Agribusiness Engagement in Cotton Industry Extension

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Contents

1 Executive Summary

Various cotton industry programs over recent years have placed more focus on alternative aspects of the traditional extension model such as skill development, knowledge management and capacity building. Indeed the cotton industry extension system has undergone substantial reform over the last decade. Inherent in this reform has been a greater recognition of the role of the agribusiness sector in contributing to adoption, particularly given the extensive nature of the advisory sector within the industry. However, some individual projects have also highlighted difficulties in integrating the advisory and extension systems. Similar processes have been underway in many agricultural industries across Australia, which would suggest that there is much to be learnt from how other industries have addressed similar issues.

This report presents case studies from three of these industries. The first case study takes an industry wide view, studying the activities of a number of projects and organisations within the dairy industry. The second case study looks at a specific program in the Sugar industry which engages growers to undertake on-farm research. The third case study looks at a specific organisation, the Future Farm Industries CRC (FFICRC), which overtly targets agribusiness as an R&D delivery mechanism, with a formal partnership with a major Australian agribusiness as part of their engagement strategy.

The dairy industry case study demonstrates an advisory sector which is well integrated with the industry RD&E network. Advisors frequently deliver not only industry messages but also industry extension programs. Many advisors derive some or all of their income from industry programs and have a vested interest in ensuring their success. Advisors are widely employed in the dairy industry, at rates commensurate with their earning capacity within their businesses, for project management, regional coordination, development of materials and training delivery. Countdown MAX was an attempt to develop new commercial services, but was limited by the ability for individuals to integrate the services into an existing business, which requires allocation of time, commitment of resources and support from all members of the business.

The sugar industry case study focuses on the Grower Group Innovation Projects (GGIP) initiative, an on-farm grower led research program which provides substantial opportunities to improve grower knowledge and the adoption of new practices. This program is also an opportunity to integrate advisors with on-farm research and to utilise this integration to improve scientific rigour and adoption of industry messages. The GGIP program is successful at improving on-farm links with research and extension personnel whilst project evaluation has suggested that adoption of GGIP research is more rapid than in other RD&E systems. The grower networks inherent to GGIPs provide improved project evaluation opportunities with regard to demonstrating practice adoption. As well as the potential to integrate advisors into on-farm research projects, project management has also been outsourced to an independent advisory group, with the intent that this arrangement would become self sufficient.

The FFICRC has a commercially focussed plan for encouraging adoption of their perennial plant research programs which includes a core partnership with national agribusiness Landmark. Unfortunately, most FFICRC projects are still at the awareness raising level, thus the commercially focussed adoption strategy has not been fully developed and tested. However the approach does suggest that whilst some specific technologies will naturally lend themselves to exclusive commercialisation pathways, it is also possible to engage with agribusiness in a mutually beneficial yet non-exclusive basis. Forward thinking businesses, such as Landmark, see this as an opportunity 'to be ahead of the curve' to retain or increase market share, rather than as a new revenue stream.

From these case studies, a number of strategies have been developed to improve engagement with agribusiness within the cotton industry's adoption system.

Strategy 1 – Value the advisor network

1. Stimulate the advisory sector through outsourcing. In many circumstances, advisors have the skills and influence to successfully deliver industry programs.
2. Provide advisors with opportunities to improve skills in facilitation and business management. Advisors in the dairy industry have often undertaken facilitation training which allows them to provide opportunities for their clients to increase their knowledge (e.g. by running discussion groups). Improved business management skills may be helpful for advisors to improve their strategic planning and identify and capitalise on new business opportunities. This may also provide new opportunities to improve the business management of clients.

Strategy 2 – Build integrated opportunities for advisors

3. Develop a participatory research program which provides growers and advisors with the opportunity to undertake practical, regionally focussed, on-farm research.
4. Develop a more strategic approach to providing information to advisors.

Strategy 3 – Improved support for adoption research

5. Improve industry coordination and research into extension, adoption and the social sciences.

Strategy 4 – Commercialise with Caution

6. Where appropriate, utilise commercial partners to deliver new knowledge with the understanding that exclusivity and new revenue streams are not always necessary for successful engagement with commercial operators.
7. Development of new products or services is most likely to be successful if delivery partners are involved from the ground up. However this is no guarantee for success, as the Countdown MAX experience demonstrates.

2 Introduction

Cotton industry extension has been undergoing a process of reform over the past decade, with the industry extension team very different today to what it was ten years ago. Furthermore, various projects over this time have focussed more intently on aspects of the extension model such as skill development, knowledge management and capacity building. Inherent in this reform has been a greater recognition of the role of the agribusiness sector in contributing to adoption, particularly given the extensive nature of the advisory sector within the industry. Similar processes have been underway in many agricultural industries across Australia, which would suggest that there is much to be learnt from how other industries have addressed similar issues.

The case studies in this report were chosen specifically to showcase a range of agribusiness engagement approaches used in other rural industries. They represent engagement at different scales, from independent advisors through to large national companies. They also represent different levels of program maturity and industries with vastly different levels of private service delivery. The first case study takes an industry wide view, studying the activities of a number of projects and organisations within the dairy industry. The second case study looks at a specific program in the Sugar industry which engages growers to undertake on-farm research. Whilst this program was not conceived to target agribusiness *per se*, advisors are becoming increasingly involved and the program structure provides significant scope for advisors to play a more central role. The third case study looks at a specific organisation, the Future Farm Industries CRC, which overtly targets agribusiness as an R&D delivery mechanism, with a formal partnership with a major Australian agribusiness as part of their engagement strategy. The potential to adapt the approaches used in these case studies to the cotton industry are explored.

3 Private Sector Extension

Agricultural extension delivery has been changing significantly in Australia for many years. Marsh and Pannell (2000a, p. vii) noted that:

> *"Agricultural extension has undergone considerable change in Australia over the past decade. New policies are resulting in a large proportion of extension now being undertaken by the private sector rather than traditional public sector providers."*

Indeed, this is a reflection of a global change in agricultural extension towards privatisation, which has been documented across many countries (Rivera and Alex, 2004).

In large part, this change is driven by policy makers, who perceive modern agricultural extension to have a much larger focus on private good outcomes, particularly due to the more specialised and individually tailored solutions that farmers now need (Marsh and Pannell, 2000a). Given that agricultural extension has historically been a largely government funded and delivered service, this has had significant impact for all agricultural industries with changes in funding and delivery capability.

According to Connolly (2004), privatisation of extension takes two forms; the privatisation of enterprises and the privatisation of services. Enterprise privatisation is the transfer of ownership and control from the government to the private sector. In contrast, privatisation of services involves the development of partnerships whereby the public sector typically retains strategic responsibility and coordination but the

private sector agrees or contracts to undertake delivery. Enterprise scale privatisation has occurred in numerous countries (Rivera and Alex, 2004) and has been well documented in New Zealand (Botha et al., 2008; Mulhall & Garforth, 2000; Marsh & Pannell, 2000a), where all public extension services were abolished in 1987 (Botha et al., 2006; Botha et al., 2008).

