

The role and experience of M5 project 'companion' dairy farms.

Findings from the "Sustainable dairy farm systems for profit" project

M5 Project Information Series - Studies on Mutdapilly Research Station and subtropical dairy farms 2001 to 2005

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OVERVIEW

PRIOR to deregulation in July 2000, industry modelling of farm business performance indicated that one option to achieve 10% return on assets (RoA), dairy farmers in Australia's subtropical dairy region would need to increase total milk production by increasing production per cow, herd size, farm stocking rate and the quantity of supplements fed per cow. The quicker herds moved towards 300 cows, the faster the economic target would be achieved. However, during the project period (2001-2005) this proved not to be the case – from feedback and data from the commercial farms that acted as companion farmers to the project. Companion farms were farm families incorporated into the project to ensure a high degree of interaction with farmers in the farming systems project.

Due to dry seasons, decreased water supplies and increased purchased feed costs - and the impact of expansion on lifestyle – companion farms tended to initially expand, then to contract or remain in a holding pattern. Most found they could not adequately fund the labour required to support the extra work of their expanded farm business. With large rises in building costs, margins were also insufficient to allow building or expansion of infrastructure to allow the expanded business to be run easily, and to be environmentally sustainable.

The experience of the M5 project companion farms mirrored what was happening in the industry.

INDUSTRY BACKGROUND

IN anticipation of a significant drop in milk price, the four-year M5 project was planned and put in place in 2001 to allow the industry to 'try out' intensification of the region's farming systems – to produce rapid and large increases in milk production per farm.

At the start of the project it was predicted by researchers and farmers that there would be no increase in water available for irrigation. However, no one predicted that farms would have to manage with a lot less. All companion farms suffered reduced water allocations during the life of the project, and increased purchased feed to hold the milk production of their expanded herds.

The M5 project business analysis did not include repayment of principal. Farms with principal included as part of repayments had to find these extra funds under conditions of 'vanishing margins'.

Dairy income on companion farms during the project period was supported by sale of land for subdivision, increased concentration on the value of beef sales, and family members working off-farm or contracting out their skills.



As predicted, deregulation led to a major drop in milk price, and a significant loss of farms and of milk production from the region. By the end of 2005, the number of farmers in Queensland had reduced to around 890 – a decline of more than 40%. Milk production for Queensland was around 620 million litres – a decline of more than 25%.

Deregulation resulted in dairy farmers in the northern half of Australia having to quickly adjust their production systems to handle at least a 20 to 30% reduction in milk price. This sudden price drop, combined with a run of difficult seasons and water shortages, set a serious challenge for the region's farmers.

Farmers were faced with a number of choices – to leave the industry, to seek part-time employment, to diversify, or to modify their dairy production system to stay viable.

In 2000, the average farm produced 550,000 L/year. With limited ability to further cut costs, it was estimated that existing farming systems needed to increase productivity by at least 100% within 10 to 15 years to remain sustainable.

Milk price after deregulation was lower and more variable than predicted, with changed processor contracts, seasonally based pricing, and price differences between processors and districts. Very dry seasonal conditions, low water and forage availability, and high supplementary feed costs further deflated the confidence of farmers in the region.

LESSONS FROM THE M5 FARMING SYSTEMS PROJECT

THE aim of the *Sustainable dairy farm systems for profit* project was to research the possibilities of the common dairy farming systems in the subtropical region. The project looked at intensification and its implications, with a goal of 10% return on assets and 600,000 litres/labour unit.

The project's M5 farmlets at the Mutdapilly Research Station provided four years of data, through both good and bad farming seasons.

NB. The 20-cow farmlets were managed under research station conditions and in the low-rainfall Mutdapilly environment, so results cannot be directly extrapolated to commercial farms across Queensland and northern NSW. The farmlets project indicates potential ways forward for similar farming systems in the region.

However, the research station farmlets were unable to provide accurate information on labour efficiency, and the social issues of managing a larger herd.

Role of companion farms

The project assessed the 'real' expansion opportunities for the subtropical dairy industry; implications for the farm family; and longer-term sustainability by incorporating commercial farms into the study.

22 commercial farms became involved in the project as companion farms, representing a broad cross-section of the subtropical dairy industry in terms of location, farming style and herd size. There were 6 companion farms in northern NSW, 9 in coastal southeast Queensland, 5 in the Darling Downs/South Burnett, 1 in central Queensland and 1 in north Queensland. During the life of the project, the companion farms provided regular input - including testing of research results in a commercial farm situation, provision of new knowledge about intensification – especially about social and labour aspects, and business and environmental sustainability.

