

Creating change around “sticky beaking” and networking

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Abstract. The project objective is to accelerate the rate at which dairy farmers embrace and execute Natural Resource Management (NRM) by forming self-directed farmer learning groups to integrate environmental best practices with profitable and productive farming. Each group self directs much of its own learning around the plans and action on one member's farm, the Focus Farm. A manual exists to support extension designers and facilitators to run a Focus Farm group. The project evaluation found that:

- Most group members were planning further NRM work after the project finished.
- Many were now using dairy effluent as a valuable nutrient resource and had incorporated soil testing into their management.
- A key benefit from this project is the increased linkages that have been developed between NRM bodies and milk processors, which have markedly increased the regions capacity to initiate change.

Keywords: Natural resource management, participatory action research, focus farm and on-farm actions.

Introduction

The Dairy Industry in South West Victoria is a major dairying region in Australia. It produces 23% of Australia's milk. Historically dairying in this region has been productivity focused and has not participated in land care to the extent that other grazing industries have (Dairy 25% Parminter et al 2003). Dairy companies instituted Hazard Analysis Critical Control Plan HACCP milk quality programs, but took the position that the market was not demanding environmental credentials or accreditation, such as environmental management systems (14001).

In 2004/5 Dairy Australia's regional development program in South West Victoria, WestVic Dairy Inc, decided that there was a need to improve on farm capacity in natural resource management (NRM). In 2006 the executive officer, Tim Nelson, initiated the natural resource focus farm group project using a participatory method to address this issue. Funding was secured through the Dairy Industry national program, 'Dairying for Tomorrow' and local Catchment Management Authorities.

The project objective is to accelerate the rate at which dairy farmers embrace and execute (NRM) on their farms.

Context

Previous research provided a context for the design of this project. In 2003 a research project examining farmers' attitudes to biodiversity and water quality found farmers fell into one or more of four groups, identified by their emphasis on different farming goals (Parminter et al 2003) (see Table 1). All groups identified the value of their farming business and maximising profits as the highest priority. The "productionist" group representing 80% of the population had "looking after nature" as a mid goal and biodiversity as the least important. "Cosmopolitans" are the next group at 30%. After profitability they listed socialising with family and friends as next important. Measuring their farm performance against socially accepted benchmarks is important, but they don't want to see themselves as better than their neighbours. The "future builders" put creating increased opportunities for future farmers as their second highest goal, "looking after nature" as a mid range goal, and want to leave the property in better condition than when they started. Ten percent of dairy farmers were "conservationists". Looking after nature is a high priority goal and they have highly positive attitudes to biodiversity and riparian zones.

To achieve significant outcomes it is necessary to appeal to the "productionists" segment.

The Environmental Protection Agency (EPA) has been increasingly active (2002 – 2008) in auditing dairy farm effluent management systems, which in turn has increased farmer motivation to increase capacity in NRM. In addition fertiliser prices have increased. These factors have raised interest in nutrient management and effluent reuse for irrigation of crops.

The risk of nutrient leakage from dairy farms has amplified farmer interest because of the intensification from increased stocking rates, fertiliser use, bought in and conserved feed.

Table 1. Descriptions of farmer segments

Priorities	“Productionists” 80%	Cosmopolitans 30%	Future Builders 20%	Conservationists 10%
Profitable farm business	High	High	High	High
Looking after nature	Mid	Mid	Mid	High
Biodiversity	Low	Low	High	High
Family & social life		High		

N = 65 Some appear twice. A lack of ranking does not mean a goal was unimportant; only that it did not influence decision making.

Source: Parminter et al. 2003.

Method

NRM is an added layer of complexity to an already complex farm management system. The benefits of improving a farm’s NRM are also to some degree esoteric to practical farmers, whose main goal is farm profitability. To overcome these barriers it was decided to use a participatory action research model as the basis of the project. Participatory action research (PAR) is a “bottom up approach” which fits Cootts (2004) Group Facilitation / Empowerment model. This model has the key underlying philosophy that rural industry participants are best served by providing them with a facilitative framework to allow them to define their own problems and opportunities and seek their own avenues to address them. The groups self directs and decides what they want to learn about and the facilitator guides this process. This process treats farmers as equals and utilises their intrinsic knowledge.

Some group members were not comfortable with what they perceived as a lack of leadership. In the 2007 groups, facilitators were more directive in that they provided half of the meeting for group members to work in small groups to work on DairySAT and action plans. However this backfired with one of the 2009 groups, which who did not want to take this approach, resulting in the facilitator changing his approach (see” what didn’t work”). Facilitators also provided a session on whole farm planning to go with the free aerial photos provided to each participant. Farmers appreciate aerial farm photos (Plate 1)

Plate 1. The Alvie group comparing photos of well done and need to improve issues



Source: personal file

The facilitators do not act as consultants to individual members, inside or outside the group.

“There’s no pressure or force. It’s more or less you’re showing us a window and the curtains are drawn, and we sort of know what’s behind, but we need someone to open them and then you let us look through and the picture is really clear about what we have to do and we’re doing it very casually and you cover everything – its being done really well”. Farmer quote.

Process: How we did it?

