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LABOUR TURNOVER IN LOGGING

— One Company's Experience —

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INTRODUCTION

Little attention has been given to labour turnover within the logging industry. Liley (1984) noted that generally the current level of turnover in the logging industry is not known with any precision. He further suggested that a study of turnover is fundamental to likely recruitment and training needs.

How costly is turnover? Wilson (1986) suggests that each turnover occurrence costs approximately $1,000 (based on inflation adjusted estimates from 1966). He also states "this figure ($1,000) is probably conservative since it excludes the increasing investment in training that has occurred over the last 20 years."

There have been three previous articles published on turnover in the New Zealand forestry sector. One report, Wilson (1986), dealt with turnover of salaried staff in the N.Z. Forest Service. Smith and Wilson (1983) examined the turnover in a large integrated forestry complex. Within this Report mean turnover of logging personnel, for the period 1961-79, was noted at 25.6% per annum. Fenton and Terlesk (1971) reported turnover rates of 12 to 230% during the seven years prior to their report. They also stated that the two companies studied showed sharply decreasing rates of turnover.

This Report looks at the results of manpower surveys of logging workers carried out at six monthly intervals over a period of eighteen months by N.Z. Forest Products Limited, Tokoroa. Two aspects are covered; total turnover and turnover amongst new recruits.

ACKNOWLEDGEMENTS

LIRA gratefully acknowledges the work of staff of the Logging Department, N.Z. Forest Products Limited in carrying out such surveys and allowing the information to be made available to the industry as a whole.

MANPOWER SURVEY

In November, 1984 N.Z. Forest Products Limited's Logging Division commenced a structured survey of all company and contract logging employees. The survey was designed and instigated at the initiative of Mr R. Bosman, Logging Supervisor.

The survey was carried out at six monthly intervals (November and May) by the Logging Supervisor responsible for each gang. All the surveys were completed in the same week and the data was collated on computer. The first survey in November, 1984 served as a base for identifying workers and the gangs in which they worked. Information collected by the surveys was :

- Gang number used by the Company
- Gang code, e.g. TT = Thinning tractor, CH = clearfell hauler
- Name and date of birth of each person employed in the gang
- Year they started in logging
- A record of Loggers Certification level

Those loggers who had left a gang since the previous survey were classified in four ways :

- those who had left the logging industry
- those whose present employment status was unknown
- those who had left the N.Z. Forest Products Limited's logging system but had remained in the logging industry, i.e. gone to work for a contractor in another forest
- those who had gone to work for a different gang within N.Z. Forest Products Limited.

Those who left the industry

These people cost the industry the most as they have left.

Those whose whereabouts are unknown

Again, an expensive form of turnover as they have clearly left the local industry which trained them and in which they gained experience.

Those who stayed in logging but not in the N.Z. Forest Products Limited system

As far as the employer is concerned, this form of turnover is as serious as if the person had left the industry. The employer has made some investment in the training of these people. In terms of the rest of the industry, this form of turnover may not be as important as a trained person has been employed without the need for the training investment. Of the 48 who left in the first six months, ten had returned by the end of the period at Survey No. 3 (November, 1985).

Those who moved within the N.Z. Forest Products Limited system

From a Company point of view, this is the least serious form of turnover. However, from the point of view of a contractor employing only five or six men, one departure can have a significant effect on productivity.

RESULTS OF THE FIRST SURVEY — (November, 1984)

The following tables give basic information collected at the beginning of the survey period. During the course of the four surveys, the average number of loggers employed in both company and contract gangs was 547, with a standard deviation of 4.3 indicating that the total number in the workforce was remarkably constant.

Table 1 - Age of Loggers

Classification	No. of Observations	Mean Age (years)	Range
Company workers	116	32.8	17-56
Contract workers*	434	30.8	16-65

* *includes loader operators on separate contract*

The difference between the average age of the two groups was significant (at the 95% confidence level). It is also interesting to note the range of ages, especially amongst the contract workers. It was surprising to see the range of contract workers to be so much greater than Company workers, particularly the older loggers working in the contract workforce.

As would be expected, the length of service was considerably longer amongst company gangs than contract. The difference between contract clearfelling and thinning gangs in terms of length of service is also significant.

Table 2 - Length of Service of Loggers

Classification	No. of Observations	Mean Service (years)	Range
Company loggers	116	9.5	0.5 - 30
Contract loggers*	423	2.6	0.5 - 26
Contract clearfell	65	5.0	0.5 - 26
Contract thinning	358	2.2	0.5 - 16

* *excludes loader operators on separate contract*

TURNOVER

Turnover has been calculated using the method described in Smith and Wilson (1983) :

Labour Turnover (LTO) = S/N* 100

Where S is the number of separations during a specified period of time, in this case one year, and N is the average number employed by the organisation during this time. The period here was from November, 1984 to November, 1985.

As discussed earlier, four types of turnover were analysed, i.e. those that left the industry, those whose whereabouts were unknown, those who had stayed in logging but not in the N.Z. Forest Products Limited system and those who moved within the N.Z. Forest Products Limited system.

Table 3 summarises these results. It is interesting to note that over the eighteen months covered by the data (November, 1984 to May, 1986) only two gangs had no turnover and both were thinning gangs. At the opposite end of the scale, one gang had only the contractor remaining of his original crew after one year (i.e. 100% turnover).

