1	3	0	-
36+	1	3	0	-
TOTAL	29	91	3	9

Table 2 - Formal education of students

Qualification	Number	Percentage
No formal School Qualifications	12	38%
School Certificate	8	25%
UE or Sixth Form Certificate	11	34%
Bursary Higher School Certificate	1	3%
TOTAL	32	100%

In 1989, the unemployment rate for males aged 15 to 19 was 18%; by 1992 it had risen to 26% (Department of Statistics, 1993). The 1989 unemployment rate for males aged 20 to 24 was 8%; by 1992 it had risen to 18% (Department of Statistics, 1993).

### Family Background

There is a considerable difference in family forestry background between the polytechnic students and the general logging workforce. Gaskin et al. (1989) found that 36% of logging workers had fathers who had been involved in logging or forestry. In this pilot study only five students (16%) had fathers who had been involved in the forest industry (two in silviculture, two in logging, and one in logging and sawmilling). None of the students' mothers had been involved in the forest industry.

### Industry Contact

Almost half of the students (43%) had some contact with the forest industry before beginning their polytechnic course. However, the majority of this contact was through previous courses, in particular ACCESS courses. Only six students (18%) had worked in the industry prior to

taking the course; five of these students were from Nelson Polytechnic. Of the six students, the longest time worked in industry was six months, the average being one to two months.

### Polytechnic Courses

Several different forestry and/or logging courses of varying lengths are available through New Zealand polytechnics. This study focuses on full-time one year logging/forestry polytechnic courses.

The content of the one year polytechnic courses are similar in that they all cover aspects of both silviculture and logging. The course structures reflect current employment opportunities in their local region. For example, the course at Waimate in South Canterbury is heavily silviculture-based, as most of the employment opportunities in the Waimate area are silvicultural-based.

The content of most polytechnic courses is based on Forest Industry Record of Skills (FIRS) modules. This means that the students can complete FIRS modules while they are at polytechnic. Once they enter the industry they can obtain a FIRS certificate for the modules they completed at polytechnic. Most students leave the

polytechnic courses with two modules - General Requirements (1.1) and Chainsaw Maintenance and Operation (1.6). Only three of the students left polytechnic without any FIRS modules. The majority of the students had "General Requirements" (1.1) and most also had "Chainsaw Maintenance and Operation" (1.6). Only two students said that they didn't plan to gain any more FIRS modules. The remainder of the class planned to gain further modules and a number of students mentioned working towards National Certificates.

There has also been a big increase in basic skills through ACCESS and Training Opportunities Programmes (TOPS). There are many of these courses available throughout the country offering basic forestry and logging skills. The major constraint experienced by these courses is that they must use TOPS criteria when selecting applicants. This doesn't always result in the most suitable applicants for the forest industry being chosen for the course.

By training through polytechnics and gaining practical skills, it is hoped that the trainees will quickly reach production speed once in the work environment. This will reduce the amount of time and money needed by the crew and contractor to get the trainees working as an effective member of the crew.

### Reasons for Choosing a Forestry Course

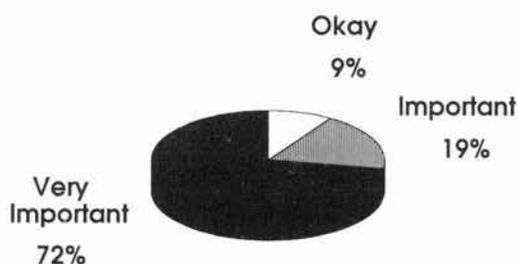


Figure 1 - Good employment prospects

Several factors were consistently given a high ranking by the students as to their decision to take a polytechnic forestry course. These reasons were ranked as important or very important by the students - good employment prospects (91%), type of work (90%), work environment (80%), and pay (78%).

Training has enabled the students to enter the industry and almost all (96%) plan to stay in the industry for at least five years. Another reason for the strong rating given to "good employment prospects" may be the increase in the unemployment level of young men. Because of the high unemployment rate and an increasing awareness of job opportunities in forestry and logging, "good employment prospects" were likely to be given a high ranking.

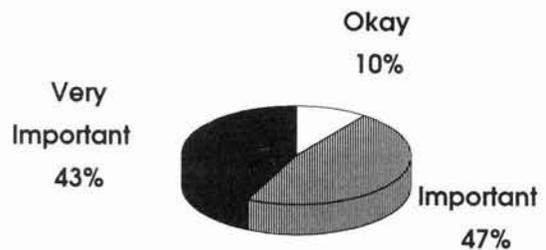


Figure 2 - Type of work

"Type of work" received the same high ranking as "good employment prospects". These students were at the end of their course, and they had enjoyed the type of work they had experienced throughout the course. They all planned to enter the forest industry.

"Work environment" was also ranked highly - 80% of the students ranked it as an important or very important reason for deciding to take a forestry course. This is comparable to the Logging Workforce Survey (Gaskin et al., 1989) as working outdoors was rated by loggers as one of the main advantages of their job.