The commercial dairy farms participated in the Queensland Dairy Accounting Scheme.

Information and data was collected from companion farms throughout the project period via interview and close contact with the M5 project's social stream researcher, Helen Todd; at a series of companion farm workshops during the project; and by on-farm research, data collection and demonstrations undertaken by the project team.

Environmental monitoring was conducted on some of the farms. Several were also used to monitor water efficiency of forage production, and for applying techniques learnt on the farmlets – such as scheduling irrigation, double cropping and

grazing management. Throughout the project – individually and at workshops - the companion farmers identified practical internal and external barriers to making potential changes to dairy farm businesses

The lengthy drought reduced the time available for both researchers and farmers to commit to the farmers' role in the project, and halved the number of companion farms remaining with the project from start to finish.

When asked in 2006 how they would like to be involved in future projects, the farmers said they had found the experience worthwhile, and that they had benefited from close contact with researchers and with each other during the project; they had made business changes as a result of experience and information from the project; and they had discussed the changes and information with neighbouring farmers.

COMPANION FARMER EXPERIENCES

Using the project as an information source for their business

COMPANION farms joined the project to gain first hand experiences to be used in intensifying their own businesses.

For example, by working with the project – at Mutdapilly and on their farms - companion farms learned how to grow a lot more feed from a lot less water; to irrigate according to crop requirements; and to incorporate silage crops into their pasture-based farms for better water utilisation and higher forage production.

The need for flexibility in all farming systems was a clear learning from the project.

Potential to change farming systems

The wealth of data raised by the project about intensification of farming systems was seen as a potential source of information for future decisions.

For example, how can you move from one farming system to another? What will you need to consider? What are the potential combinations/in-between systems, such as full total mixed rations at

certain times of the year, pasture grazing at other times?

Keen interest in results from the M5 feedlot farmlet raised the question amongst companion farmers of their application to smaller 100-cow farmlets.

Interest was also shown in modelling the M5 feedlot farmlet on the basis of purchased by-products, as used by several southeast Queensland farms.

After an initial failed attempt to reduce inputs to improve margins, one companion farm in a cropping area followed the lead of the farmlets and swung to a silage-based business with increased concentrates – summer TMR and winter strip-grazing - with good results. The farm business runs a silage contracting service, leaving only one operator to manage the dairy. An expanded 14-a-side herringbone dairy, a smaller herd size of 85-100 cows, and a simple loader/mixer wagon feedout system allow the day-to-day dairying to be easily managed by one person. The silage technology has been incorporated into a sideline beef business, and silage supplies boosted by forage crops grown on surrounding leased paddocks.

Water-use efficiency

The water-use figures developed from the project have set benchmarks and given farmers guidance about the size of future water allocations required, and potential to bid commercially and realistically for alternative water supplies such as recycled water.

The farmlets demonstrated what happened and potential responses with suddenly diminished water supplies – a trend that has affected all farmers. Farmers generally commented that through the project they had learned valuable lessons about water use, commenting that they would be lucky to run 40 cows under their previous farming styles with the water that they have now.

Companion farms learned that they were over-irrigating ryegrass early in the growth season, and under watering in spring by scheduling watering to

irrigation runs rather than plant requirements. Many have since made adjustments to their watering practices with some dramatic results.

At the start of the project, the industry's focus was on ryegrass as the key forage for irrigation.

During the study - under very dry conditions and water restrictions - the role of short-term high growth forage sorghum for its flexibility, its high yield per megalitre of water, and its ability to handle low moisture situations was demonstrated and taken up by companion farms. Double-cropping annual ryegrass areas with a summer forage sorghum crop has increased on farms associated with the project.

Adjusting fertiliser to farm requirements

The farmlets highlighted the amount of plant nutrients being brought onto farms in purchased feed. Companion farms reconsidered their fertiliser programs, soil nutrient monitoring and re-use of nutrient-rich manures over the farm.

Planning how to farm

Through close contact with research and advisory staff during the project (and other associated projects), another family has improved cow nutrition, and redesigned farm layout, locating the dairy in the centre of the pasture-based farm. Milking can now be done easily by one operator. With family lifestyle their major aim, they have successfully reduced their time-spent farming from 15 to 6 hours a day. With contractors used for fertilising, tractor work is minimal. Sale of a small parcel of land for subdivision has helped reduce debt.