Whilst there is little evidence of enterprise privatisation in Australia[1], there has been substantial privatisation of services, as well as various other reforms. Marsh and Pannell (1998) summarise the types of changes as:

- Industry partnerships
    - A more client driven approach involving greater industry links.
- Adoption of the Funder Purchaser Provider (FPP) model.
    - Theoretical separation between the purchaser and provider of services in order to create a market in the provision of services.
- Outsourcing
    - Contracting of services (as a result of the adoption of the FPP model), typically to the private sector.
- Integration or separation of agency responsibilities.
    - Various restructuring activities (for example merging departments or separating research and extension functions).
- Privatisation (of services)
    - In addition to outsourcing, cost recovery is more prevalent with movement towards a 'user pays' philosophy.
- Redirection of extension activities
    - In particular a withdrawal from areas that are perceived to be adequately supplied by the private sector or with substantial private good outcomes. A change in resourcing towards delivery of natural resource management extension is an example.

According to Marsh and Pannell (2000a) the result of these reforms in Australia is that "...*it is clear that the days of government agencies as comprehensive service providers are gone."* Stone (2005) suggests that agribusiness is actively taking the place of government extension and advisory services, where agribusiness is defined as including:

- producer organisations;
- farmer groups;
- accountants, financial advisers and banks;
- seed companies;
- marketing organisations;
- agronomists and other general consultants;
- resellers (agents);
- suppliers;
- packhouses;
- engineers;

[1] Privatisation as distinct from commercialisation. Whilst some extension enterprises have been commercialised, these are largely still wholly government owned businesses.

- processors, and;
- agricultural colleges.

These changes have profound effects on the nature of extension delivery, and are particularly important for those industry organisations with a vested interest in R&D adoption such as RDC's and CRC's. For example, Fulton, et al. (2002) expected that potential issues with the retreat of public sector extension would include:

- a lack of capacity within the private sector to deliver similar levels of extension services;
- few incentives to provide public good information;
- some dependence on government support; and
- self interest – private sector providers to focus on their own products and services as a priority.

Furthermore, Stone (2005) suggests that the use of advisors may be linked with the level of innovativeness of the grower. As agribusiness becomes a more significant extension conduit, less innovative growers (who are less likely to engage with agribusiness) are increasingly likely to be left with little to no access to information.

3.1 Impact for the Cotton Industry

Such a change in the role of extension brings many opportunities and challenges. The cotton industry has attempted to adapt through a number of mechanisms. For example, skill development has become a much more significant focus, with various opportunities developed for advisors and growers, as well as effort towards developing cotton industry career pathways. The Cotton Production Course has delivered postgraduate level training in cotton production systems for growers and advisors for some time. The concept of capacity building has also received support, with many examples of capacity building concepts being integrated into projects. The recent Cotton Storages Project is an illustration of a project which was specifically designed to build the capacity of the advisory sector to deliver a new service.

The irrigation knowledge management project was also significant in that it recognised the potential for fragmentation of knowledge, which may be exacerbated through increased private sector extension. This project undertook an initial review of grower and advisor attitudes which provides excellent information when considering the role of agribusiness within the cotton industry extension system. In particular, Callan et al. (2004) suggested that:

- Consultants believed they were more open to change than growers. Idea generation and dissemination is central to their professional practice.
- Consultants believed they were very influential in making growers more ready for change.
- Consultants made more use of research publications, trial data and discussions with researchers than did growers.
- Growers are especially positive about accessing information through on-on-one contact.
- Growers valued consultants, researchers and other growers as their most important information sources. However some agribusinesses such as resellers and chemical representatives were rated as the least important.
- Growers believed that consultants were a key resource for bring the experiences of other growers into their decision making process.

This research indicated that the advisory sector within the industry was ideally placed to contribute substantially to the extension system. However the second phase of the Irrigation Knowledge Management

project attempted to stimulate the commercial delivery sector for irrigation services with little success (Wigginton and Smith, 2008). As demonstrated by the Countdown MAX service discussed in Section 4.1.3, developing private sector services can be difficult, even where the circumstances would suggest that success should be achievable.

The experiences in the Irrigation Knowledge Management project, and more recently with the Cotton Storages Project, have highlighted some difficulties in integrating the advisory and extension systems. Experiences from other rural industries may be useful to demonstrate strategies that could improve the success of future efforts.

4 Dairy – Various Projects

Industry Overview

The dairy industry is Australia's third largest rural industry (after beef and wheat) with a farmgate value of production in 2009/10 of $3.4B. There are approximately 7500 farms spread across all states, although most (~70%) are in Victoria. Dairy Australia is the industry RDC with a total investment in 2009/10 of $51.79M. Close to 40% of this ($19.9M) was spent on Farm Productivity and Delivery, which includes most extension and adoption activities, including most of the projects discussed below. In addition, Dairy Australia also provides $1.2M in funding for the National Centre for Dairy Education Australia.

Source: Australian Bureau of Statistics (2011); Dairy Australia (2010a); Dairy Australia (2010b)

The dairy industry has a large and varied advisory sector which is often utilised within industry projects. The scope of advisory staff is considerable, from independent advisors such as veterinarians, feedbase consultants, farm business management specialists, agronomists and milk technicians to those employed by milk and seed companies. These advisors are key industry stakeholders, both as a target market for extension campaigns and as a key part of the delivery mechanism, as they are frequently employed as project leaders and regional coordinators.

The dairy industry was chosen for this study because of the level of integration between industry and the advisory sector. In addition, the Countdown MAX project provides demonstrated experience regarding the development of private sector services from industry research outcomes. Information in this section was collected from interviews with personnel from Dairy Australia, Harris Park Group, GippsDairy, The Gardiner Foundation and The University of Melbourne, conducted during a tour of Victoria in March 2011.

4.1 Countdown Downunder and Countdown MAX

Countdown is a program designed to help farmers manage mastitis. Mastitis is an inflammation of the udder caused by bacterial infection and typically results in an increase of somatic cells in the milk. Milk quality standards limit the acceptable cell count.

In the late 1990's, the dairy industry identified that there had been lots of research on mastitis but that this information was not widely 'in farmer's hands'. It was understood that farmer's were getting partial messages or even mixed messages. Often, a range of different advisors might give different advice regarding

the cause or solution to the problem. For example, a single farmer may receive advice from a vet, a milking machine technician and a milk company rep and all three might provide conflicting (but not untrue) advice based in their area of expertise. The industry was keen to ensure that everyone's advice was consistent.

This was achieved through training sessions bringing all relevant groups together and supported by the development of many resources including a Grower Guide and Tech Notes. These resources were developed with extensive industry input which fostered a feeling of 'buy-in' or a level of ownership by the wider industry. There were two types of training:

- Advisor training (Advisor Short Course), delivered by a core training team of 'leading practitioners', typically leading advisors rather than researchers.
- Grower training (Grower Short Course). Delivered by a selection of advisors who had completed the Advisor Short Course.

It was thought that the cross-disciplinary approach (including vets, milk technicians, milk company staff, state agency staff, etc,) was a driver for attendance at advisor training. Furthermore, these advisors already worked in this space, so the aim here was not to sell a new value proposition to the advisory sector, but to improve the delivery of an existing service.

Most of the Countdown work was conducted between 2000 and 2005 and, whilst the program has continued since then, funding has reduced significantly. As a result, the "messages are starting to fracture." The project team have concluded that "you don't just do this kind of thing and move on" because there are always people moving in and out of the industry so there is always a decay curve.

