



A WORKFORCE DEVELOPMENT STRATEGY FOR THE AUSTRALIAN COTTON INDUSTRY

VERSION 1.2

JULY 15, 2015

Developed for:

Cotton Research and Development Corporation

Table of Contents

Acknowledgements	3
AgriFood Skills Solutions	4
Executive Summary	5
Background	8
Methodology	9
What is Workforce Development	9
Strategic Elements	11
Strategic Actions	12
Status of Workforce Development	17
Challenges	18
Success Factors	19
On-Farm Implementation	20
Strategic Building Blocks	22
Business Capability and Leadership Skills	23
Attraction and induction	29
Innovation, adaptability, collaboration	33
Career pathways and transitions	36
Skills utilisation and training	39
Retention and retirement	45
Work systems and job roles	48
Workforce planning (as part of business planning)	51
Workplace conditions	53
Indigenous Labour Force	54
Strategic Framework	57
Return on Investment	58
Tools	59
Operationalisation & Governance	60
Evaluation	60
Situational Analysis	61
Performance	61
The Cotton Farm	62
Employment Profile	63
Salaries	64
Staff profile	65

On-farm Contractors	66
Labour shortages	66
Sourcing workers from overseas	67
Future trends	68
Appendix A - Consultations Summary	71
Appendix B : Key stakeholders – Interest and Alignment	77
Appendix D - Indigenous Funding Strategies	81
Appendix F - References/Bibliography	85

Acknowledgements

The project team would like to thank Dr Ruth Nettle of Melbourne University and all those who participated in consultations, including employers. All participants were welcoming and generous with their time, and provided useful and interesting insights into the industry and its workforce development needs.

The project team would also like to thank specifically Ian Taylor of the Cotton Research and Development Corporation (CRDC), and Sophie Davidson and Angela Bradburn of Cotton Australia (CA) for their assistance and support throughout the project.

AgriFood Skills Solutions

AgriFood Skills Australia (AgriFood) is the key body on skills and workforce development for the Australian agrifood industry and regional Australia. AgriFood develops and implements workforce development strategies and the industry's nationally endorsed qualifications to meet the current and emerging needs of agrifood enterprises, employees and students throughout regional and urban Australia. It has produced the Annual Environmental Scan of Agrifood Industries (E-Scan).

AgriFood Skills Solutions (AFSS) is the fee-for-service and consulting business division of AgriFood Skills Australia. AFSS offers expertise that can work with businesses to answer workforce and skilling needs cost effectively. We maintain a focus on Skills Diagnosis and offer consulting services in areas including: business skills; skill and training needs identification; staff attraction and retention; industry intelligence and accessing government funding.

AFSS has been engaged by CRDC to support CRDC and Cotton Australia in the development of a cotton industry workforce strategy.

Executive Summary

This is the Cotton Workforce Development Strategy and Action Plan for 2015-18. It is based on a substantial body of high quality research, case studies, skills' needs assessment and focus groups across the industry. This has resulted in a broad picture of the significant capability gaps and challenges facing the industry in terms of maintaining enterprises' human resource capacity, systems and skills to meet various challenges.

The cotton industry has adopted a very intensive and multiform approach to human capital formation across the industry over many years. These investments cover the full gamut of activities across schools, the university and vocational systems, workforce development, training, extension services and community engagement. They are being undertaken in the context provided by the Cotton Australia Strategic Plan 2013-2018 (Enabling systems related to Human Resource Management and capacity building) and the Cotton Industry Vision 2029 (People - knowledge and Skills; Succession).

The aim of this strategy is to ensure that the cotton industry has the people with the right skills, experience and capabilities to drive industry competitiveness now and through time.

The scope of the strategy is limited to on farm capability and capacity. It considers educational and training systems and supply chain issues only to the extent that they impact skills and labour availability on-farm. It does not explicitly consider broader agricultural programs and initiatives that also benefit the cotton industry.

Workforce development (WFD) can be defined as the actions taken to improve productivity and achieve high performance by enhancing workplace organisation and increasing the capacity of workers. This has a focus on the enterprise and its performance, but also has social dimensions for individual employees, learners, other industries and regions.

Business capability and leadership skills are the most important elements of WFD strategy. They define the business and the context for all the other elements, and therefore deserve stronger emphasis in planning.

Many enterprises in the food and fibre industries do not recognise the need for *high quality* WFD. There is often an emphasis on training alone, with poor needs diagnosis and little consideration of where this fits in with whole-of-enterprise business needs.

Australia is a relatively small cotton producer on a global scale and is reliant on exports with over 99% of ginned cotton exported. It is the third largest exporter of cotton globally. Trading conditions for Australian growers have fluctuated over the past five years due to increased volatility on the global cotton market. Erratic swings on global prices, prolonged drought conditions and floods have also affected revenue. These factors pushed up the cost of growing cotton and forced smaller, less-viable operators out of the industry. There are between 800 and 1,200 cotton farms in Australia depending on seasonal conditions.

Individual cotton farms are generally small employers. Cotton growers employ an average of 6.6 people per farm. By this measure, around 8,000 people were employed on farm with 4 500 of those located in NSW and 3 500 located in QLD.

The industry has labour and skills shortages across low and higher skilled categories. Local labour is difficult to source, particularly post drought (expansion phase). A poor season(s) in one region will see a few essential staff retained as those employees and, often, family

members taking on an increasing burden of work. In another region a good season will see a return to significant labour and skills gaps.