In 2006 the facilitators began six groups. The project allowed for four meetings in year one, three each in years two and three. Meetings times were to suit dairy farm schedules. They commenced at 10.30-10.45am and run to 2.45pm with lunch provided. Because of the success of the first six groups another six groups were commenced in 2007.

In 2008 an additional two short term groups were also run over a six to nine month period. This was due to additional short term funding from other sources. One group was a mixed group comprising of grazing, agro-forestry and dairy enterprises. It included lifestyle farmers and established long term owners. The other short term group was a dairy group with one beef farmer member. This group were all Warrnambool Cheese and Butter suppliers exclusive to the Ballarat area. The time from commencement to finalisation of these two groups didn't allow for significant on-farm works. However, evaluation of these two groups showed significant increases in learning, positive group experiences and future action plans to address issues. A further five dairy focus farm groups were commenced this year, 2009, to finish in 2011.

Two surveys have been carried out over the life of the project. Tim Nelson carried out an in-depth survey by phone in 2006 after groups had completed three meetings in year one. He surveyed 38 of the 72 farms involved.

Peter Wearne also carried out a telephone survey in 2008 of 20% of randomly selected participants from the 2006 and 2007 groups. This survey focused on two aspects, the on-farm work undertaken during the program and the value of the group process to support that work.

Setting up

Two experienced facilitators were contracted to run three groups each. Timing of program meetings to fit the farm calendar was seen as important and experience has confirmed this. The use of "local mayors" (key informants) was used to tap local social networks to form groups. Dairy factory field officers were also a good source of participants and advertisements in local papers covered other potential starters. A preliminary meeting of interested farmers was often held to discuss what the project involved, and the attendees made the decision to form the group. This assisted to generate ownership of the group.

The selection of a focus farm was handled slightly differently by the two facilitators. One saw this as an important first step, securing the focus farm and then forming the group around it. The other preferred working with the group to work it out. In some groups farmers wanted to share the focus around group farms that best represented the issues on hand. Nelson's survey in the first year showed mixed feelings about focus farms and was inconclusive about their value.

Running the group: what we did!

Initial groundwork was started in December and January with the first meeting in February and the second one within a month. All meetings were scheduled to fit the farming calendar as indicated above.

At the first meeting dairy farmers are introduced to the Dairy Self Assessment Tool (SAT) and the Dairy Industry's EMS work book (the Workbook). They are asked to define issues, plan future meetings, mark farm boundaries for an aerial photo and undertake a farm walk of the focus farm. Farmers were asked to take photos of something they wanted to improve and something they were proud of. The 2006 groups were given DairySAT books and left to work through them if they desired, at their own speed. Later groups actually spent half of first meeting working in small groups to work through the self assessment process (Plate 2).

Plate 2. Whole farm planning exercise with Nullawarre group



Source: personal file

Meeting two is a visit to an exemplar farm which is a farm that can easily demonstrate very good NRM practices in the context of a highly productive and profitable farming system. Expert input can be part of this visit. The key value of this visit is to see and hear another farmer show and tell why he has chosen to farm this way. Research has consistently shown that other farmers are one of the most credible sources of information.

At meeting three the group receives an aerial photo of their farm. This together with a presentation and exercise on whole farm planning is used to commence development of their whole farm plan. Farmers are provided with photo and overlay sheets. Group members are keen to share their photos and discuss what they already do well and what they want to improve.

Meeting four addresses issues that have been raised by the group process. These include revegetating, planting shelterbelts with direct seeding and seedlings, effluent storage and management, nutrient testing and mapping, soil health, climate change and feedbase systems to adjust to drier climatic conditions.

During years two and three of the project groups continue to work through these issues. Occasionally meetings were held at night with dinner to add variation.

One lot of meetings were run with several combined groups to allow for more effective use of an out of town specialist for energy and water use in the dairy. Attendance varied with a night time meeting working best.

The short term groups met on a monthly basis to meet the project milestones.

Sustainability

Of the first six groups, all except one continued to the end of the project. One group became unviable in year two with only four keen members left. This outcome was attributed to several reasons:

- The formation was rushed and the key informant model was not used.
- The focus farm had to pull out early on for family reasons.
- The area was well serviced and funded by the local landcare network with a specific dairy project.

At the end of the three years for the 2006 groups there were 56 active members from the original 72. Of this loss of 16, 10 were members from the defunct group. All of the 2007 groups are still active, with 81 of the original 94 members active. Attendance at meetings has averaged 73%. Normal unscheduled farming events affect meeting attendance, i.e. "the worker tipped the silage cart over". So far 8% of farmers in the region have participated in the 2006-08 groups and a further 6% are involved in the 2009 groups.

Evaluation

What worked (successes)

The objective of the project was to increase the rate at which dairy farmers embrace and execute NRM. The change that has taken place on farm as a result of the project is a function of four factors:

- The number of farmers involved in the project;

- The retention rate of those farmers in the project and;
- The actions they have taken;
- The learning and capacity building that has taken place due to group processes.