4.1.1 Advisor involvement in Countdown

Advisors were a critical component of Countdown and were seen by the project team as "a new extension frontline" which would be highly effective if adequately resourced. Therefore, the project set out to empower and support local advisors to develop their skills and know how to access support. Having advisors aligned with the project messages meant that they could become active proponents for Countdown.

> ***Countdown is based on the premise that moments for adoption occur when farmers recognise they have mastitis or milk quality issues on their farms that need to be acted upon and believe their advisers are capable of giving suitable responses. Most opportunities to effect adoption of best practice by farmers occur when they directly interact with the professionals who advise them (Brightling, 2001).***

The strategy for achieving advisor involvement included a number of critical steps:

- The project team which created the core training materials was multi-disciplinary and well resourced. It included educational designers, a scientific officer, professional facilitator, core trainers and a scientific communication expert.
- Advisors were appointed as regional coordinators. Countdown was delivered across 9 regions; 5 of these regions were coordinated by commercial advisors (for example, vets) whilst the other 4 regions (Qld, Tas, Northern NSW and Southern NSW) were coordinated by advisory staff from the relevant state agricultural agencies.

- The project initially focussed on advisor seminars (one day 'chalk and talk' type meetings) and delivery of the Advisor Short Course (four days of interactive, case based training) by the small team of core trainers. Around 450 advisors have attended this short course.
- After 12 months, 54 participants of the Advisor Short Course who had indicated an interest in facilitating farmer activities were recruited to deliver the Farmer Short Course. Over 1800 farmers have attended this course.

The project team noted some key factors to success (Brightling, 2001):

- It would have been impossible to develop and maintain a team of trainers who could dedicate the time needed without remunerating them at a rate commensurate with their earning capacity in their businesses. This had to be a new business opportunity for them as well as an opportunity for personal development.
- The people in the Advisor Seminar, Advisor Short Course and Farmer Short Course training teams were primarily advisors who had little background in training. The Countdown managers deliberately chose this path and worked with the advisors to build their facilitation skills.
- The process of building facilitation skills initially created a feeling of uncertainty and unease for most trainers. Techniques used to overcome this included:
    - having trainers participate in the design, piloting and fine-tuning of the materials;
    - a two-day 'train the trainer' workshop for Farmer Short Course trainers to give them opportunities to practice their facilitation skills;
    - provide a detailed Trainer's Guides that gave clear structure, but not scripting, for all sessions;
    - have all trainers sit in on courses and see the delivery of material before they took lead responsibility for delivery (a 'pass the baton' approach); and,
    - encourage trainers to actively reflect on their experience – as individuals, with their training buddies and with the design team.

4.1.2 Countdown in context: costs and participation

The first phase of Countdown Downunder, from 1998 to 2001, had a budget of $1.5M (Brightling, 2001). This first phase was responsible for significant development of resources and training materials and for establishing new networks for extension delivery. Funding has reduced over time, with 2011 funding closer to $250,000.

Most major project resources and activities are provided on a cost recovery basis. This did not seem to negatively impact adoption as total participation for phases 1 and 2 indicates (Brightling, 2001):

- 11,000 copies of the Farm Guidelines for Mastitis Control distributed (RRP $22)
- 1000 copies of the Countdown Downunder Technotes distributed (RRP $108.35)
- 408 attendees at the Advisor Short Course at $995
- Over 1800 attendees at the Farmer Short Course which was provided at $697. FarmBi$ subsidies reduced the cost to farmers during this project phase to between $174 and $349 depending on state.

The extended impacts of Countdown Downunder are well documented in existing reports (Brightling, 2001; Brightling et al., 2005) which are recommended reading. These reports contain innumerable insights into project and training design as well as comprehensive project evaluation data.

4.1.3 Countdown MAX

In 2005, the Countdown team started developing a new service to promote ongoing, incremental improvements in mastitis and milk quality. The service would be offered through the private sector (veterinarians) to incorporate the Countdown information and resources into routine risk management of farms (Penry et al., 2009).

The existing Countdown process incorporated a Mastitis Action Plan which was produced by the farmer as an output of the Farmer Short Course. However advisor involvement was still typically reactionary; when the action plan triggered a response, the adviser was called in to provide assistance. The new service, named Countdown MAX, was envisioned as a way of moving mastitis control from being reactive to proactive, with advisors providing a routine risk management service to prevent future mastitis outbreaks through regular cycles of planning and review.

Development of Countdown MAX involved a core partner development group; five service providers, two farmers, four industry project representatives and two applied social researchers. Advisors were paid normal commercial rates to participate in the initial development phase of the design group, which consisted of 4 x 2 day workshops. This group was to develop a service that engaged the interest of dairy farmers in a way that enabled the existing Countdown resources to be integrated into farm management and locked in to repeat business (Penry et al., 2009). Three modules were developed that related to different stages in the milking cycle: Drying-off, Calving and Lactation. These modules were piloted by group members with clients before debriefing and refining the design.

The service providers believed that Countdown MAX was a good fit with between 15% and 25% of their existing clients. In the pilot delivery phase, eight veterinary businesses (an additional 3 businesses had joined the project by this time) delivered Countdown MAX to 55 farms. Only half of these farms undertook more than one module and only 38% of farms went through the review and re-planning phase, which was the final step in each module. Most farms (90%) paid for the service.

Ultimately, Countdown MAX required a completely new approach which was "...a significant change in the existing reactionary Veterinarian ethos, and ended up being a bridge too far." Although both clients and vets liked the concept of the service, none of the veterinary practices had the level of change needed to make the service self sustaining. There were numerous factors that contributed to this outcome, which have been well summarised by Penry et al. (2009):

- Lack of business planning skills and acumen hindered the integration of Countdown MAX into veterinary practices. In particular, few practices had written business plans making it difficult to ascertain whether Countdown MAX fitted with the overall strategy for the business going forward.
- There needs to be clear and unwavering support from the other business principals, some of who may not see the need for change nor share the vision of a different service model in the practice. To integrate the service, it needs to be embraced by the whole practice and not just one person.
- The minimum technical requirement of veterinarians using Countdown MAX is high by current industry standards, which meant that delivery required experienced practitioners who could understand the needs and preferences of each farm and manager.
- The experienced practitioners found it easy to be distracted from efforts to develop a pro-active service given the ongoing demands made on them elsewhere within the business. Most businesses appeared to be able to cope with an experienced advisor devoting 10% of their time to a Countdown

MAX type of activity without much internal change but once this threshold was passed, change is needed to sustain the service.

- There was an assumption that the core development group members would champion the approach within their businesses and mentor others in their practices to also deliver these services. However there was little evidence of mentoring within practices during the pilot, with other practice members being peripherally involved and Countdown MAX activities only occasionally being discussed.
- There was also evidence that unless an individual had been party to development of the service, he or she was unlikely to use it. For example, use of the lactation module did not extend beyond the two practitioners who were its developers to other members of the core development group.
- The level of involvement by administrative and support staff seemed to be a good indicator of a business's ability to integrate Countdown MAX. Furthermore, regular contact from the business to discuss progress helped maintain client interest in an ongoing service.
- The business as a whole needs to know how to respond to client enquiries and have systems in place to administer Countdown MAX. Ideally everyone in the practice would be conversant with the principles of the service and able to identify often subtle cues given by clients as points of entry to the service. Interestingly, recent graduates within a practice proved to be some of the most effective at funnelling work to the experienced practitioner, probably because they had few preconceived ideas on what clients might like to participate in.