Farm production now utilises far more technology and complex machinery to drive productivity growth, and these changes have placed a higher value on technical skills, which is putting upward pressure on wages.

The once pyramid-shaped workforce comprising owners and a mass of low level operators is becoming diamond in shape as technology and automation continues to remove low-skilled job roles and creates a need for a new breed of skilled workers or technicians. Contractors therefore make up a significant proportion of the cotton industry workforce.

While these projections signal challenges, growers will still be aiming, to produce the highest yielding crop allowable at the time with the labour force economically allowable. This will mean working smarter with a smaller number, though more highly skilled workers.

To be truly effective on-farm workforce development must:

- Enable identification and engagement of people who are reliable (will turn up to work); preferably work ready (depending on their role) and/or with personal attributes which allow them to be trained on-farm to be effective at what they do;
- Deliver specific skills and knowledge to serve the technical aspects of farming. This covers both the sciences and professions through to precise techniques and technologies applied by paraprofessionals and farm workers; and.
- Be largely invisible as a distinct entity or practice, but be integrated in the farm to such a degree that it is just “the way we do things here”.

While cotton growers lead the world in many areas of farm management, general evidence suggests that, like other agrifood industries, human resource management is not keeping pace with changing business models.

Two key advantages that the cotton industry has over other primary producer groups is the small size of the industry in terms of number of farms/growers and also the cohesiveness of those involved. The challenge for the cotton industry is whether the talent for innovation can be adapted to developing a more sustainable approach to securing a workforce.

The following principles need to be borne in mind to help ensure success:

- Employer involvement is essential to workforce development. However, some firms tend to be more reluctant than others. Small farmers can be reluctant because of perceptions that training and other programs are tailored for needs of large firms.
- Employers need to develop trust with other actors in the networks.
- Employers need to be regularly convinced of the benefits – the issue of free riders is ongoing (ie those who have done no work benefitting).
- The capacity of the network must be built to the point that employers will be responsible for developing and implementing their own training programs.
- The key incentive for employer participation is self-interest in workforce development networks.

The delivery of the Strategy will involve simultaneous engagement with different cohorts of growers – based on the degree of sophistication of WFD engagement (low, medium, high). Initial implementation would see a significant effort around Skill Needs Analysis, progressing at both an industry level and eventually farm-by-farm as time goes by, with a focus on the low cohort. This would provide stronger support for engaging existing training support from various government programs.

The establishment of business plans, off the back of business skills training, will help align a continuous 'Return on Investment' program built around case studies. These case studies would focus on the medium to high level cohorts of companies but could also compare those with low WFD who progress to high WFD over time.

While a wide array of training progresses, the plan will mature cohorts of growers into the more challenging process of enhancing employer culture (Employer of Choice) built around creating compelling innovative workplaces. This will link to various initiatives including recognizing and improving the skills of existing workers, implementing career pathways and schools' initiatives.

The success of any industry strategy and operational plan is strictly determined by the propensity of individual businesses to buy-in to the challenges and solutions identified. A key premise behind the operationalisation of this strategy is the concept of a workforce development and training development continuum, on which businesses lie depending on their degree of maturity and engagement with WFD. Estimating the Return on Investment (ROI) will be an important means of encouraging firms to take training and skilling-up more seriously, by seeing tangible evidence of the returns from expenditure on staff training.

Background

The Cotton industry has adopted a very intensive and multiform approach to human capital formation across the industry over many years. These investments cover the full gamut of activities across schools, the university and vocational systems, workforce development, training, extension services and community engagement. They are being undertaken in the context provided by the Cotton Australia Strategic Plan 2013-2018 (Enabling systems related to Human Resource Management and capacity building) and the Cotton Industry Vision 2029 (People - knowledge and Skills; Succession).

The industry has identified human resources as a major constraint to current and future production and is working hard to attract and retain workers in the industry. This priority is demonstrated by the Cotton Research and Development Corporation (CRDC) identifying Human Capacity as one of three program areas in the 2008-2013 Strategic R&D Plan. Development of the Strategic R&D Plan is informed by extensive research and industry feedback. Part of the approach to building human capacity in the cotton industry has been to embed formal training and qualifications into the industry as a means of building skills and formally recognising these skills through accreditation and appropriate remuneration. CRDC investment assists with technical development and supports resource development and informal capacity building for industry but resources are not available to support or fund training of individuals.

Agrifood Skills Solutions (AFSS) has been tasked to assist the Cotton Research and Development Corporation and Cotton Australia to finalise a Workforce Development Strategy for the industry.

Our understanding of the task:

- Taking into consideration the substantial body of research and analysis conducted which is of good quality and quite comprehensive,
- produce an *integrated* workforce development strategy to provide the framework within which the individual WFD activities on-farm can be supported and
- which
 - has an “on-farm’ focus
 - is cognisant of broader developments on farm and in the regional context
 - supports the effective and efficient delivery of an overall industry plan and
 - is broad and flexible enough to meet the needs of the typical cotton producer

A full Situational Analysis of the industry is located towards the end of this document.

Methodology

Our approach to developing this plan has been to identify key workforce development issues and opportunities through a combination of consultation and desktop research. A number of site visits and interviews were conducted with industry stakeholders and cotton producers and representative organisations.

Throughout 2012-2014, CRDC commissioned a number of research projects and CA collated information in a variety of ways to determine the main issues and capability gaps currently affecting the industry and likely to affect it in the future. This included group meetings with stakeholders, and consultation workshops held throughout the four valleys.

