

HOW DID DAIRY FATIGUE RESEARCH COME ABOUT AND WHAT ARE WE DOING?

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What does dairy farming want?

According to the *Strategy for New Zealand Dairy Farming 2009/2020*, the industry is seeking the following outcomes amongst others:

- Talented and skilled people are attracted to, and retained by the dairy farming industry (Outcome 2)
- The dairy industry's reputation is enhanced locally and globally (Outcome 4)
- Shared goals are achieved through genuine partnership between industry and government and the wider community (Outcome 5).

But what do we find? In an exercise in self-diagnosis in 2007, Dairy InSight concluded that many expectations were not being met and outcomes achieved. There is little evidence to suggest much has changed since then. In 2007 Dairy InSight found that dairy farming was not attractive compared to other industries; that its hours were long; that its staff turnover was high, and recruitment and retention of employees problematic. The accident rate of dairy farming was reported as third worst in terms of injuries per person employed. Employees and their families were required to live on farm and thus were prone to a degree of social isolation, and it also experienced a lack of rural support networks.

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The problem of fatigue from long hours of work

Over a period of time there were several indicators of the problem of fatigue. Among them a few stand out as being particularly influential. In our study *The Human Face of Once-a-Day Milking* (Verwoerd & Tipples, 2007) one interviewee recounted how he had realised, after changing to OAD milking, how he used to drive his farm bike too fast and came off regularly. With OAD he knew it was too fast and slowed down, thus reducing the likelihood of further accidents and injury. An academic colleague, while completing dairy farming practical work, after thirty plus years as a ‘Sheep/Beef’ farmer, collected two speeding tickets on his way home from milking after a blameless driving career of over thirty years. Furthermore, that fatigue impaired his cognitive functioning so that he had difficulty doing one of his hobbies - Sudoku problems. We also heard of numerous cases of worn out dairy staff leaving causing high staff turnover and adding to recruitment and retention problems

Now it has to be recognised that long hours are nothing new. Doig reported 65 percent of dairy farmers were working an average of 70 hours per week in busy periods, with permanent employees working 65 hours per week (1937-8), The percentage working more than 70 hours per week increased from the 1991 to 2001 Censuses to reach 32 percent, but then fell to 27percent in 2006, possibly as result of the Holidays Act 2003 increase to 4 weeks annual leave (2003). Meanwhile the industrial norm has remained at 40 hours per week.

Our Once-a-Day study showed a number of advantages of having more time:

- “More sleep, feeling more rested and able to work
- Less rush, less stress
- More flexibility when and how to do things equals more logical organisation and method
- Bigger blocks of time available, therefore jobs... completed, more job satisfaction, better quality farming, a safer farm environment
- Better quality family life, better relationships
- Opportunity for sport, hobbies, community involvement.”

(Verwoerd and Tipples, 2007, p.48).

Then we discovered that we were not the only ones thinking that the hours of work in dairy farming were far too long. Richard Kyte, at the time (2008) a relatively local dairy farmer, had spent time at Lincoln University completing the Kellogg Farm Leadership Scholarship programme. In his final dissertation, subsequently presented as a SIDE paper, he wrote and suggested increasing the use of wage labour to reduce fatigue and increase efficiency in dairy farming. For a 600 cow unit, it would cost \$50,000, but would have the advantage of reducing the hours worked by all staff. It would also free the share-milker to train others and to introduce new farming systems. Then there would be free time for other things and a chance to put family first. He concluded it had promising potential outcomes for a counter cultural

business strategy. However, he recognised that: “To introduce more labour into the system you must be able to capture increased productivity...”.

Staff retention

The data available show that by national standards dairy farming has a particularly high rate of staff turnover (Fig. 1). Whereas ‘All workers’ had a rate between 15-20 per cent, dairy farm employees had a much higher rate of turnover between 22 and 43 per cent.