Surveys

Nelson surveyed 38 farmers in late 2006 by phone with 16 questions. (38/60 from 2006 groups). Key findings were:

- The key issues were effluent and shelter
- Respondents liked the no- pressure format – farm size or production levels didn't matter
- Respondents felt that they were getting significant benefits from the group
- Approximately 60% felt that their perceptions had changed and that they were seeing things differently
- Nearly all had learned or changed something
- almost 100% said that they were most influenced by the group and most said this format was their preferred format
- Respondents valued the facilitators because of their experience and rapport, and the continuity of having them for three years (Facilitators were chosen on basis of agricultural experience and maturity).

Wearne found when he surveyed 30 farmers in all groups in 2008 that the most positive benefit from being a member of a NRM Focus Farm Group was the opportunity to talk and share with other farmers about the common issues they had relating to NRM (30/137 from all groups). They also appreciated the benefits of seeing other farms, sharing new ideas and gaining further knowledge on effluent, trees, soil fertility and other aspects of environmental best practice. (Weise et al, September 08)

The survey of Focus Farm group members also found conclusive evidence that there were substantial benefits gained by group members in new networks developed with other farmers and NRM agencies such as DPI and CMA personnel and WestVic Dairy.

Some key findings were:

- Networking with other farmers and support agencies was a real bonus
- Seeing other farms and sharing ideas stimulated motivation
- Farmers appreciated the opportunity to talk about common issues and challenges
- Dairy SAT helped greatly to identify the NRM weaknesses and strengths of the farm
- Group activities provided the opportunity to enhance skills and knowledge in many areas such as effluent management, nutrient mapping and whole farm planning.
- Almost all participants would recommend these groups to a neighbour
- The increased linkages that were developed between all stakeholders have markedly increased the capacity to initiate change (see under linkages).

Outputs

The proof of the pudding is in the eating. There were 137 farmers active in the groups at September 2008. This represents 8% of the 1700 dairy farmers in Western Victoria. A survey of these farmers at this time confirmed that approximately 1.1 million dollars had been invested in NRM improvements to their farms comprising as a direct result of their involvement in the groups:

- \$316,000 spent on establishing 93ha of new shelterbelts
- \$701,000 spent on upgrading dairy effluent systems
- \$29,000 spent on additional soil tests
- \$20,000 spent on addressing soil salinity
- \$28,000 spent on energy saving alternatives (solar).

In addition another 15 dairy farmers and 10 mixed farmers were involved in two similar projects using the same method and facilitators but over a 6-7 month period (Plate 3).

Plate 3. The Bookaar group discussing fodder crop management



Source: personal file

Key Learnings

The key learning's for WestVic Dairy and the Focus Farm group facilitators in the establishment of 14 NRM groups in 2006 & 2007 were:

- The significance of using "local mayors" (key informants) to assist in the formation of the group by tapping into local networks.
- New groups proposed to be formed in 2009 need greater support and encouragement from milk factories in engage in the NRM Focus farm Project.
- CMA's, Landcare networks and other agencies involved in funding need to have a more integrated approach in providing incentives for farmers engaging in 'on ground' environmental best practice change.
- Continuity of experienced facilitators and assured funding over three years greatly improves the effectiveness of overall projects.
- New groups should have a locality focus to ensure the group is cohesive in addressing catchment issues and district opportunities and or threats.

Linkages

A key benefit from this project is the increased linkages that have been developed between all stakeholders. This has increased the capacity to initiate change. The linkages generated by the project fall into three categories: those between members themselves; those between members and NRM organisations; and those between NRM organisations and the project team.

Prior to the project there were connections between some of the group members as most considered themselves from the same district and met professionally or socially. However, there were a small number of members in each group who had never met. The recent survey identified the benefits this project had from their new extended networks and the social interaction and problem solving the groups facilitated.

Group meetings facilitated contact by group members with key CMA and DPI staff involved in NRM best practice in the region. Activities of the groups also allowed contact with specialists in private industry with which they would not normally have access in their normal farming practices. The new networks and linkages formed with other farmers, service providers and other agency staff has been a bonus for most in the project.

The involvement with WestVic Dairy through the facilitation of the project has also been a positive for individual group members. This involvement has also raised the visibility and image of WestVic Dairy and its regional research and extension role.

Other linkages created with newly formed groups included:

- South West Climate Change Forum
- Landcare Networks
- Down The Track – a strategic planning exercise

What didn't work.

Of the 14 groups, only one did not survive the length of the project. This demonstrated the need to put in the effort to work through "local mayors" to tap into local social networks and identities. Another benefit of this approach is the positive effect of some peer pressure.

One group this year nearly disbanded because the facilitator tried to get ahead of where the group was at the beginning. By backtracking to work with the group at their pace the situation is now viable. This is an example of how departing from the participatory action model (PAR) was not useful. These farmers were particularly against being told that half of the first meeting would be devoted to filling in the Dairy Self Assessment workbook. Some of these farmers do not like filling out forms.

"I hated that SAT thing" Farmer quote

Conclusion

This project reinforces key extension methodology for complex issues such as NRM and sustainability. Farmers are receptive to change when we work with them as valued co-learners sharing information and knowledge in a supportive environment to address issues which they have had input in defining as relevant to their needs.

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