Many of the vets were not prepared to fully cost the delivery of the pilot. Their advice, which required postgraduate skills and considerable experience, was charged at rates less than conventional veterinary work. They explained their unwillingness to fully charge for services in terms of the downtime due to teething problems associated with development work and the delay between the provision of the service (the planning) and its outcomes (reduced mastitis cases and premium milk payments). There was also some concern that they were putting their reputations at risk and that their clients might not get value for money. However these sentiments were not reciprocated by farmers, who reported that their experience of the service was well-aligned with what they had come to know of their vet and represented a further development towards a more comprehensive service.

In the end, it was clear that individual businesses already consumed by a demanding workload did not have the time or in-house capability to develop this type of service. However one of the core development group participants (the Countdown Coordinator) subsequently developed a service which continues the Countdown MAX philosophy as a commercial proposition and is now delivered to industry with some success as 'Dairy Focus'. In explaining this success, it is necessary to understand that dairy industry projects often have national or local coordinators and project managers who could also be classified as advisors or service providers. In some cases, advisors allocate a small amount of their time to such tasks as an add-on to an existing business, whilst in other cases these roles may become their only undertaking.

In the case of Countdown, the coordinator was an experienced veterinarian who has subsequently moved into the Dairy Focus business and no longer fulfils the Countdown coordinator role. There are likely to be certain factors about this arrangement that facilitated this transition which could not be achieved with the advisor members of the core development group. For example, the other advisors may have had additional commitments to other parts of their business and/or business partners that need to be committed to any change in service delivery. Penry et al. (2009) conclude that:

"Advisory businesses as a whole need to believe the new service benefits both them and their clients, and commit the people, time and systems needed to support it."

The experience within the Countdown MAX program demonstrates the difficulty of introducing a new service even in an area in which advisors are technically proficient. Where the service is also introducing new technical skills, the likelihood of success may be further reduced.

4.1.4 Countdown Summary

- The research and knowledge base for Countdown was mature, therefore recommended practices and guidelines could be precise and discrete. Adoption and impact were high.
- Advisors were widely employed by the Countdown team, at rates commensurate with their earning capacity within their businesses, for:
    - Overall project management
    - Regional coordination
    - Development of materials
    - Training delivery (following a process of building facilitation skills)
- Adoption of a commercial service (Countdown MAX) is difficult, even where the service itself is valued by both provider and client. The limiting factor was the ability for an individual to integrate the service into an existing business, which requires allocation of time, commitment of resources and support from all members of the business.

4.2 DairySAT

DairySAT is a self assessment tool aimed at improving productivity and environmental outcomes on dairy farms and was developed as part of the dairy industry's natural resource management program, Dairying for Tomorrow. The initial concept came from Gippsland farmers who recognised a need to be proactive in addressing environmental issues. The content and structure of DairySAT are similar to the cotton industry Best Management Practices (BMP) program.

As is the case in many other dairy industry programs, advisors were central to the delivery strategy. In the first instance it was hoped that milk companies, who typically employ staff in grower liaison/productivity roles, would deliver the program. However the milk companies believed they were too busy to undertake this additional task, although they were happy to promote the program. This prompted a change in approach, whereby independent advisors were approached to act as facilitators to deliver DairySAT to grower groups. In the Gippsland region, well regarded production focussed advisors were initially reluctant to be facilitators and the program was largely delivered by specialist facilitators. Engagement with the productivity advisors is mostly to ensure that they are positive about the program, and not "talking it down" to growers. In other regions, specialist facilitators are also largely used, along with farm business management and feedbase consultants.

Delivery of the program focussed on productivity, with key growers and advisors identified to act as advocates. This helped to establish the credibility of the program, whilst the advisor advocates helped to appeal to bigger farms, who were not usually interested in participating, but who mostly used consultants that would become the target market. The overall approach has been to focus on topical issues from a production point of view so there has been no real reason to "...sell the green angle."

Operationally, it cost approximately $30 000 to take a group of 10 to 15 growers through the DairySAT process, of which perhaps half was paid to the group facilitator. The program relied on external funding sources, typically from Catchment Management Associations. Regional coordinators or the project manager would apply for local funding, recruit the required number of growers and then hire a facilitator (advisor) to take the group through the process. Most facilitators viewed this work in a purely opportunistic way, as "...just another job" rather than trying to expand their client base or their range of services, because most were generally busy and not usually chasing clients. However a small number have seen it as a new business opportunity altogether and have moved their business to be based around delivering these services.

As the program gathered momentum, milk companies could see the value in the DairySAT brand as an indicator of environmental responsibility. Some companies, such as the Bega and Murray-Goulburn co-operatives secured significant funding from Caring for our Country to deliver the program to growers. More recently, there is increasing top down pressure to demonstrate environmental and social responsibility, particularly in export markets. For example, Kirin (National Foods, Dairy Farmers) requires growers to complete DairySAT if they produce products destined for the Japanese market. Australian milk companies are subsequently looking to increase the skills of their field officers in environmental issues, with some flagging significant investment in this area. As the milk companies increase delivery, the use of independent advisors as regional coordinators will most likely decrease. Whilst some of the existing group facilitators may still maintain these roles, they may instead be employed by the milk companies to deliver the program to farmer groups.

4.2.1 DairySAT Summary

- This example is typical of many dairy industry programs where much of the management and delivery is outsourced to the advisory sector.
- Delivery of the program focussed on accessing people that had the appropriate skills and that growers could trust. Flexibility was a key; it wasn't about trying to offer a new business proposition to the consulting sector but more about using the skills they had in an opportunistic way.

4.3 GippsDairy and the Focus Farms Project

GippsDairy is one of eight Regional Development Programs (RDPs) within the dairy industry. RDPs were established in the 1990s as a way of delivering regional R&D outcomes. They receive funding and support from Dairy Australia, although they operate independently, and they also access funding from a range of other sources. In 2009/10, GippsDairy received $535,000 of Dairy Australia funding which was coupled with other funding sources to deliver projects valued at more than $4.9 million (GippsDairy, 2010).

GippsDairy has a staff of 4, and with 20 major projects to deliver, often appoint advisors in management, delivery or advisory roles. For example, a feedbase advisory group consists of local consultants, seed company and DPI representatives who analyse the feedbase issues in the region and produce a 'ute guide' covering the different climatic zones. Similarly, GippsDairy also retain 20 days of a local consultant's time to undertake various tasks such as producing articles, developing resources, writing funding proposals, strategic planning and sharing expertise. One of the most innovative projects that GippsDairy undertakes is called Focus Farms.

4.3.1 Focus Farms

The Focus Farms project involves six farms across the Gippsland region. Each farm business is exposed to the public as a "fish bowl" so that others can learn from their decision making. In return, a support group and

facilitator help the farm family to reach their financial, production and lifestyle goals through regular monitoring, analysis and discussion.