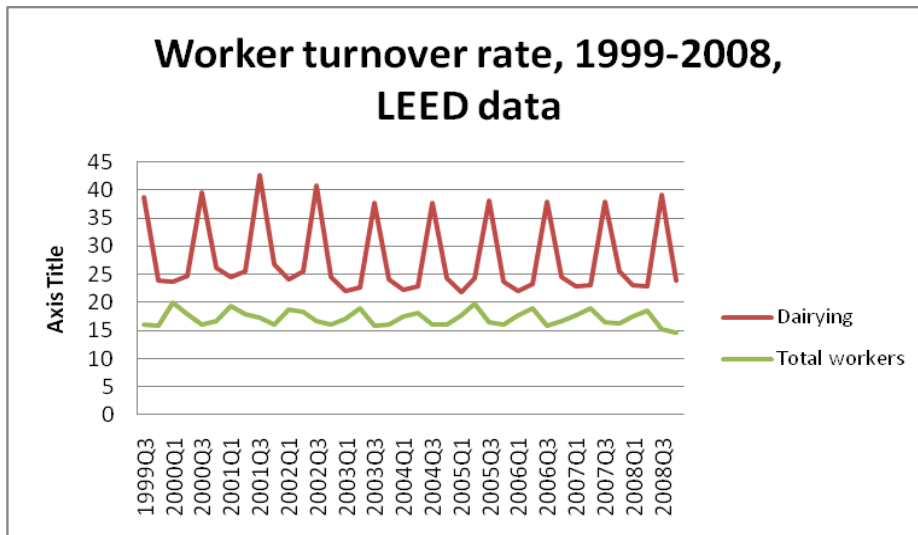


Figure 1: Relative rates of staff turnover

Dairy safety and health

All active accident claims for ‘Agriculture’ cost ACC \$NZ59 million for the financial year ending 30 June 2010. Of these, dairy farming claims were 41 per cent (\$NZ24 million) for 48 per cent of the total farm workforce. New dairy farming claims for accidents to ACC have been falling, but because of previous accidents with on-going injury claims, the proportion of active claims from dairy farming was increasing at approximately 1% per year (1 July 2004 – 30 June 2009). Only then did the overall accident expenditure begin to fall, so it may be argued

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that Health and Safety initiatives are beginning to have an effect. Perhaps the new Ministry of Labour safety programme Agriculture Sector Action Plan to 2013 – Workplace Health and Safety Strategy for New Zealand to 2015 will help to reduce claims further. Farmers are very resistant to OHS initiatives they have not been party to (Lovelock et al., 2008-9), which explains why many previous initiatives have been unsuccessful.