Table 3 - Summary of Types of Turnover

Type of Turnover	SURVEY NO. 2 (November, 1984 - May, 1985)		SURVEY NO. 3 (May, 1985 - November, 1985)		TOTAL (November, 1984 - November, 1985)	
	No.	%	No.	%	No.	%
1. Left logging	34	6 %	44	8 %	78	14 %
2. Unknown	34	6 %	52	10 %	86	16 %
3. Different Company	48	9 %	22	4 %	70	13 %
1-3 Total turnover	116	21 %	118	22 %	234	43 %
4. Moved within Company	45	8 %	35	7 %	80	15 %
Total - All types	161	29 %	153	28 %	314	57 %

In Smith and Wilson (1983) a definite downward trend in turnover had been noted, from a high of 57.4% in 1963 to a low of 8.4% in 1978. Their study of turnover did not include contract logging operations, only Company employed loggers. The turnover rate shown from this data is considerably higher at 43% (excluding internal movement).

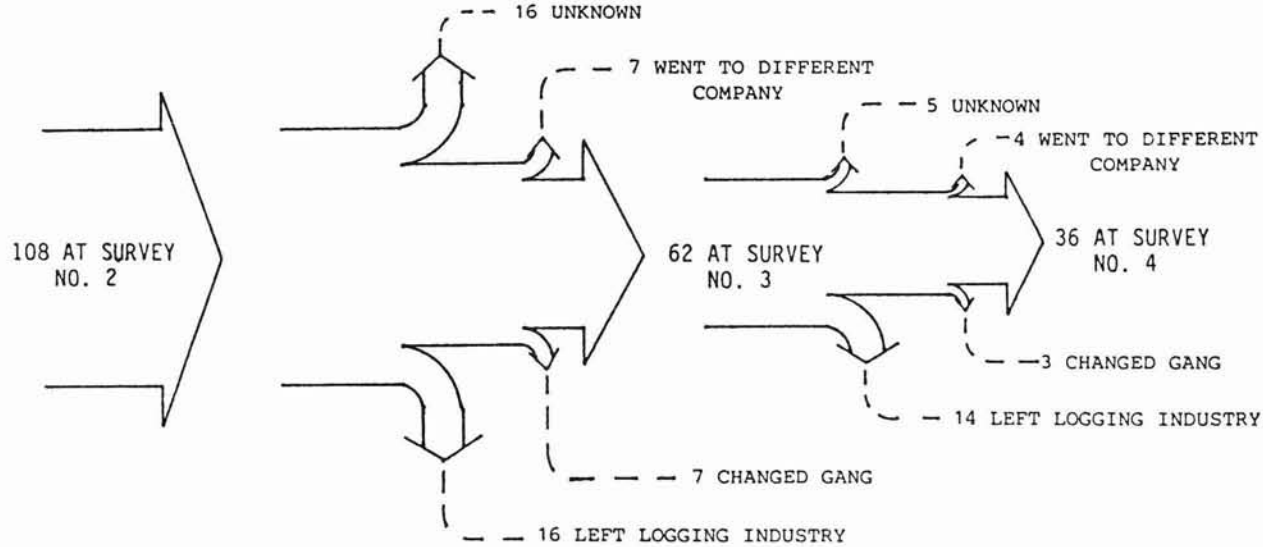
If the cost estimate from Wilson (1986) of $1,000 per turnover point is applied to the 234 (43%) points, turnover cost N.Z. Forest Products Limited and the contractors they employ $234,000 in the year from November, 1984 to November 1985. If an aribtrary cost of $500 is applied to internal movement, then the total cost of turnover would be $274,000.

TURNOVER IN NEW RECRUITS

The total cumulative turnover for the 108 group of new recruits over the one year period was 67%. If those who moved within the N.Z. Forest Products Limited system are omitted, the turnover rate reduces to 57.4%, still higher than the turnover observed in the total analysis (43%). (Figure 1).

Of those born prior to 1940, 50% were still with the same employer. For the group born between 1940-49, 33% stayed, while those born from 1950-59, 38% remained. The lowest remaining percentage was the final group - those born between 1960-69 - 27%. This trend tends to support the theory that younger people in the workforce are more likely to change job than the older people.

Figure 1 - Turnover in New Recruits



DISCUSSION

This Report served to identify two very important aspects of turnover in the logging industry; the high rate, and the relative ease with which such information can be obtained.

The high rate of turnover noted amongst new recruits would be of concern to a Company that encourages those people to undertake an induction course prior to commencing work. Such an induction course typically runs for two to three days and costs money. If there is an almost 50% chance that the new recruit will not be with the Company in six months time, then that induction is an expensive exercise.

The 43% rate of turnover is much higher than could be expected, based on trends noted in both Smith and Wilson (1983) and Fenton and Terlesk (1971). To quote from the latter authors, "the high rate of labour turnover has undoubtedly been facilitated by the extraordinary low rates of unemployment" (during the period covered by that report, national unemployment only exceeded 1,000 twice). During the period covered by this analysis, national unemployment was, on average, 66,534 (1984) and 53,179 (1985), (Official Yearbook 1986-87). Although Fenton and Terlesk (1971) suggested that high rates of turnover could be attributed to low rates of unemployment, this analysis suggests that there are other factors which play an important part in a logger's decision to change employment. These factors could include; pay, working conditions, job satisfaction, etc.

This Report has deliberately made no attempt to try and identify why turnover occurs. Such an exercise is a major research area and before contemplating such work, better information is required on current levels of turnover. As a research organisation with an interest in the most expensive part of logging, the labour force, LIRA will be actively encouraging others to adopt the turnover monitoring system as developed by N.Z. Forest Products Limited.

Interested readers are invited to contact the author at LIRA.

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