The project is setup with an overall project manager; an advisor who works in conjunction with GippsDairy staff. Each of the six farms is supported by a group which consists of approximately 15 individuals invited by the Focus Farmer. These individuals would typically include a number of other local farmers, and may also include a range of farm or external advisors such as agronomists, financial planners/accountants, milk company officers, vets, etc. On some occasions, service providers who would like to get involved in the support group are "knocked back" by the farmer; the Focus Farmer is the "boss" as they must be comfortable with the project, given the information being shared is often sensitive and personal. The support group offers their time as in-kind, and most would view this as a learning opportunity as well as a way to support the Focus Farmer.

Each of the support groups is facilitated by an advisor who is remunerated by the project. These advisors are mostly technical consultants, although all of these consultants have some level of facilitation skills and are used to running discussion groups. One of the support groups is facilitated by a specialist facilitator who is familiar with dairy farming systems. There are 7 facilitators employed in total, as one of the groups has shared facilitation responsibilities. The facilitator's role includes preparation of the information to be discussed at the monthly group meeting. This information would usually be topical to the time of year, and would include items such as farm financial information, pasture utilisation, milk production, herd health and fertility. The facilitator also runs the monthly meeting, ensures that the group rules are followed and provides information for publication.

It should be noted that the level of exposure of the individual farms is quite remarkable, with detailed information not only presented within the group, but also published in the GippsDairy newsletter and a local newspapers. This information includes detailed farm financial information, including annual costs and revenue, although debt information typically remains private. Examples of the information presented publically through this project can be found in the GippsDairy newsletter available from www.gippsdairy.com.au.

The level of advisor involvement in the project is considerable, with the project manager and 7 facilitators directly contracted to the project, and a number of other advisors taking part in the support groups. Furthermore, each group has a 'mentee' – a young service provider attached to each group to get contact with farmers and be exposed to the whole farming system. The mentees may work for independent service providers or be junior staff at, for example, milk or feed companies. This component of the project came about because there was a perception that the advisory sector was ageing, with insufficient new advisors moving into this sector. The desire is that those being mentored under this program may potentially fulfil these roles in the future. One of the program mentees has already moved into private consulting, giving some confidence that this component of the project will achieve this goal.

4.3.1.1 Project Operation

The Focus Farms project runs for three years, although the on-farm component only runs for two. A general call for farmers interested in becoming Focus Farms occurred in the first six months, with 16 expressions of interest received for the 6 available positions. Three of these farms were removed from the selection process due to potential financial issues which may have caused issues during the project operating period. The remaining farms were visited and interviewed by a 5 person selection committee, who needed to have faith in the farms to commit to the two year duration of the project and to provide monthly figures.

Once the six Focus Farms were selected, the project manager (contracted advisor) helped each farm to refine their goals and select a facilitator. The goals were personal farm goals such as:

- Increase income by maximising milk production and feeding efficiencies
- Increase our asset by debt reduction
- Lower the current empty cow rate of around 12 % to below 8%

Once a facilitator was in place, the support group was selected, which would meet monthly. Each farm would also have 3 open days over the two year project period.

GippsDairy staff suggested that although there are currently 6 Focus Farms, this number should probably be no more than 4 as there is too much strain on resources and it has been difficult to source enough group facilitators. Getting the right people in the right positions has been critical to the success of the project.

4.3.1.2 Financial information

Funding for Focus Farms is approximately $480,000 over three years. Approximately $80,000 of this provides for the project management consultant services over the life of the project, which would average around 2 to 3 days per month (80 to 100 days over the project duration). Group facilitators also provide around 2 days per month for the two years over which on-farm activities take place, with remuneration in the order of $40,000. GippsDairy staff suggested that this rate (≈$800/day) is at the lower edge of commercial rates, but does offer some surety due to the length of the contract.

4.3.2 GippsDairy Summary

- GippsDairy operate with a small core staff (4) but use a considerable number of advisors and consultants for project management, delivery and advice.
- The Focus Farm project alone employs 8 consultants directly, and has input from numerous other advisors as support group members or 'mentees'.
- The approach of including young professionals within the groups appears to be having some success at developing individuals who may take on future advisory roles.
- The Focus Farm project is incredibly ambitious and innovative; GippsDairy believe it is the only project of its kind in Australia.

4.4 Dairy Industry Summary

A consistent theme across all dairy industry conversation was the extensive engagement and employment of the advisory sector as the 'business as usual' scenario for the industry. Examples include:

- Advisors are routinely used to manage industry projects, often with a network of other advisors providing regional management support such that they may constitute many tiers of the project management structure. For example a national project manager, regional coordinator and group facilitator may all be advisors (with other advisors potentially part of the target group).
- Many technical advisers have facilitation experience and may often run discussion groups. Specialist facilitation advisors are also regularly used in industry projects.
- Advisors may be used by industry organisations in a range of different ways, such as in the case of GippsDairy, where an advisor is retained to provide 20 days per year across a variety of tasks.
- There seemed to be clear differentiation between industry events aimed at benefitting advisors (such as the Countdown advisor short course) and those aimed at benefitting industry (such as the climate change strategy workshops). In the case of the former, advisors were prepared to pay for the

training, whilst in the case of the latter, industry offered to pay advisors to attend. There was an indication that where advisors perceived value in industry events, they would choose not to invoice for their time.

Despite this widespread engagement, programs such as Countdown identified that the advisory sector as a whole did not necessarily provide a unified message. However, the development of new services was difficult to achieve, even where the advisors had the required technical skills and personal commitment. Some of the reasons for this difficulty included:

- Lack of time or resources to properly integrate the service within existing businesses. Most businesses could only cope with the practitioner devoting about 10% of their time to the new service.
- The need for support for the service from business partners, which was not always forthcoming.
- The need for an individual to be directly involved in developing the material.
- Lack of business planning skills and acumen. Furthermore, whole of business systems are required to effectively respond to enquiries and identify new opportunities.

5 Sugar Industry – Grower Group Innovation Projects

Industry Overview

The sugar industry was worth around $1.4B (farm gate) in 2009/10 with approximately 4000 farms in Northern NSW and Queensland. The Sugar Research and Development Corporation (SRDC) is the industry RDC with a total investment in 2009/10 of $9.8M. A total of $7.7M contributed towards project activities, with approximately 8% ($616,922) of this spent on Grower Group Innovation Projects.

Source: Australian Bureau of Statistics (2011); Sugar Research and Development Corporation (2010a)

The sugar industry does not have a particularly large fee for service advisory sector. The industry has a long history of research and extension service from the Bureau of Sugar Experiment Stations (BSES), and some other industry bodies such as Canegrowers and local Cane Protection and Productivity Boards also have advisory staff. BSES have around 30 extension officers who are more technically focussed, whilst the regional productivity board staff are more practically focussed at the farm level. The few independent advisors that exist typically deliver niche services such as precision agriculture.

The SRDC investment in extension is funded through R&D projects, which each require an extension component, rather than as projects with a distinct extension focus. These projects effectively leverage other extension networks such as BSES and the Productivity Boards. SRDC has identified some limitations in extension within the industry, including a history of levy provided extension which has resulted in a general reluctance for growers to pay for advice. It is also felt that many growers are not particularly “tech savvy” and are not good and finding information.