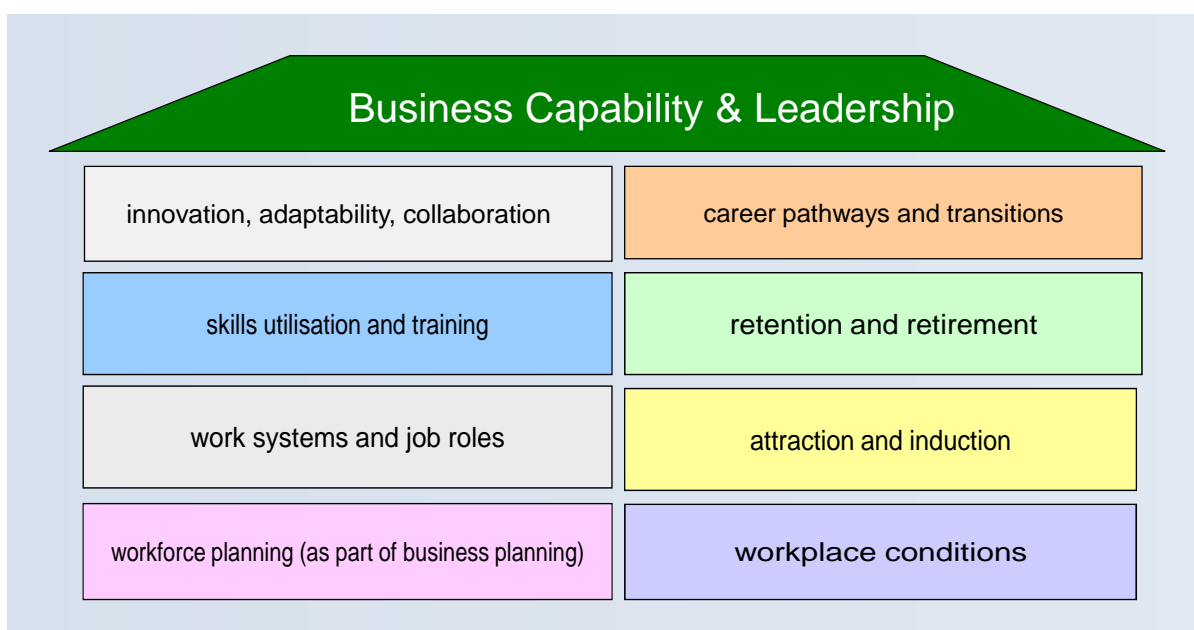
We have also drawn strongly on data from existing plans and documents including AgriFood Skills Australia Environmental Scan 2015 and earlier editions, Food and Beverage Workforce Strategy 2013, National Farmers Federation National Agricultural Workforce Development Plan (2014), DAFF Agricultural Competitiveness Green Paper and Queensland Farmers' Federation Industry needs – agriculture and forestry (2014).

What is Workforce Development

Workforce development (WFD) is defined as the actions taken to **improve productivity** and **achieve high performance** by enhancing workplace organisation and increasing the capacity of workers. This has a focus on the enterprise and its performance, but also has social dimensions for individual employees, learners, other industries and regions.

There are nine 'building blocks' in building an effective WFD strategy. They are not mutually exclusive but provide a convenient framework with which to consider the subject (Figure 1).

Figure 1 – Elements of Workforce Development



The diagram can be read in an ordinal fashion, from the 'the ground up' in terms of where focus should begin, within a business, for developing and implementing workforce strategy. It commences with fundamentals such as the numbers of people required and the physical workplace, elevating to better skills utilisation after staff have been attracted and retained. Once established there is obviously a strong degree of simultaneity. Business capability and leadership skills, as the figure suggests, are the most important elements of WFD strategy. They define the business and the context for all the other elements, and therefore deserve stronger emphasis in planning.

Many enterprises in the food and fibre industries do not recognise the need for *high quality* WFD. There is often an emphasis on training alone, with poor needs diagnosis and little consideration of where this fits in with whole-of-enterprise business needs. The concept is much wider than training, as the figure suggests. Indeed training (excluding compliance requirements) is only one of many possible and necessary interventions required to deliver an effective operational strategy, whether within individual enterprises or across an entire industry.

Effective WFD is time consuming and needs to be developed over an extended period as cohorts of farmers mature in their knowledge, ability and willingness to deploy new workforce practices. It also presupposes a program of assistance focused squarely on a foundation of solid business planning, processes and leadership. A workforce development plan will only be effective when set into the broader context of a well-prepared business plan and a broader industry strategy.