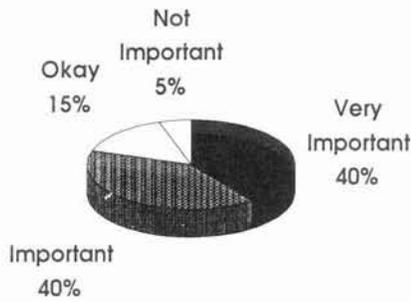


Figure 4 - Work environment

"Pay" also received a high ranking - 78% of the students ranked pay as very important or important. Many made the comment that for their age the pay is good. This is supported by Gaskin et al. (1989) who found that younger loggers tended to be more satisfied with their pay than older loggers.

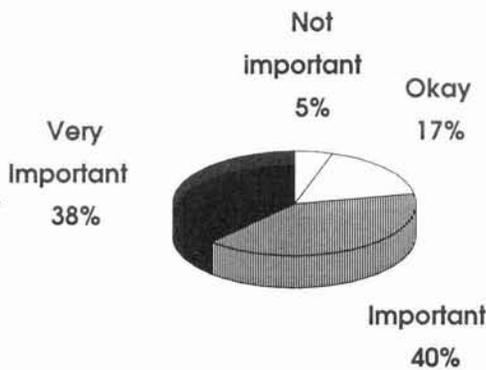


Figure 3 - Pay

### Industry Perceptions

The students were asked a series of questions relating to general industry perceptions. These questions asked the students about pay, safety and career opportunities.

The first question asked the students what they thought of the pay in forestry and logging.



Figure 5 - Pay - Forestry

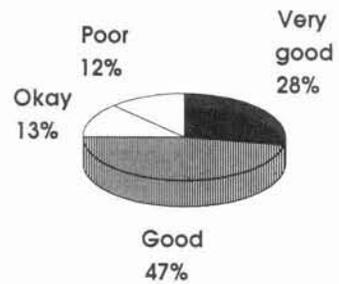


Figure 6 - Pay - Logging

Overall, the students perceived that logging and forestry jobs are well paid. The majority of the students thought that the pay was good or very good, (logging 75%, forestry 78%). Twenty-eight percent of the students thought that the pay for logging was very good, whereas only 18% thought that the pay for forestry was very good.

Gaskin et al. (1989) found that 33% of loggers in Otago/Southland and 25% of loggers in Northland and the Bay of Plenty were dissatisfied with their pay. This suggests that as the students progress through the workforce and spend longer working in the industry, their attitude towards their pay may change substantially.

The students were then asked what they thought about safety in forestry and logging operations.



Figure 7 - Safety -forestry

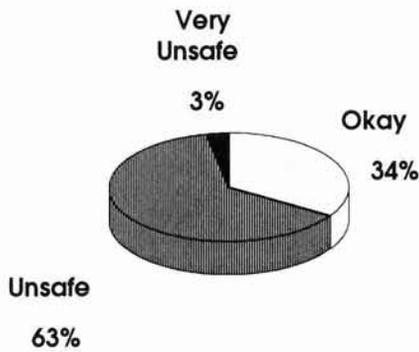


Figure 8 - Safety - logging

In general, the students expressed some concern over safety in logging and forestry, although they perceive forestry to be safer than logging. In a study of school students (Smith, 1992) the forest industry was ranked as the industry where workers were most likely to have an accident.

Of these polytechnic students only 34% thought that logging was okay, 63% thought that it was unsafe and 3% thought that logging was very unsafe. The results for forestry are quite different - 60% of the students thought that forestry was okay and 38% thought it was unsafe.

These results are considerably different from those found by Gibson (in prep.) who reported that 83% of forest workers felt that logging was dangerous, and a similar number felt that forestry was dangerous. This too may be a perception which changes over time, once the students are in the workforce full-time.

The polytechnic courses place a strong emphasis on safety, and interestingly, many of the students commented that

logging and forestry are as safe as they (the workforce) choose to make it.

Finally, the students were asked about their perceptions of the career opportunities in forestry and logging.

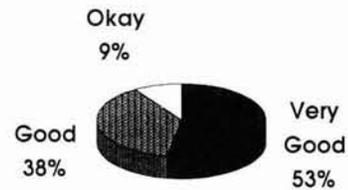


Figure 9 -Career opportunities - forestry

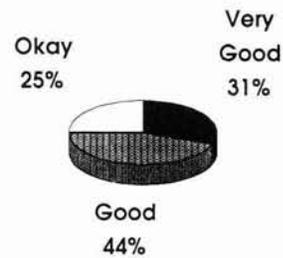


Figure 10 -Career opportunities - logging

The students are positive about career opportunities in logging and forestry. Seventy-five percent of the students thought that logging offered good or very good career opportunities. However, almost all of the students (91%) thought that forestry offered good or very good career opportunities.