The Grower Group Innovation Projects initiative was chosen for this study because of the potential for advisory sector involvement that might be applicable to a similar scheme in the cotton industry. Information

in this section was collected from organisers and participants at the 2011 “Rise and Shine” Induction meeting for the Grower Group Innovation Program, held in Mackay in March 2011, and interviews with SRDC staff.

5.1 Grower Group Innovation Projects

The Grower Group Innovation Projects (GGIP) initiative is a farmer driven research program which aims to drive innovation and build capacity within grower groups by providing funding for groups to conduct their own regional research projects (SRDC, 2010b). The initiative started in 2005, partly in response to an increasing interest from growers in conducting their own research and partly because SRDC believed that adoption of the research they had previously funded was poor. A Cooperative Venture for Capacity Building Project provided some stimulation of the concept, running some initial workshops on how growers can do their own research and a visit from some Birchip Cropping Group members provided further impetus (Fisher and Carberry, 2008).

SRDC believed that knowledge transfer from farmer led research would be higher than traditionally funder research and would lead to improved adoption. However the GGIP program was never meant to replace researchers, which is evidenced by the fact that the program only consumes about 8% of the funding that goes directly towards R&D project activities. It was also believed that the R&D undertaken through GGIPs would be of more or less immediate use, as it would not need a lengthy period of translating research outcomes into practical application. However it is highly likely that this will depend on the nature of the research and vary project by project.

Although this project does not specifically target advisors *per se*, it is of interest for three reasons:

- Project management has been outsourced to an independent group.
- The structure of the initiative is appealing and could be adapted for use elsewhere.
- The use of consultants in a supporting and advisory role has been strongly encouraged since 2008 and there is now some evidence of consultants being used in this manner.

5.1.1 Project requirements

Grower group innovation projects are competitively funded by SRDC through an annual call for projects. Groups can be any size and can apply for part or full funding of up to $80,000 per project over a term of up to three years. In early phases of the project, there was an emphasis on groups undertaking their own work. However this has changed over time and groups must now be able to demonstrate that they have access to the appropriate skills to design, conduct, interpret and communicate their research project. Whilst the project guidelines specifically prohibit groups from outsourcing the project to a contractor, such individuals may be contracted to provide specific advice or assistance and this type of support is now strongly encouraged.

Innovation is a key criteria and this means that acceptable project topics are likely to change over time. Early on in the program, some projects were not necessarily all that innovative, but were more about closing gaps. However the selection process has evolved to encourage more innovative applications. For example, the current call for projects discourages applications on controlled traffic, reduced tillage and legume break crops, as these topics have been covered previously and are no longer seen to be particularly innovative.

A total of 55 projects have been funded over the life of the program, with the quantity of project applications reducing over time, from around 30 applications in 2005 to about 12 in 2011. There has been some evidence that groups that have been unsuccessful with funding applications often don’t reapply in

future funding rounds. There are also some groups that have had multiple projects, for example the compost group is now working on its third project. Some growers also belong to more than one group, either concurrently or at different times.

5.1.2 Administration

The GGIP initiative was initially administered by SRDC project officers. In 2008, these officers started a private organisation, Grower Group Services (GGS), to administer the GGIPs as an independent body, with funding from SRDC for a four year period. The intention was for GGS to become self-sufficient within a four year period, although there appears to be no strategy as to how this will be achieved. GGS has three part time staff and has no other business aside from the GGIP. According to GGS staff there is "...no script written for how Grower Group Services operates, we will do whatever needs to happen to make [the Grower Group Innovation Projects] effective and relevant."

Having said this, GGS do provide a number of core services:

- Communications, including regular industry updates, compilation of an annual trial information booklet, organisation of the GIVE conference and a GGIP website.
- Staff visit regions twice a year to meet with groups undertaking projects and to run industry update meetings.
- Provide feedback and assistance for new project proposals.
- Assess milestone reports and work with groups to improve the standard of reporting.
- Deliver the "Rise and Shine" Induction workshop for groups starting projects and the "High Noon" workshop at the halfway mark.
- Provide general coordination, integration with other projects and links to other funding sources.

The GIVE (Grower Innovation Virtual Expo) conference is typically a biennial conference, attended by around 300 growers, where grower research is presented. Unfortunately the 2011 GIVE conference was postponed until 2012 due to seasonal conditions, so the operation and benefits of this forum could not be explored in detail.

5.1.3 Benefits and Issues

An independent evaluation of the GGIP program in 2008 (Coutts et. al., 2008) found a number of beneficial outcomes:

- The GGIP is a strongly supported investment with work undertaken by groups in a rigorous manner having a high level of credibility amongst growers.
- The program is successfully engaging researcher and extension staff on-farm, particularly at an operational level.
- GGIP group members reported increased confidence and skills in planning and managing on-farm research with some also reporting gains in working with researchers and giving presentations.
- There were documented examples of gains and new insights from GGIP projects. Group members reported moderate gains across productivity, economic, social and environmental areas.
- The biggest industry gains appeared to be more rapid adoption of practices than possible under other RD&E systems.

SRDC have also found that the GGIP program has provided opportunities to improve evaluation of research adoption. For example, a Northern NSW group mapped fields that used controlled traffic techniques from

2005 to 2007. These maps demonstrated the real increase (which could be quantified) in adoption of this technology over the time period. SRDC believe that these projects will provide easy ways to track adoption in local areas because of the close contact that growers have with each other. However evaluation of projects needs to be a key factor in induction and reporting structures, and this is being improved.

Some issues have occurred since the program was initiated, with most of these resolved or improved through relevant changes. Reporting was seen to lack detail, particularly in terms of analysis and synthesis, with some early reports largely consisting of simply the 'materials and methods' component of a typical scientific reporting structure. There was also some suggestion that support staff hadn't taken the process seriously in the past, for example by suggesting poor trial design. There had been occasional groups that had acted unprofessionally, for example by submitting substandard reports and showing disinterest in improving them, even if funding were to be withheld. There had been some examples of commercial bias, where only a selection of products were trialled and there had also been situations where supporting organisations had been written into project proposals, but that there was no paperwork to demonstrate the nature of this involvement, with disagreements ensuing. All external support in projects must now have a letter of support which details this involvement.

5.1.4 Group Operation

Groups are typically geographically focussed, although one current project is taking a new approach by working across three separate cane growing regions. There are few specific rules governing groups, except that they must be a group of growers, have a name and ABN, have a contact person, and agree to conduct the project together and to report and demonstrate their results. As mentioned previously, groups are now strongly encouraged to include appropriate support/advisory services. This support could come from independent advisors, productivity services, NRM groups or the BSES. Whilst funding could be sought for any of this support, in-kind support would be more typical from organisations such as BSES and NRM groups. Groups are also encouraged to seek sponsorship from appropriate sources, provided that this sponsorship does not lead to a biased trial.

At this year's "Rise and Shine" induction workshop, four groups starting new projects were present:

- Compost group – feed stocks for compost production.
- Soybean group – new varieties for North Qld conditions.
- Fibre group – Use of alternative fibre crops in co-generation.
- Mill mud group – use of mill by product as a fertiliser.