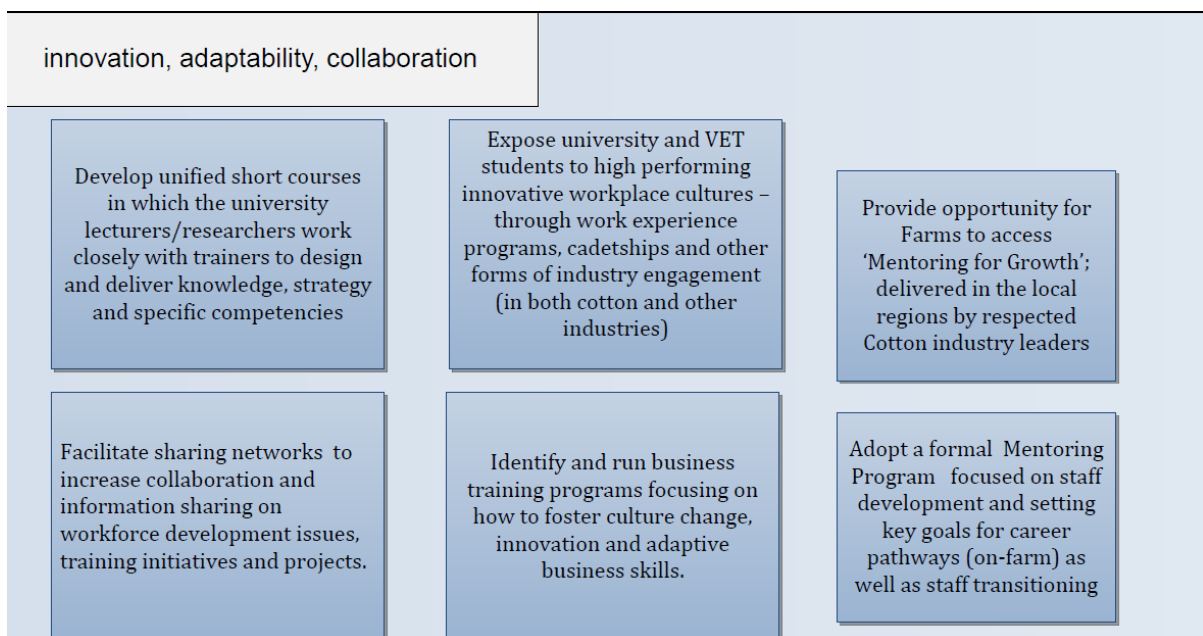
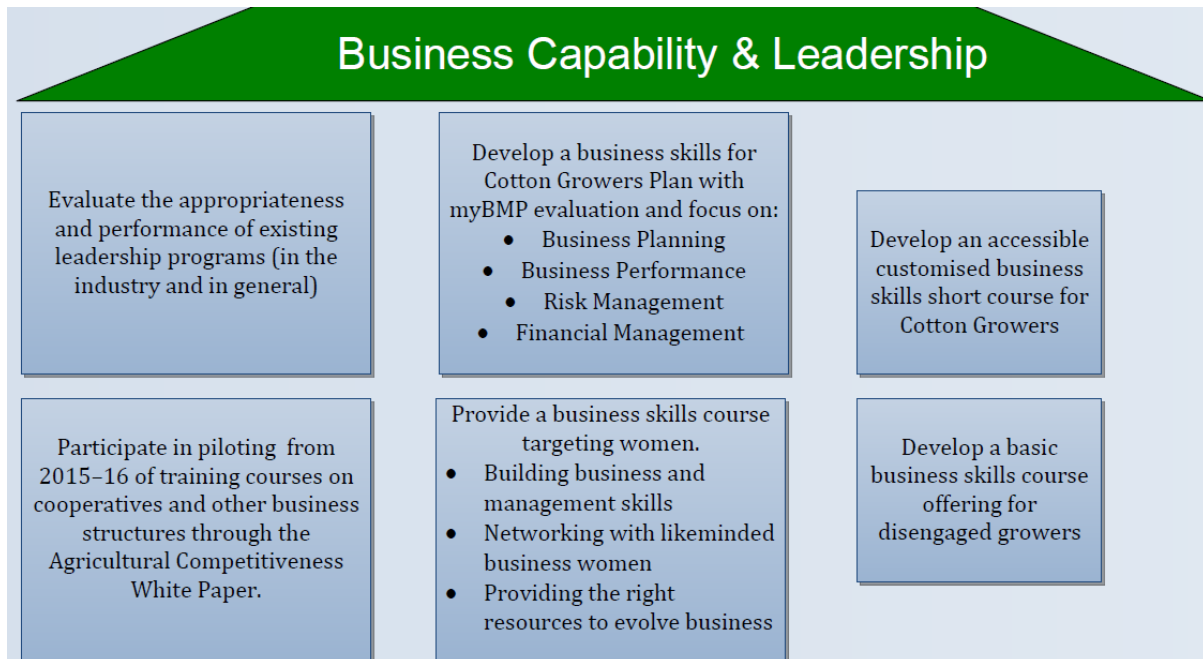
The provision of workforce development support and programming is most efficiently and effectively delivered by an independent broker working closely with training providers, industry and farm groups. This is a common finding of research undertaken by AWPFA, the NFF and the Nous Group. This removes the incentive to train as a substitute for working with farmers over time to assist them engage with and benefit from a robust WFD program of activity.