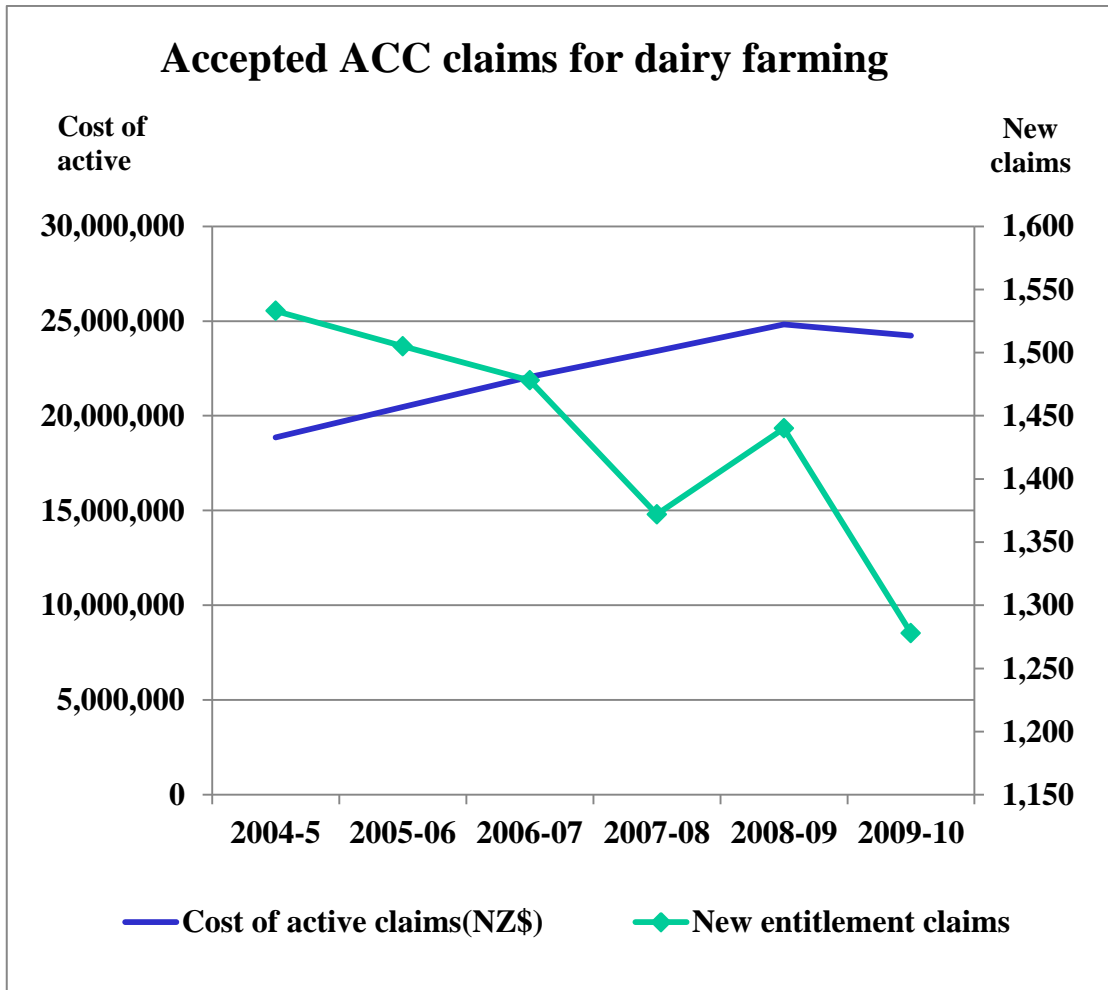


Figure 2: Accepted ACC claims for dairy farming

Our accident incident analysis

As an early part of our farmer fatigue project for the Farmer Wellness and Wellbeing programme we obtained data from ACC of all dairy industry accidents. From them we drew a number of conclusions:

There was a positive correlation between increasing herd size and an increasing number of ACC claims/accidents. These accidents tended to peak in Spring at calving, then decline and level off in Summer, with the lowest levels being in June. In terms of time of day there was a bimodal distribution of day timing with peaks at: 09.00 -11.00 and 14.00 -16.00, or just after

breakfast and after lunch. In terms of age, accidents peak for 20-24 year olds, when there is perhaps a mismatch of confidence/maturity, and for 35-39 year olds, who are perhaps stressed/tired share-milkers/equity partners/higher level managers.

A research question/answer

How is dairy farming coping with more cows, more farms and more land in grass, but apparently a lot fewer people working in dairying according to Census data 1991- 2006 (Wilson & Tipples, 2008)? Has the greater level of farm labour productivity that was being sought been achieved? Anecdotal comment suggests that the industry has been disappointed by productivity improvements. Are dairy staff working harder and longer? The answers to these questions are not immediately clear, so we must look at the data.

Linked employer-employee data of the number of taxable employment relationships in dairy farming suggest the number of employees has been climbing (Fig. 3), from around 10,000 in 1999 to just over 22,000 at the end of 2008, while the number of staff in the dairy industry according to Census data of those who declared dairying as their major occupation has been falling (Fig. 4).