Many of the growers involved in these groups had been involved in previous GGIPs. Indeed, some of the groups had completed previous projects on the same topics. Some of the growers were also involved in other GGIP groups which were working on projects that had been funded in previous rounds. The soybean group was notable for the presence of two independent advisors as part of the group. It was clear from the group dynamic that these two advisors were taking a lead role in project organisation and trial design and were also going to provide specific services to the trial (e.g. EM mapping, agronomic management). This group appeared to be well organised and structured and were highly likely to have the skills required to design, deliver and communicate excellent on-farm research.

5.2 Grower Group Innovation Projects Summary

- Fee for service advisor use in the Sugar industry is low, which is attributed to the historical provision of levy funded extension services resulting in a reluctance to pay for advice.

- The GGIP program is successful at improving on-farm links with research and extension personnel.
- Project evaluation has suggested that adoption of GGIP research is more rapid than in other RD&E systems.
- GGIPs have documented examples of new insights with a high level of credibility amongst growers.
- The grower networks inherent to GGIPs provide improved project evaluation opportunities with regard to demonstrating practice adoption.
- The GIVE conference appears to be an excellent example of grower knowledge transfer in action.
- Project management has been outsourced to an independent advisory group, with the intention of this management becoming self sufficient, although there is no evidence at this stage of how this will be achieved.
- Use of consultants and advisors in GGIPs was originally discouraged, but has become strongly supported over time as it becomes clear that their involvement provides improvements in research outcomes and reporting.

6 Future Farm Industries CRC

Industry Overview

The Future Farm Industries CRC develops new farming systems and technologies to improve the resilience of broadacre agriculture, with a particular focus on the use of perennial plants. As such, the work of the CRC is supported by three of Australia's largest agricultural industries; meat (Meat and Livestock Australia), grain (Grains Research and Development Corporation) and wool (Australian Wool Innovation). The CRC's investment in project activities in 2009/10 was $25.5M.

Source: Future Farm Industries Cooperative Research Centre (2010)

The Future Farm Industries CRC (FFICRC) is built upon the work of the previous CRC for Plant-based Management of Dryland Salinity. Its research advocates the use of perennial plants to improve profitability and environmental outcomes in broadacre agriculture in Southern Australia. The main focus is on the integration of perennial crops in systems for livestock and crop production, although there are other research activities in the areas of woody crops, biodiversity and water management.

With a focus on broadacre agriculture from Northern NSW across Southern Australia to the wheat belt of WA, the potential audience for adoption of FFICRC research is immense. With this in mind, the CRC required an engagement approach which would have the potential to maximise impact across these regions. Despite the fact that RDC partners had extensive existing networks, particularly in the form of farmer run groups, FFICRC recognised that both farmers and those that service their commercial needs (advisors) have the capacity to drive innovation and adoption of research outcomes (Future Farm Industries CRC, 2007). This capacity is leveraged through three adoption strategies:

- Commercialisation for private sector delivery (formal commercialisation of products and services through direct engagement with agribusiness companies).
- Delivery via partner industry organisations (delivery through CRC partner organisations, for example RDCs and state agencies).

- New knowledge partners – 'FFI Associates' (additional opportunities through organisations who may not be CRC partners, for example regional bodies, NRM groups, farmer associations).

The FFFICRC was chosen for this study because of the unique nature of the commercialisation strategy being employed, particularly with regard to the CRC's partnership with Landmark. Information in this section was collected through interviews with FFICRC staff and the Evergraze project leader.

6.1 Commercial Approach

Commercialisation of research outputs is a major component of the FFICRC adoption strategy. This focus on commercialisation is embedded within the organisation through a Commercialisation and Utilisation Strategy, overseen by the Agribusiness Director. The commercialisation component of this strategy calls for the FFICRC to act as a 'wholesaler' of products rather than a 'retailer', by licensing research outputs to private sector companies, particularly through Landmark as a Core Participant (Future Farm Industries CRC, 2007).

Implementation of this approach depends on the particular product or service under consideration. Some engagement has already occurred with seed companies, with regard to new cultivars, and with niche companies with regard to woody crop technologies. However this type of engagement is likely to be limited to new technologies for which identifiable markets exist. Not all research is likely to sit within such bounds.

It is in this area that FFICRC would most likely look to maximise their partnership with Landmark. Landmark is Australia's largest distributor of merchandise and fertiliser (Landmark, 2011) and is a Core Participant within the CRC with a total contribution of $4.4M of cash and in-kind over the life of the CRC (FFICRC, 2007). As a participant in the CRC, Landmark is keen to develop the abilities of their approximately 300 agronomists who provide advice to farmers. This level of engagement is of particular relevance to the FFICRC, for many of the growers within the CRC's target audience rarely engage independent agronomic advisors. Therefore, retail agronomy networks such as Landmark's are a key information pathway for many of these growers.

Having said this, Landmark is not the only merchandise company servicing broadacre farmers, and the opportunity to engage with non-Landmark customers is essential to ensuring widespread adoption. Whilst certain technologies may require exclusivity, the CRC is not restricted in terms of delivering commercial opportunities to other organisations, regardless of Landmark's position as a Core Partner. However Landmark is viewed as having the first right of refusal over certain new commercial opportunities stemming from CRC activities.

Whilst some engagement with Landmark has occurred with respect to specific licensable technologies, Landmark has thus far been most interested in capacity building opportunities rather than discrete commercial services. Thus, the CRC has delivered training to Landmark agronomists in the areas of soil carbon, soil biology and salinity on a cost recovery basis. Furthermore, the benefit for Landmark in terms of research outcomes relates more to earliness rather than exclusivity. By obtaining research and new knowledge before competitors, Landmark hopes to be able to transform this knowledge into advantages in service delivery and client satisfaction that will provide a competitive advantage. However with three years of research remaining under the CRC they "...haven't got to this stage yet."

6.1.1 Evergraze

The most mature FFICRC project is Evergraze, which aims to "...increase profits of sheep and cattle enterprises by up to 50% and at the same time improve water management, use of perennials, biodiversity

and soil health" (Evergraze, 2011). New perennial farming systems are tested at six 'proof sites' around the country, with a network of supporting sites associated with each proof site to trial the new grazing practices on-farm. Proof site research is guided by Evergraze regional groups, each of which consists of growers, researchers, an extension coordinator, a Landmark representative, a catchment group representative and 3 to 4 private advisors. Supporting sites are usually formed around a grower group which is facilitated by either DPI staff or an independent advisor, with around $5000 pa of Caring for our Country funding to support this group coordination role. This model has been most successful in Victoria, where additional Farm Ready funding is available to support training activities, although the larger pool of advisors in Victoria may also help to explain this success. A learning network for supporting site coordinators helps to facilitate knowledge transfer between groups.

Most of the advisors involved in these groups are specialists in pasture production or agronomy. Therefore group facilitation is generally not core business, but many advisors see some value in these roles in terms of the potential to increase their client base. However in the longer term, "...agribusinesses want to know how to make a dollar, but the challenge is how to extract fees from the service delivery." This challenge is part of the reason that Landmark is keen to build capacity in this area through skill development.