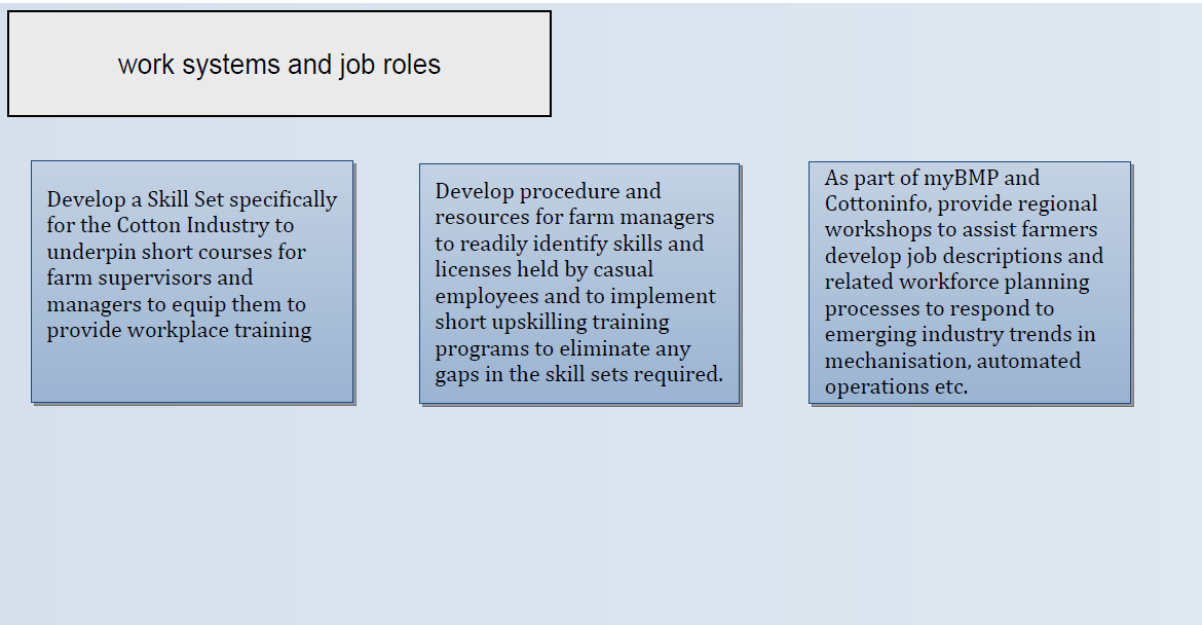
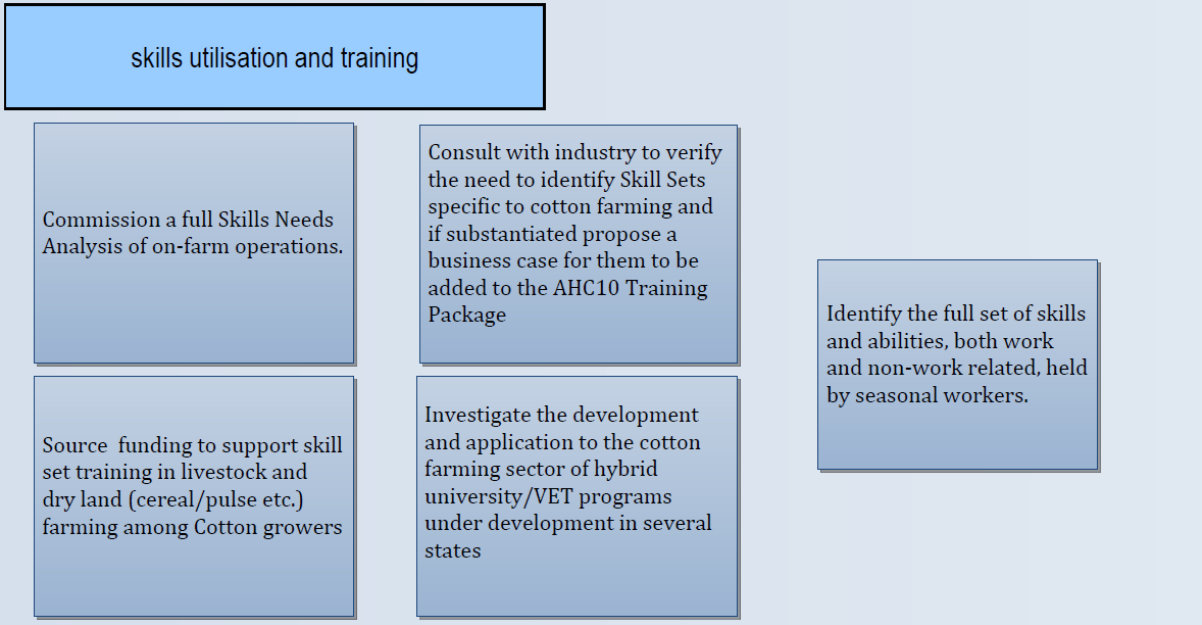
Industry and Government have a joint responsibility for skilling the workforce across all industries. However, governments are increasingly reluctant to support enterprises that do not have a business and workforce development plan in place or have not, at least, conducted a Skill Needs Analysis (SNA). Many farmers do not have an articulated business plan, which makes workforce development planning a 'hit and miss' affair. Many businesses (including in the cotton industry) while they do some training, would seldom have conducted a comprehensive review of their skills' needs in a whole of business context. It is the fundamental prerequisite for deploying more sophisticated WFD practices in the industry.

Strategic Elements

Program	Element	Outcomes
Business Capability	<ul style="list-style-type: none"> • Business Capability & Leadership • Innovation, adaptability, collaboration • Workforce planning 	<ul style="list-style-type: none"> • Cotton people have business, management and leadership skills to support a growing and vibrant industry • Strong and effective leadership in the cotton industry • Strong and effective leadership and people management on farm
Attracting and Retaining People	<ul style="list-style-type: none"> • Attraction and induction • Career pathways and transitions • Retention and retirement • Workplace conditions 	<ul style="list-style-type: none"> • Farms are desirable and rewarding places to work • Cotton businesses become employers of choice • Vacancies are adequately filled in a timely manner and good staff are retained • People management capability is best practice • Farm careers pathways are clearly articulated and supported • Farm business transition models and pathways are developed, understood and supported
People Capability	<ul style="list-style-type: none"> • Skills utilization and training • Work systems and job roles 	<ul style="list-style-type: none"> • Cotton people have technical skills to support a growing and vibrant industry

Strategic Actions





workforce planning (as part of business planning)

Conduct a labour market analysis, possibly enhanced by the 2016 Census, to establish existing workforce numbers and existing skills base within the Cotton industry and across permanent, casual, contract and seasonal workers.