Using the project to confirm their intensification experiences

Feedlot experiences

Companion farmer experiences with feed-lotting mirrored the experience on the M5 feedlot farmlet, confirming for them the common, practical difficulties of this form of intensification.

Issues raised include increased culling rate, particularly for fertility; the need to manage every aspect of the system well; and the impact of rising concentrate costs on margins. Some reported a gradual rise in somatic cell count, due to cows congregating on feedout and loafing areas.

Feedout areas

Intensification for many farms has involved the use of a feeding out area or feedpad. The farmlets showed a high level of nutrients being introduced in purchased feeds; the feedout area of many companion farms also had a very high level of nutrients in the top soil layer. The concentration of nutrients can result in the loss of trees/death of remnant native vegetation with increased stocking rate – and especially near feedout and loafing areas.

Aware of the excess pressure of nutrient load on loafing areas, one companion farmer has changed from the practice of letting cows onto a loafing area after silage feeding. Instead, cattle are fed silage at night and held on the feedpad. All manure waste is collected and composted for reuse on the farm.

Lack of water

At the start of the project in 2001 it was predicted by researchers and farmers that there would be no increase in water available for irrigation. No-one predicted that farms would have to manage with a lot less.

All companion farms – as on the research station farmlets – have had to learn to farm with reduced water allocations. Farms have increased purchased feed to hold the milk production of their expanded herds.

Many have adjusted their irrigation practices and selection of species to make more efficient use of limited and uncertain water supplies.

Importance of ‘surplus’ stock to dairy income

The value of ‘surplus’ stock as an increasing part of dairy income is being recognised.

One companion farm has purchased an automatic calf rearing system and built a calf-rearing shed. They now rear every calf born and have started purchasing calves from other dairy farms, selling bulls at 100 kg. Calf losses have been reduced and milk excess to their Paul’s Daily Access now has a viable ‘market’ via calf rearing.

The ‘vanishing margin’ economic reality of dairy farming

Despite best-practice, some of the Mutdapilly farmlets were only marginally profitable.

This has also been the experience of companion dairy farmers.

Although milk prices increased in the later years of the project, farmers and the farmlets struggled to contain variable costs. Companion farms spoke of ‘vanishing margins’ and of the loss of good operators from the industry.

The following companion farm examples illustrate the ‘vanishing’ margins experienced on commercial dairy farms in the region.



Case study Farm 1, southeast Queensland.

Deregulation in 2000 reduced the average milk price by 11 c/L on this farm. To overcome this, the farmer initiated an expansion phase in 2002 by purchasing a second property some distance away, which increased the arable land area by 24 ha and the herd size by 100. As a result the stocking rate increased by 0.8 cows/ha, and milk production by 150%, *Table 1*. The litres of milk produced from homegrown forage were reduced to 45% in 2003/04 as compared to pre-expansion where 75% of milk was from homegrown forage. In 2004, the second property was sold.

Total feed related costs remained unchanged post-deregulation until the 2002/03 financial year, where a 4 c/L increase was experienced due to a greater reliance on purchased supplements and the unfavourable weather conditions. The milk production efficiency, calculated as the margin over feed related costs decreased from \$1,856 to \$1,279/cow from 2000 to 2004, although remained higher than the industry benchmark of \$800/cow.

Table 1. Physical and financial performance indicators used to monitor changes in the farm enterprise.

| Performance indicator | 00/01 | 01/02 | 02/03 | 03/04 |
|---|-------|-------|-------|-------|
| Total milk litres ('000 L) | 912 | 999 | 1,631 | 1,707 |
| Stocking rate (cows/milking ha) | 2.8 | 2.8 | 3.5 | 3.3 |
| Feed related costs (c/L) | 11.8 | 12.3 | 16.5 | 17.4 |
| Margin over feed related costs (\$/cow) | 1,129 | 1,147 | 1,204 | 1,279 |
| Milk from homegrown feed (%) | 69 | 72 | 56 | 45 |



Case study Farm 2, southeast Queensland

A decision was made in 2002 to expand the enterprise to provide sufficient long-term stability and income for the farmers' sons. An effect of deregulation of the industry 2 years prior was an 11 c/L reduction in the average milk income. To overcome the shortfall in milk income, additional land was purchased adjacent to the existing farm, increasing the irrigable area by 25 ha. The stocking rate decreased by 1 cow/milking ha, *Table 2*, and the total litres of milk per milking hectare halved due to the greater land area. The volume of milk produced from homegrown forage increased by 20% in 2001, demonstrating a greater emphasis being placed on homegrown forage in that year. The volume of milk from homegrown forage declined in 2003 before increasing to 40% of milk from homegrown forage in 2004.