These results contrast strongly with Gaskin et al. (1989) where 49% of Otago/Southland loggers and 25% of Northland and Bay of Plenty loggers were dissatisfied with their promotional opportunities.

Table 3 - Current employment of polytechnic students

	<b>Telford</b>	<b>Manawatu</b>	<b>Nelson</b>	<b>Total</b>	<b>Percentage</b>
Silviculture	3	3	2	8	25
Logging	5	2	7	14	44
Looking	-	3	1	4	12.5
Not able to be contacted	2	2	2	6	18.5
<b>TOTAL</b>	<b>10</b>	<b>10</b>	<b>12</b>	<b>32</b>	<b>100</b>

### Changes in Industry Perceptions

The students' industry perceptions differ considerably from those of the workforce as a whole. The students will be asked the same questions again after they have been working in the industry for six months and again at 12 months. This will demonstrate whether time in the forestry workforce changes their perceptions about pay, safety and career opportunities.

### Current Employment

The students from this pilot study (Telford, Manawatu and Nelson, 1993 classes) were all contacted during the last week of January and the first two weeks of February this year to ascertain their employment status. The results from this are shown in Table 3.

To date, contact has been made with 26 of the 32 students (84%). At the time of last contact (February, 1994) 69% of the students had jobs. Most of these jobs (44%) were in logging, the remaining 25% were silvicultural. Four students are looking for jobs, and six students were unable to be contacted.

### Preferred Job

Half of the students (16) chose felling as the job they would most like to do, similar to the results reported from a survey of Otago/Southland loggers where 40% nominated felling as the job they would most like to do (Byers and Adams, in prep). Six of the students chose machine operating, four log-making. The remaining students chose silvicultural jobs - waste thinning (two), pruning and planting (two) and pruning (two).

At the time of the survey 15 of the 32 students had jobs lined up to go to when they finished their course. Thirteen planned to be working for contractors and two had their own silvicultural contracts. Of those who didn't have jobs lined up, 14 were unsure how easy/difficult it would be to get a job.

Only one of the 32 students said that he wasn't sure if he would like to be in the industry in five years time. The remaining students all intended to be in the industry in five years time, and half of the students hoped to be contractors by this time.

## FUTURE WORK

In 1994, the study is being extended to cover seven polytechnics. They are Nelson, Aoraki (Waimate), Telford (Balclutha), Hawke's Bay (Taradale), Waiariki (Rotorua), Taratahi (Masterton) and Tairāwhiti (Gisborne). Students from these polytechnics have all been surveyed and the results are currently being collated.

## CONCLUSIONS

In general, the students in this pilot study of polytechnic forestry/logging courses are young, European and male.

The students stated that their most important reasons for choosing a forestry course were (in order of importance) employment prospects, type of work, work environment, and pay.

The students showed some concern over safety - especially in logging. Sixty-three percent of the students felt that logging was unsafe.

The students from the polytechnic courses have been successful in gaining employment in the forest industry. Initially there has been a high placement rate of students into the forest industry (69%). Of these students, 44% have logging jobs and 25% have silvicultural jobs.

At the time of the survey the students' perceptions of the industry (pay, safety and career opportunities) were considerably different from those of the industry as a whole. Future work will continue to measure the effect of time on these perceptions.

## REFERENCES

Adams, D. (1993) : "Labour Movement in the Logging Industry - One Region's Experience". LIRO Report, Vol. 18, No. 4.

Bomford, D. and J. Gaskin (1988) : "Turnover in Logging", LIRA Report, Vol. 13 No. 9.

Byers, J. (In prep) "Workforce Experience of Polytechnic Forestry Students 1989-1992". LIRO Report.

Byers, J and Adams, D., (In prep.) : "Otago/Southland Logging and Silvicultural Workforce Survey". LIRO Report.

Department of Statistics, (1993) : New Zealand Official Yearbook. Department of Statistics: Wellington.

Evans, W. (1984) : In NZ LIRA seminar proceedings "Human Resources in Logging".

Gaskin, J., Smith, B., and Wilson, P. (1989): "The New Zealand Logging Worker - A Profile", LIRA Project Report 44.

Gibson, R. (In prep.) : "Attitudes Towards Safety in the New Zealand Forest Industry". LIRO Project Report.

Ministry of Education (1993) : Education Statistics of New Zealand. Ministry of Education: Wellington.

New Zealand Forest Owners Association (1993) : Occupational Safety and Health Strategy. NZFOA: Wellington, New Zealand.

Smith, B. (1992) "School Student Occupational Choice and Primary Industries", LIRO Report Vol. 17 No. 17.

For further information, contact:

LOGGING INDUSTRY RESEARCH ORGANISATION  
P.O. Box 147,  
ROTORUA, NEW ZEALAND.

Fax: 07 346-2886

Telephone: 07 348-7168