Analysis of the future Cotton workforce as a result of new technologies, demographic and social change (emerging and evolving job roles, implications for work organisation and skills development).

attraction and induction

Implement the Employer of Choice (EOC) initiative

Develop a forum or online notice board for employers and potential employees to advertise for workers or request work.

Develop and provide to the VET and higher education sector, recruitment agencies and career counsellors cotton production career pathways and opportunities to help sell cotton careers.

Develop procedures to increase cotton's representation at events showcasing the opportunities available in the cotton industry

Liaise with Dairy Australia to fast track the development of the Agriculture Employment Starter Kit Initiative (ESKI).

career pathways and transitions

Develop a variety of educational materials and teaching resources with a focus on the Cotton industry

Engage regional universities with faculties of education to provide lectures and demonstrations of the education materials to trainee teachers.

Deliver targeted teacher workshops in key rural and regional areas to demonstrate use of Cotton and Cotton jobs in Education materials.

Conduct a career progression analysis which will focus on:

- Confirming the skills, licenses (if any) and other attributes and knowledge required by the range of senior supervisor and manager roles on-farm
- Identifying the key skills required in similar roles in the broader agriculture industries

Design and test a program to encourage cooperation and sharing of staff between Cotton farms, including through a more formal process than might currently operate.

workplace conditions

Continue the strong emphasis on WHS awareness through specific workshops and/or as part of broader business skills courses. Survey the industry's awareness of its obligations.

Conduct workplace health checks on cotton farms and provide a checklist/ready reckoner to allow benchmarking of workplace conditions against best practice in the sector.

Commission a best practice workplace case study of a typical cotton farm to assist in promotion of the concept.

retention and retirement

The cotton industry investigate, trial and if successful, implement an industry-wide professional development program to provide farm managers with tools to identify and respond to impediments to retaining their employees.

Farm management teams be provided with information on strategies to minimise the impact of (permanent) staff turnover through a series of local workshops supported by on-line information and resources.

Status of Workforce Development

To be truly effective on-farm workforce development must:

- Enable identification and engagement of people who are reliable (will turn up to work); preferably work ready (depending on their role) and/or with personal attributes which allow them to be trained on-farm to be effective at what they do;
- Deliver specific skills and knowledge to serve the technical aspects of farming. This covers both the sciences and professions through to precise techniques and technologies applied by paraprofessionals and farm workers; and.
- Be largely invisible as a distinct entity or practice, but be integrated in the farm to such a degree that it is just “the way we do things here”.

While cotton growers lead the world in many areas of farm management, general evidence suggests that, like other agrifood industries, human resource management is not keeping pace with changing business models. In a recent NFF survey, it was found that only 45% of respondents had used or applied any strategies to identify, develop or foster skills, training and personnel development of their staff. Only half ever assessed labour skills and workforce development requirements (NFF 2014). A recent study by QFF found that the majority of small to medium enterprises do not have formal processes in place to manage for future skills gaps.

In terms of training specifically, the majority of agrifood sectors, such as Cotton, have a long standing culture and preference for learning that is incremental, socially embedded and occurs throughout a working life (AgriFood 2012-15 E-Scans). In part this is due to the history of on-farm extension services and the need for the business to internalise the benefits of training immediately if time away from work is to be justified. It is also because the remoteness and nature of many operations means full qualifications are neither convenient nor readily delivered.

Short courses in cross-industry skills are of high value to regional workers and help to establish a local, adaptive workforce that can transition between sectors and companies as the seasons dictate, and importantly ensure workers remain living in the region long term. Highly valued cross-industry skills include: Forklift driving, first aid, chemical handling, food safety and workplace health and safety.

Introduction of the Unique Student Identifier on 1 January 2015 should remove practical impediments to funding Skill Sets and the acquisition of individual units of competency given that it enables students to hold an authoritative record of their incremental learning and as it accrues, make it straightforward for registered training organisations (RTOs) to award full qualifications (AgriFood 2015).

Challenges

There is a range of particular characteristics of rural and regional areas that impact on workforce development.¹ These are largely common to the Cotton industry and include:

- Labour markets (especially those dominated by agricultural industries) tend to have people with lower educational attainment.
- In part education differences exist because of age differences between urban and rural areas, rural tending to be older, but gap persists in younger people.
- Workers in rural areas tend to earn lower wages regardless of educational attainment.
- Rural employers tend to be less innovative and therefore experience greater cost-based pressures.
- Taken together, lower pay and greater cost-pressures often contribute to higher labour turnover and attrition within firms.
- In turn, there are often significant disincentives for rural employers to invest in training.
- The number of people with common training needs is smaller in rural than urban areas, which makes it harder for training providers to provide programs as the training market is so thin.
- Low population density makes communication and collaboration harder to organise.