The total feed related costs increased by 5 c/L following deregulation in 2000, with a further 10 c/L rise in the 2002/03 year associated with drought and high grain costs (an additional \$125/tonne compared to 2002). As a result, the total variable costs increased and the margin over feed related costs was reduced to \$300/cow. In 2004, a reduction in grain price and a greater area of irrigable land contributed to an 11 c/L decrease in total feed costs, a \$388 increase in margin over feed related costs by and a 108,000 L increase in total milk production.

Table 2. Physical and financial performance indicators used to monitor changes in the farm enterprise.

| Performance indicator | 00/01 | 01/02 | 02/03 | 03/04 |
|---|-------|-------|-------|-------|
| Total milk litres ('000 L) | 487 | 573 | 547 | 655 |
| Stocking rate (cows/milking ha) | 2.3 | 2.6 | 1.6 | 1.7 |
| Feed related costs (c/L) | 18.2 | 19.3 | 29.1 | 18.7 |
| Margin over feed related costs (\$/cow) | 610 | 688 | 300 | 688 |
| Milk from homegrown feed (%) | 61 | 45 | 27 | 40 |

Case study Farm 3, southeast Queensland.

Deregulation of the dairy industry at the farm gate in 2000 contributed to an 11 c/L decrease in milk income for this farm, *Table 3*, and as a result an expansion phase was instigated. Within three years the total cow numbers in the herd had increased by 60 and additional land was leased on two neighbouring farms. Total milk production increased as a result of the additional cows, although production per cow declined by <800 L/cow.

The total milk from homegrown forage increased by 15% in 2001, with the feed related costs only increasing by 1.4 c/L the farm was producing cheap milk from forage. The milk from homegrown forage reduced in following years, to >50% in 2004, with the loss of some leased land. The total variable costs increased in following years, with some of the increase attributed to the dry weather conditions experienced, with grain prices increasing to >\$350/tonne between July 2002 and June 2003. The gross margin halved over the 5 years of data, highlighting the decline in milk production efficiency, brought about by reduction in milk income and higher variable costs.

Table 3. Physical and financial performance indicators used to monitor changes in the farm enterprise.

| Performance indicator | 00/01 | 01/02 | 02/03 | 03/04 |
|---|-------|-------|-------|-------|
| Total milk litres ('000 L) | 757 | 823 | 972 | 984 |
| Stocking rate (cows/milking ha) | 2.8 | 3.0 | 2.0 | 2.0 |
| Feed related costs (c/L) | 13.6 | 16.9 | 17.5 | 18.3 |
| Margin over feed related costs (\$/cow) | 1,038 | 911 | 918 | 1,011 |
| Milk from homegrown feed (%) | 70 | 65 | 60 | 55 |



Case study Farm 4, north Queensland.

Improvements to capital infrastructure, coupled with an increase in the herd size contributed to an increase in the total milk produced since 2000. An additional 16 ha of irrigation area was added to the farm, allowing for a 50% increase in the stocking rate. Consequently, milk from homegrown forage increased by 15%. Milk income remained between 27 and 31 c/L for the 4 years since 2000 and feed related costs increased due to additional cows in the system. The milk only gross margin indicated a decline in the milk production efficiency following the improvements, *Table 4*.

Table 4. Physical and financial performance indicators used to monitor changes in the farm enterprise.

| Performance indicator | 00/01 | 01/02 | 02/03 | 03/04 |
|---|-------|-------|-------|-------|
| Total milk litres ('000 L) | 514 | 675 | 524 | 535 |
| Stocking rate (cows/milking ha) | 3.0 | 3.5 | 4.3 | 4.8 |
| Feed related costs (c/L) | 10.2 | 12.9 | 16.3 | 17.1 |
| Margin over feed related costs (\$/cow) | 861 | 718 | 508 | 462 |
| Milk from homegrown feed (%) | 50 | 55 | 60 | 65 |



Case study Farm 5, northern NSW.