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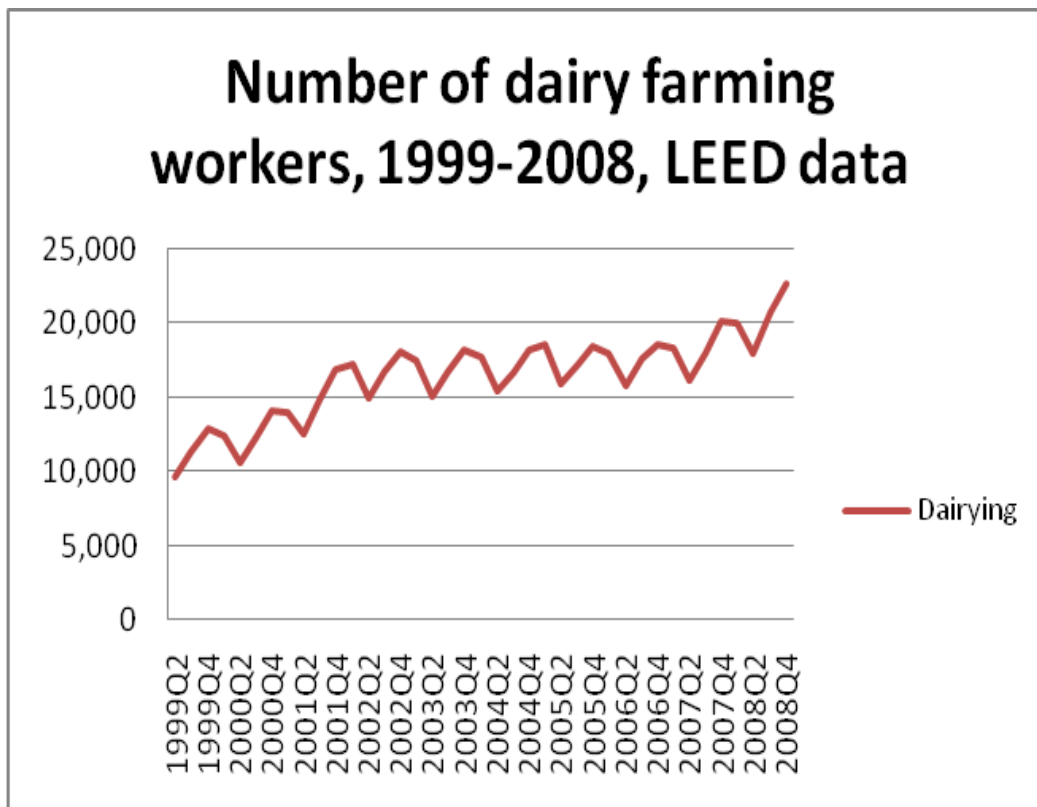


Figure 3: Number of dairy farming workers

Some of the difference is explained by the LEED count including all taxable employment relationships, while the Census data only includes those for whom dairy farming is their main occupation. The Census data suggests a peak of the occupation in 1996 of some 30,000 persons, falling to some 25,000 only ten years later at the 2006 Census. As a result of the Christchurch earthquakes in 2010-2011 the 2011 Census of Population was cancelled, so there is no comparable data for a more recent time. Part of the difference is explained by the steeper curve on the right of Figure 4, which is measured on the right hand 'y' axis. This represents the total number of visa permits allowing migrants to stay in New Zealand for some form of dairy work. However, there is some uncertainty as to whether these migrants are covered by the Census data or not, but since there was no 2011 Census that does not matter! Please note that the scales are quite different. The total permits scale has been set to highlight the growth in migrant employees from about 500 in 2004 to some 2,000 in 2009 (Callister & Tipples, 2010).