Despite these structural characteristics, which tend to diminish investment in training, either individually or collaboratively, research has shown a number of countervailing attributes and behaviours of individuals, firms, training providers and community-based organisations. For instance, a study by Green et.al. (2003) found that:

- Despite the constraints on workforce development in rural areas, firm characteristics mattered. In particular, firm size and industry type has a strong influence on willingness of employers to provide formal job training.
- The labour market situation facing firms was also important. Those firms facing difficulty in recruiting qualified workers tend to provide more formal training.
- A significant proportion of firms (between a third and 45% of rural and regional firms) report that they worked with other employers in their community, industry or supply chain, to identify common skills required for workers in comparable jobs, and more than a third also reported they worked with other employers in their community to develop training programs to improve worker skills
- Employers engaged in collaborative training tend to provide training to more workers and spend more on formal training. That training is more likely to be more general than job-specific.
- Once again, larger firms and those operating in service industries were more likely to report being engaged in collaborative activities.

¹ Adapted from *Workforce Development in Rural and Regional Australia – Issues and Lessons for MIW and ASA from Recent International Research* Rafferty and Jakubauskas Workplace Research Centre, University of Sydney, March 2012

- Aside from firm size and industry, co-operation with other firms was the single best factor in predicting training effort.

Two key advantages that the cotton industry has over other primary producer groups is the small size of the industry in terms of number of farms/growers and also the cohesiveness of those involved. The challenge for the cotton industry is whether the talent for innovation can be adapted to developing a more sustainable approach to securing a workforce (Nettle, 2013).

It might be said that the secret of successful attraction is the ability to retain. A company can retain workers because of the compelling value proposition the employer proposes and is seen to deliver to employees. The local 'grapevine' lets people know which employer is a good one to work for.

Success Factors

A risk in creating and implementing a workforce strategy is the need for effective collaboration between industry, private service providers, the education system and government. Willingness to collaborate cannot always be assumed. Collaboration is time consuming, especially as it is subject to a range of structural impediments in the training and education system (quality issues, funding constraints) that impact effectiveness and efficiency. Government will selectively subsidise targeted training but generally does not lend much support to comprehensive workforce development.

The following principles need to be borne in mind to help ensure success:

- **Employer involvement** is essential to workforce development. However, some firms tend to be more reluctant than others. Small farmers can be reluctant because of perceptions that training and other programs are tailored for needs of large firms.
- Employers need to **develop trust** with other actors in the networks.
- Employers need to be **regularly convinced of the benefits** – the issue of free riders is ongoing (ie those who have done no work benefitting).
- The capacity of the network must be built to the point that employers will be responsible for **developing and implementing their own training programs**.
- The key incentive for employer participation is **self-interest** in workforce development networks

It is therefore important to be realistic about what can be achieved and in what time frames. Support sought from government should be consistent with a validated workforce development plan and ongoing evaluation towards helping meet the outcomes specified in the industry strategy and farm business plans. Without this approach training programs tend to multiply and lose focus. This translates to industry (CA/CRDC) 'owning' its strategy and being prepared to contribute resources in time and cash directly.

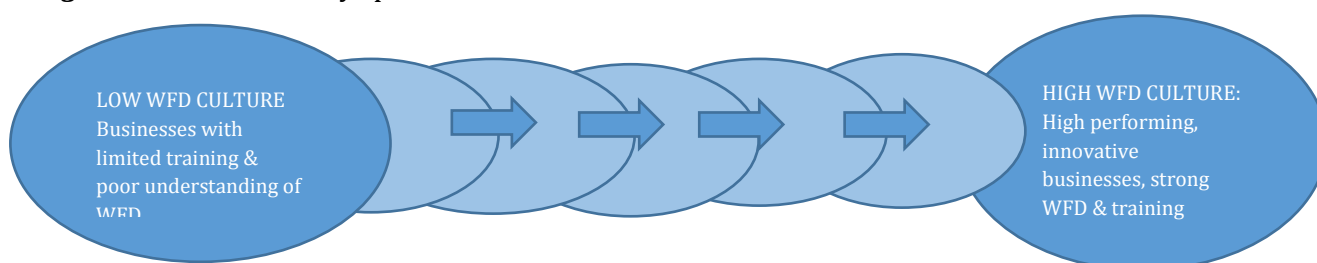
The approach taken in this strategy is to provide results on farm, in a sustained incremental way through time – so that there is imbedded change and concrete measurable results. This will encourage a preparedness for greater investment by industry/farms themselves as the results become better known and confidence grows. Obviously existing grower groups will be important although not essential in building up the successful implementation of the strategy.

Those that are less active would benefit from clearer exposition of the Return on Investment to training. The following section outlines the key elements of the approach.

On-Farm Implementation

The success of any industry strategy and operational plan is strictly determined by the propensity of individual businesses to buy-in to the challenges and solutions identified. A key premise behind the operationalisation of this strategy is the concept of a workforce development and training development continuum, on which businesses lie depending on their degree of maturity and engagement with WFD. The businesses on the right hand side of the continuum tend to be the early adopters and often are already very engaged in training and may already measure the return they receive from doing so.

Figure 2 – WFD maturity spectrum



The task is to move an increasing number of growers along this spectrum regardless of where they already are situated. Their location can best be determined by means of a Skill Needs Analysis – which includes an assessment of work systems. A representative cohort using this approach will be required regardless. Evaluation of the effectiveness and efficiency of the strategy on this representative cohort will be important to assist in convincing uncommitted growers to consider participation through time.

The High WFD culture farms are Employers of Choice where people seek to work, with high attraction and retention performance. They will adopt a holistic approach to employment, job design, employee support and skills development. Their business systems will be very effective with strong employee buy-in to business strategy, reflected in performance measures and recognition. They will tend to be strongly led and encouraging of innovation.