The volume of milk produced from this farm increased by 435,000 litres between 2000 and 2004 *Table 5*, with an additional 70 cows introduced to the herd during this time. Milk income increased by 4 c/L, whereas the feed related costs remained <20-c/L for 3 years before increasing to 22-c/L in the 2002/03 year, with an increase in purchased feed costs. Lower total variable costs in the 2003/04 year contributed to an increase in the milk gross margin. The volume of milk from homegrown forage remained >70% until the 2003/04 year, where 60% of milk was produced from homegrown forage.

Table 5. Physical and financial performance indicators used to monitor changes in the farm enterprise.

| Performance indicator | 00/01 | 01/02 | 02/03 | 03/04 |
|---|-------|-------|-------|-------|
| Total milk litres ('000 L) | 846 | 928 | 1,246 | 1,281 |
| Stocking rate (cows/milking ha) | 1.4 | 1.3 | 1.8 | 1.9 |
| Feed related costs c/L | 16.6 | 18.7 | 22.3 | 15.2 |
| Margin over feed related costs (\$/cow) | 836 | 1,098 | 873 | 1,161 |
| % Milk from homegrown feed | 88 | 76 | 73 | 61 |

Other companion farmer experiences

With farming now more complex under intensification, dry conditions and lack of irrigation water - and other more lucrative alternative uses for their farming land - some companion farms have reduced their expanded herds and farms, or have left dairying. One companion farm described having 'gone full circle' since deregulation – expanding to milking 250 cows year-round, now downsizing to 160 cows year-round. They are looking at using 'terminal sires', not rearing any calves and purchasing heifers as required. They are likely to stay dairying while their children are at school, provided they can find someone to milk the cows.

Another companion farmer has been through a similar upsizing then downsizing pattern, cutting back herd numbers by 25% to 180 cows, to reduce dependence on purchased feed in the dry seasons.

Others have put their full expansion plans on hold due to the dry seasons. One farm with plans to develop a larger feedlot and to house the herd has held herd numbers at 250 and made use of the poorer seasons to focus on harvesting feed for other farmers.

One pasture-based companion farm saw potential to expand to incorporate two sons in the business by purchasing the next-door property. After 5 years ‘pain’ developing the second property they are now hoping for the ‘gain’. One member of the farming family continues to have full-time work off the farm, the sons are contracted out as musterers, and a salaried employee has been taken on.

More lucrative returns are possible from land currently being used for dairying. After being made an ‘offer too good to refuse’ by a turf farmer for a river block, one farming family has downsized dairy farming back to the home block. Seeking alternative land in southeast Queensland with sufficient water to use in conjunction with the home farm proved impossible and very expensive, so land was purchased in the Riverina for hay growing, agisting dairy heifers and ‘life after dairying’.

The social side of the farming businesses and intensification

Since deregulation, one farming couple calculated their working hours had increased from 100 to 200 hours a week. The older generation has recently made the decision to pull back from day-to-day farming activities – for lifestyle reasons, and a decision not to be tied to the farm. A full-time staffer has been employed to work with the son of the farming family.

Another companion farmer stopped to ask himself: “Why keep doing this?” He sold the farm in 2005, and purchased a smaller block closer to town. He kept his heifers and machinery, and now runs 150 head of cattle, and does tractor work for other farmers. He has time to travel and ‘have a life’, and wonders how he ever found time to milk cows.

While the majority of companion farmers believed that the industry had a good future, increasing age

of farmers and the increasing complexity of farming – including the need to employ and manage labour – are major issues.

Labour

Labour was an issue raised by all companion farms.

Commonly, the intensification process has required another set of hands on the farm – either as a salaried employee; a trainee; contractors for paddock work, harvesting and fertilising; or casual milkers.

While some companion farms have improved their situation by hiring labour or contracting work, others have questioned the financial value of labour - in terms of milk per labour unit. One farm reports that milk per labour unit has gone down rather than up with expansion of the farm business.

When asked why there appeared to be such low use of labour by the dairy industry in the region, the following reasons were offered by companion farmers: the low number and scattered nature of dairy farms; location of farms in relation to labour sources; requirement for labour accommodation/lack of facilities/council restrictions; lack of a pool of trained labour; the culture of being ‘the only one capable’; farmers not willing to relinquish control; lack of business size and insufficient income to afford wages (an extra 500,000 litres required to pay a labour unit); and alternative higher-paying labour opportunities such as mining and construction, with better working conditions.

Companion farmers suggested ways of resolving the labour issue. One answer on several farms has been to cut back the farm business size, rather than employ labour. Alternatives for the future included a group employment situation for several farms in the one region; and the use of live-in working tourists under existing schemes.