> ***"Evergraze needs to be able to demonstrate really strong cost/benefit, and Landmark are waiting for this, but they still need to know how to extract value from the research outcomes. There is not a strong connect between where they need to be and what happens on the ground"***

6.2 Summary – Future Farm Industries CRC

Unfortunately, most FFICRC projects are still at the awareness raising level, thus the commercially focussed adoption strategy has not been fully developed and tested. The success of this approach will become more evident within the year as Evergraze services start being delivered by the advisory sector. However there are still some important concepts to be taken from this approach:

- Some specific technologies will naturally lend themselves to exclusive commercialisation pathways.
- It is possible to engage with agribusiness in a mutually beneficial yet non-exclusive basis. Forward thinking businesses, such as Landmark, will see this as an opportunity 'to be ahead of the curve' to retain or increase market share, rather than as a new revenue stream.
- Even with the participation and support of a large organisation such as Landmark, a commercial approach to adoption will be difficult for new knowledge that does not demonstrate strong benefits for the cost of implementation. This may especially be the case for practices that do not have direct productivity outcomes.

7 Strategies for the Cotton Industry

The case studies chosen represent a range of scenarios that can be compared to the existing and potential role of agribusiness within the cotton industry. The dairy industry scenario provides some similarity to the cotton industry, with widespread use of consulting services drawn from a large number of independent consultants. The most significant difference pertains to the grower/advisor relationship, which in the cotton industry is delivered on a whole of season basis and is typically more proactive, to the extent that in many cases decision making is more or less outsourced to the advisor. In contrast, advisors in the dairy industry

are usually employed to provide a solution to a specific problem. However the dairy industry has a long history of widespread employment of advisors to deliver industry programs. In many cases, almost all of the project management is undertaken by a network of advisors. As a result, these advisors have a range of project management and facilitation skills and are adept at accessing external funding sources, particularly from a range of NRM related sources. They are also well integrated with industry RD&E networks which results in excellent opportunities for knowledge transfer. The experience within the Countdown MAX project demonstrated the difficulty of developing new services for consultants, even where the consultants had the required technical skills and personal commitment.

The sugar industry scenario contrasts with the cotton industry, in that advisors are rarely used within the sugar industry and the number of independent advisors within the industry is very small. Growers are used to levy funded research and extension and are typically reluctant to pay for advice. However the Grower Group Innovation Projects initiative has demonstrated real benefits for growers and is believed to be improving the rate of adoption for a range of practices. Whilst advisor engagement within the program has been limited, the structure of the program provides significant opportunities for advisors to transfer new research to grower groups and has significant potential within the cotton industry.

The Future Farm Industries CRC scenario investigates the potential for commercialisation of R&D outputs. Of particular interest is the relationship with Landmark, a provider of considerable cash and in-kind resources to the CRC. Although this relationship has the potential to provide commercially viable opportunities, most effort to date, and indeed in the foreseeable future, is about building the capacity of Landmark staff to deliver better advice to clients, based on the outcomes of FFICRC research. Whilst the extent of the Landmark advisor network provides obvious benefits to the FFICRC, Landmark stands to gain through earlier access to new knowledge and an advantage over competitors as a source of advice. Unfortunately, limited development of this relationship to date means that this strategy is still largely unproven.

From these scenarios, a number of strategies have been developed to improve the role of agribusiness in facilitating adoption of cotton industry research.

7.1 Strategy 1 – Value the advisor network

The dairy industry demonstrates an advisory sector which is well integrated with the industry RD&E network. Advisors frequently deliver not only industry messages but also industry extension programs. Many advisors derive some or all of their income from industry programs and have a vested interest in ensuring their success. Advisors are also a key resource in extending knowledge to other advisors. Actions to improve integration of advisors within the cotton industry RD&E network include:

1. Stimulate the advisory sector through outsourcing. In many circumstances, advisors have the skills and influence to successfully deliver industry programs. As in the dairy industry, the availability of advisors to undertake such work may be a limiting factor.
2. Provide advisors with opportunities to improve skills in facilitation and business management. Advisors in the dairy industry have often undertaken facilitation training which allows them to provide opportunities for their clients to increase their knowledge (e.g. by running discussion groups). Improved business management skills may be helpful for advisors to improve their strategic planning and identify and capitalise on new business opportunities. This may also provide new opportunities to improve the business management of clients.

7.2 Strategy 2 – Build integrated opportunities for advisors

The Grower Group Innovation Projects initiative provides substantial opportunities to improve grower knowledge and the adoption of new practices. However this program is also an opportunity to integrate advisors with on-farm research and to utilise this integration to improve scientific rigour and adoption of industry messages.

3. Develop a participatory research program which provides growers and advisors with the opportunity to undertake practical, regionally focussed, on-farm research. The following suggestions may provide attractive opportunities for advisors and industry:
    - Many advisors would have the skills to support grower groups, both administratively and technically, to undertake research on a fee for service basis. Improved facilitation skills may be advantageous to maximise group learning outcomes.
    - Industry training could be integrated into such a program. For example, relevant industry irrigation training might be a prerequisite for groups wishing to undertake irrigation related research. Such an approach would ensure that group members have the relevant skills to conduct the desired research and acts as a pathway to increase delivery of existing (and new) industry training.
    - The GIVE conference in the sugar industry is a valuable mechanism for groups to share research outcomes. A similar initiative would be advantageous in the cotton industry. The possibility to share information between industries through joint events might also be explored.
4. Develop a more strategic approach to providing information to advisors.
    - The link between researchers and advisors is critical for adoption, but these links seem extremely variable depending on the subject matter and the individuals concerned.
    - A more strategic approach would focus on a selection of key topics at any particular time and would provide better integrated opportunities for knowledge sharing, particularly between researchers and consultants. Such an approach should be developed in conjunction with organisations such as CSD and the CCA.
    - Existing advisor update models such as the GRDC advisor updates or WA Agribusiness crop updates would warrant further investigation. Advisor involvement in any potential grower led research conference would also be particularly beneficial
    - Development of web based information access opportunities (e.g. web portals) across many industries is often unsuccessful. Improving the skills of individuals to access existing information repositories is likely to provide more benefits at less cost than expanding the number of potential information sources.

7.3 Strategy 3 – Improved support for adoption research

Within this study, the value of the dairy industry's investment in social research was evident. The industry critically analyses many programs to determine their successes and failures and to use this information to guide future investment. Similarly, the FFICRC has developed an 'Adoptability Planning Tool' to help predict and improve the adoption of specific technologies.

5. Improve industry coordination and research into extension, adoption and the social sciences. Despite the significant inroads the cotton industry has made in this area, particularly in terms of human capacity and skill development, there does not seem to be a framework to guide and

unite these efforts. Critical evaluation of social drivers and adoption processes by appropriate academics can provide strategic value.

7.4 Strategy 4 – Commercialise with Caution

Whilst many technologies readily lend themselves to further development with commercial partners, there are also many research outcomes which are not likely to provide stand-alone commercial opportunities. However the FFICRC approach has demonstrated that commercial partners may still provide avenues for distribution of knowledge that is, for example, difficult to protect. In the Landmark case, early access to new research is seen as a sufficient advantage for investment. The Countdown MAX experience demonstrates that even where identifiable commercial opportunities exist, the development process can be difficult.

6. Where appropriate, utilise commercial partners to deliver new knowledge with the understanding that exclusivity and new revenue streams are not always necessary for successful engagement with commercial operators.
7. Development of new products or services is most likely to be successful if delivery partners are involved from the ground up. However this is no guarantee for success, as the Countdown MAX experience demonstrates.

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