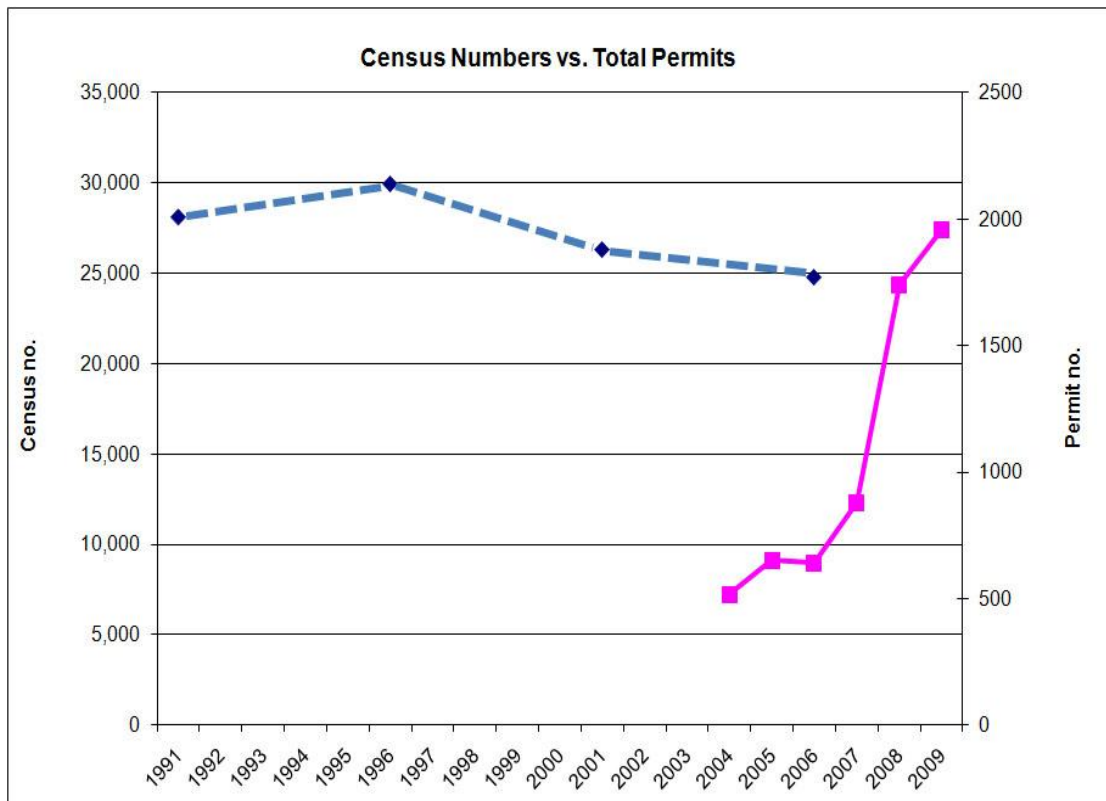


Figure 4: Censuses of Population 1991-2006 - Number of those giving dairying as their main occupation compared with the Total number of dairy occupations Visa Permit Holders from 2004-2009

Research gaps

Our initial research identified a number of research gaps which are impeding studying problems of fatigue in the dairy farming sector:

1. Lack of good dairy farming employment, contracting, accident and death data
2. Dependence on a migrant labour force - does migration policy make migrants' situations more/less precarious, or the dairy industry more/less sustainable?
3. Does the dairy industry's lack of willingness to comply with legislative/policy rules adversely affect how it is perceived as a responsible social partner for exporting or GLOBALGAP purposes? How can it be improved?

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4. There is a strong dairy culture which makes changing anything very difficult (e.g. OAD milking) – how can changes which last be achieved?
5. Long-lasting worthwhile collective social initiatives such as dairy employer groups, like the Amuri Dairy Employers Group, are hard to find – what is needed to sustain them?

The research approach chosen

To begin to explore these questions, especially in relation to the problem of fatigue in the dairy industry, an approach was made to Mark Paine (DairyNZ) who is responsible for the expenditure of Public Good funds derived from the commodity levy applying to the dairy industry (This is the task formerly carried out by *Dairy InSight*). In early 2010 Paine had written in *InsideDairy* of making a better workplace. The response was positive and we were asked to participate in the Farmer Wellness and Wellbeing programme at the beginning of September 2010. After protracted negotiations the project finally got under way in February 2011.

For our research we had chosen an inter-disciplinary expansive learning approach based on a Finnish ‘change laboratory’ process (Engestrom, 1987). This incorporated a mix of:

- Cultural Historical Activity Theory (CHAT)
- Developmental Work Research (DWR) built around ‘Change Laboratories’
- The ‘pure business’ model of policy development (NZ)

It was a similar research based approach to that which underpinned the establishment of the Recognised Seasonal Employer scheme for horticulture and viticulture’s use of temporary migrant labour.