Infrastructure pushed to the limit

Infrastructure is pushed to its limits on many farms, without the margins (or a sense of future) to invest in new facilities. Farms are showing signs of ‘strain’.

Most companion farms commented that their farms were under strain from the increased pressures of intensification.

One farm's 7-a-side milking shed is bursting at the seams, and they are still unsure of the likely returns from purchasing and using a mixer wagon, so the time spent daily at milking and feeding out a larger herd has increased. The reduced amount of allocated irrigation water is now being 'flogged' to feed an expanded herd for increased production.

Another farm has swung to cannery wastes to supplement pastures during the dry conditions. However the feedout facilities are minimal and the farmers are concerned about the impact of wet weather on the system.

Despite infrastructure being more than 25 years old on another companion farm, the increased costs of building, reduced access to cheaper materials, and uncertainty about continuing dairying have prevented the farm business from making necessary improvements. With an increased herd of 150 cows on a small cropping-style farm, they are 'wearing out a lot of dirt'.

SOCIAL FINDINGS

Summary of M5 project work and findings with companion farms. Helen Todd

What drives the business?

From background literature review

FARM families are prepared to work longer and harder to get over business humps. However, motivation to improve and alter their situation waxes and wanes with age.

If the farm is always in a state of improvement, it's likely the farm is being operated as a business. If the farm system tends to remain the same, the activity of farming is likely to be for the sake of the family rather than business.

If the farm has debt, it is more likely to be run as a business to handle the repayments and to service the debt. If the farm is not in debt or is downsizing, the farming emphasis is more likely to be based around the family, lifestyle and flexibility.

M5 companion farms

Older farmers would once have had time to concentrate on farm appearances, - maintaining fencing and clean weed-free paddocks. With intensification there has been no time for that, and a sense of loss.

For younger families, intensification has led to insufficient time with children (depending on the age of the children).

Family has always been the core motivation for what happened on the farm. Many thought that they would work hard for a couple of years, intensifying and developing the farm system before employing labour. However, many have since downsized and decided not to employ labour.

Companion farmers did not speak about maximising profitability, but more about maximising production and improving their farming system.

There was a consistent attitude across companion farms to the land staying in family ownership – preferably maintaining the dairy operation, but not necessarily. Many were trapped into staying in dairying to maintain occupation of their land.

The family farm in today's market place

From background literature review about rural adjustment

THE family farm in an industrialised, capitalist economy is characterised by flexibility; an avoidance of hiring labour; multi-skilling of family labour; and acquisition of technically-advanced machinery and equipment.

There are two paths of choice for farming in a capitalist economy – highly efficient corporate-style large farms with a high level of mechanisation, capital and paid labour; or flexible family farms with multi-skilled family labour and low-cost inputs.

M5 companion farms

The companion farmers would be regarded by industry as progressive farmers. However, even with their uptake of technology and efficiency, their values remained the same – based around

their land, work and the family unit. Their focus remained on productivity, with the vat ‘dipstick’ being the indicator of doing well or not.

There remains a sense of powerlessness in the family farming sector of the industry.

Farms have grown bigger and intensified through economic necessity rather than a genuine desire to do so. To continue down that path would eventually mean losing the family farm ‘ethos’ and entity, and total reliance on employed labour.

Companion farmers believed the farming sector required greater power in the market place, with the ability to participate in price rises. They believed farmers were generally leaving the industry because they were losing control of their business direction and destiny.

Companion farms believed it was important to be fully aware of the situation their business was in. Most felt that for their farm’s survival they had been very flexible and had changed and adjusted in major ways.

Despite the difficulties of recent years companion farmers still expressed the benefits of raising children on farms – including learning responsibility, reliability, values, and a work/business ethic; and time together as a family.

M5 INFO SERIES

THE M5 Info Series provides dairy farmers and the industry with a wide range of information from the *Sustainable dairy farm systems for profit* project. Other topics in the M5 Info series are available at www.dairyinfo.biz on the home page look under,

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Helen participated in this project as a PhD student in the social research stream of the project. Further details of her work may be obtained from the University of Queensland or Dairy Australia.

The *Sustainable Dairy Farm Systems for Profit* project at Mutdapilly Research Station and on associated commercial farms investigated the potential impact of intensification of five subtropical dairy farming systems on business productivity, on the social well being of farming families and on the farm environment.

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