The research process is described in Figure 5, which outlines the processes going on inside the Change Laboratories which are the main research activity of the programme.

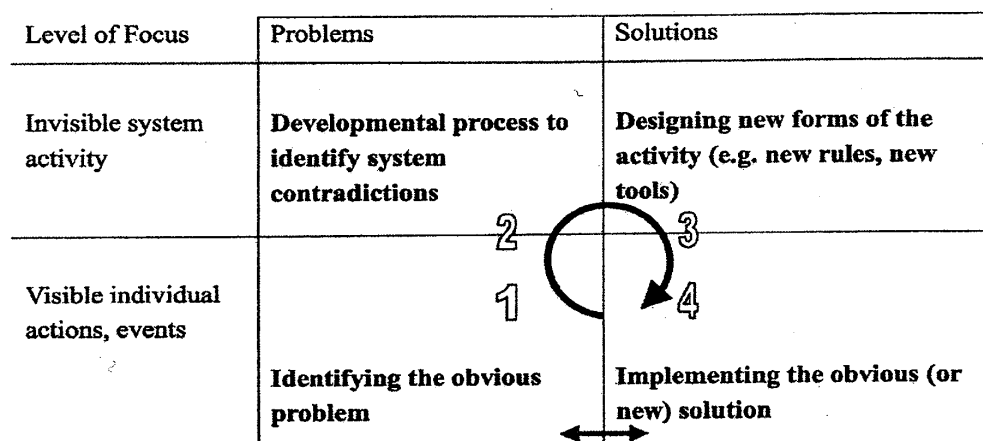


Figure 5: Managing change using an expansive learning cycle (Hill *et al.*, 2007)

The Change Laboratories participants came largely from those interviewed in the early stages of the study involved in dairying both on-farm and off-farm from across, but who could be taken as typical of the groups described in (see Figure 6). These participants are the active operatives in the expansive learning process. The research team were essentially the facilitators of the process, both in providing new resources and helping to focus the laboratories discussions. The key unit of analysis was the individual dairy farming activity, with the farming system at the centre.

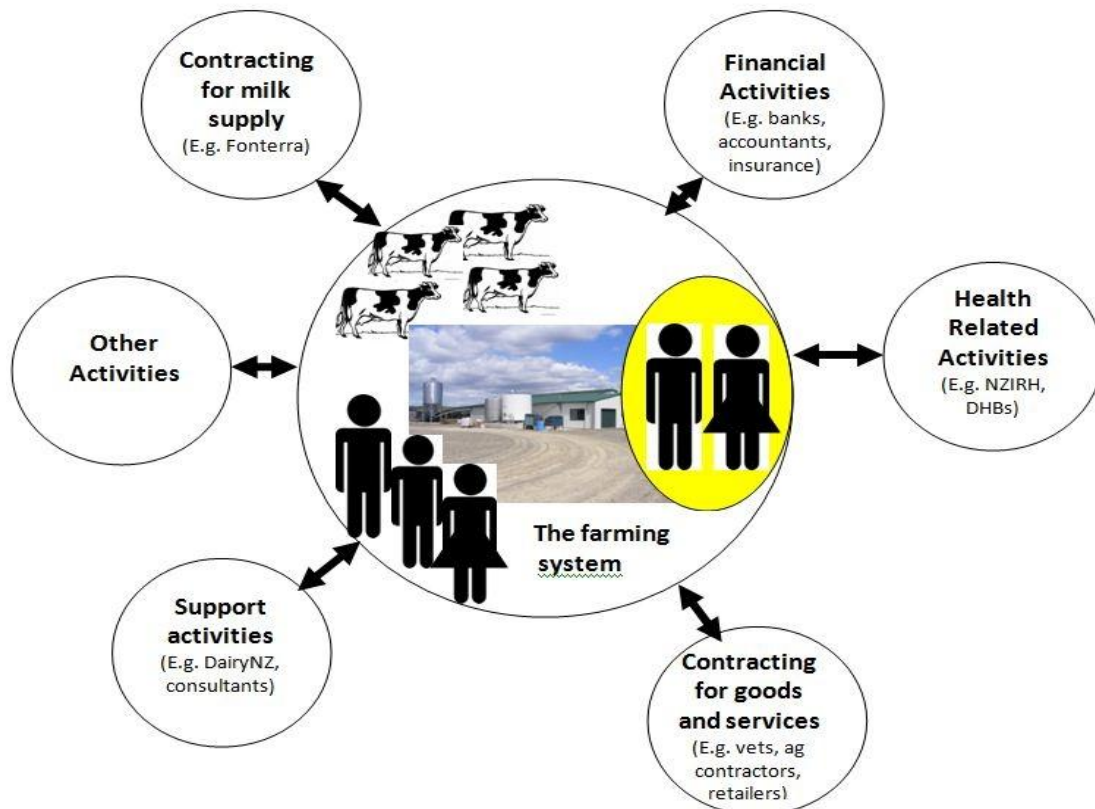


Figure 6: Dairy farming activities represented at the Canterbury Change laboratories in the first part of 2012

The Change Laboratories are the middle part of a three stage research process in which there are three phases:

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Phase 1: Fieldwork (or ethnography), and background literature review and data analyses, to gather socio-cultural historical data on full range of activities that make up Canterbury dairying system, on- and off-farm (2011)

Phase 2: Change lab workshops to:

- identify opportunities for long-term systemic change; and
- reframe mental models, practical tools, policies (2012).

Phase 3: Trials, active engagement to build a commitment and mechanisms for roll-out to both the dairy industry and rural health sector (2012-3?)

What we did in Canterbury (2011)

We visited a range of farms with a range of farming technologies in January, May, and June 2011 over the area and interviewed dairy farmers, sharemilkers, farm workers and supervisors.

We also interviewed off farm: DairyNZ Consulting Officers, a banker, an accountant, a vet, and an irrigation specialist with current dairying client bases; health professionals.

We heard of overwork, work-related stress, injury and clinical depression. Throughout, we tried to triangulate on and off farm data to ensure its validity

Themes which emerged from our initial studies

These themes were distilled from the initial enquiries and then fed into the Change Laboratory process as required to stimulate the participants' discussions:

- What motivates dairy farmers, sharemilkers, herd managers to work 16-19 hour days, weeks on end; and, from July – December, with no meaningful break? One answer: young, highly-motivated, entrepreneurial men and women are building complex, demanding pathways to find a route to farm ownership
- Taking on large debt creates 'a huge amount of pressure' when combined with their attitudes to risk, and a lack of business and financial skills
- Corporate pressure, investors' expectations leading to new trend away from '*farming animals to farming land*'; with less importance given to animal husbandry and staffing issues, more to '*the bottom dollar*'
- With '*more cows, more land, more irrigation*', supervisors have '*more to do*'. Managing more people, a more diverse workforce e.g. herd managers and workers with English as second language
- Long hours, rosters that require dairy workers, supervisors to work e.g., 11 days on, 3 days off. By 7th day '*people start fading*'. Impacts quality and productivity of work, including staff relationships

- Relationship stresses between dairy farming couples appear inextricably tied up with the business and work practices of dairy farming
- Industry pressure to be highly productive, manage debt, be seen to be a ‘successful operator’ can have a negative impact on farmers’ self-esteem as they participate in benchmarking exercises and compare themselves unfavourably with their peers. This stress can lead to lowered productivity and depression.

Where is the research now?

We are just beginning Year 3 of a 7 year programme (2010-2017) and have just completed the 7th Change laboratory out of 9 planned, and budgeted. Our participants have been very supportive of the process and activity, but there have been difficulties getting participants together every time on a three week cycle. These have been for good reasons such as pre-planned holidays and overseas trips, dairy committee meetings, pregnancy, and because the Change Laboratories were not in the accepted list of an individual’s KPIs. We should complete the Change Lab cycle by calving.

It is inappropriate to discuss detailed results at this stage as they are still emerging and we do not want to prejudice what the Change Laboratory will conclude.

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