We suggest a multi-pronged approach to achieve this outcome – focused on establishing the Return on Investment (ROI) - for engaging in training and workforce development.

Delivering an early tangible return to business, from engagement in implementing the strategy will be essential to secure buy-in at an early stage of the strategy, even if only at the level of preparedness to be kept informed of progress. It also needs to allow multiple entry points for businesses, anywhere along the spectrum, from inception to anywhere through the process. Generating early returns to growers could take the form of guest speakers from case studies, access to basic on-farm energy audits as part of the business skills program, mentoring, advice and access to software on profit and loss estimation and so on. Initially targeting younger growers who are looking to expand and innovate would be advisable.

A strong marketing and communications strategy will be required. The overall value proposition must be compelling and accessible enough to overcome grower inertia, cost in time and money, workshop fatigue and some degree of cynicism. It should focus on the *outcomes* of solving concrete business challenges not the *activities* of training and WFD.

Box 1 – Expanding Industry-led Workforce development programs

Principles for expanding industry-led workforce development programs

While many industry bodies have an interest in skills development, few have the required depth of understanding or necessary resourcing to take an active role in advising members on the issue (Agrifood Skills Australia, 2014b).

Industry bodies are currently looking at whether a targeted grass-roots programs, similar to that developed in the Dairy industry, can be successfully applied to other agrifood sectors. The key to success of some of these programs is tangible results and information to address challenges such as identifying the legal obligations for engaging employees for the first time. They also require high performing training organisations who are closely involved in new technology and innovation in the industry.

It is also important to note the particular attributes of Australia's dairy industry – which is characterised by a large number of relatively *homogenous* small businesses, often in regional clusters, with very labour-intensive operations – make it ideally suited to collective action. There are strong parallels with the Cotton industry in this respect. However, some consideration needs to be given to appropriate modifications given the trend towards mixed cropping and increased *heterogeneity*.

Nettle (2014) has 'Readiness indicators' or pre-conditions for other agricultural industries seeking to take a successful industry-based approach to developing their workforce. These are very useful and include:

- The region, group or organisations have focused on workforce issues or have identified and stated 'people and workforce' as a priority.
- There is commitment by member/boards in time and money: to sharing experiences and interest in the sustainability of action/legacy.
- There is current capacity in workforce development skills and understanding.
- There is some connectedness: with farmers and non-agricultural stakeholders about workforce issues.
- There is a capacity for systems thinking and understanding: reflexivity and a culture of learning around the workforce development system (Nettle & Moffatt, 2014).

Adapted from Nous Group (2015) research conducted for AgriFood.

Strategic Building Blocks

Aim:

The aim of this strategy is to ensure that the cotton industry has the people with the right skills, experience and capabilities to drive industry competitiveness now and through time.

Scope:

The scope of the strategy is limited to on-farm capability and capacity. It considers educational and training systems and supply chain issues only to the extent that they impact skills and labour availability on-farm. It does not explicitly consider broader agricultural programs and initiatives which also benefit the cotton industry.

Fig 2 - Audience

Primary	Secondary
Cotton Growers Cotton farm workers Consultants	The broader cotton industry (ginners, suppliers, R&D professionals) Trainers/ Educators

More detail on the key stakeholders in this strategy and their interest and alignment is at Appendix B.

It is important to keep the delineation expressed in Figure 2 in mind for each 'building block'. WFD is a dynamic and continuous process of planning (gathering data); developing strategy and implementing, assessing impact and redesigning.

Figure 3 - Workforce Development Strategy Elements

Workforce Planning (Gap Analysis)	Workforce Development	Workforce development Implementation
Includes the identification of: a) current workforce capability and capacity; and b) the forecast workforce capability and capacity required to meet the current and future needs of the industry. <i>For example, modelling projections of demand for different occupations in the industry & skill needs analysis.</i>	Includes determining the workforce development policies and strategies required to address the workforce capability and capacity gap identified by the workforce planning process. <i>The articulated strategy plan will have defined outcomes and specific activities identified.</i>	Operational: Includes delivery models and evaluating the impact of the workforce development activities. <i>For example, a regional partnership between local employers and TAFE to provide Certificate IV qualifications to existing workers.</i> <i>Gathering data to estimate the Return on Investment to employers for the training</i>

<i>The numbers of students undertaking courses which could lead to a career in the cotton industry</i>		<i>undertaken.</i>
--	--	--------------------

It is also important to recognise that the following “building blocks” of WFD are not mutually exclusive and there is some inevitable overlap. What this framework does allow is a focus on particular aspects of business structure and capability with which WFD is highly correlated.

This strategy looks at the demand-side of skills in order to position cotton farms to have the knowledge and confidence to secure stronger commercial returns from higher skills and better employment architecture. If adopted it will also provide a road map to encourage training providers (VET sector, schools and universities) to work more effectively and collaboratively with each other, and with non-teaching research institutions, government and industry to deliver flexible, customised courses and programs that are best suited to meet the higher level technical and management needs of farmers and other regional agribusiness sectors. It will assist current programs directed at ensuring that new R&D and technology is incorporated quickly into training programs to build competitive advantage and support industry growth.

Business Capability and Leadership Skills

Importance

As numerous references in this document point out, a higher level of skills in leadership and management is essential in the cotton industry as with most other agrifood sectors. The AgriFood 2015 E-scan recommends building employers’ business management capability, risk management ability, export readiness and cultural competence through Skill Sets and undergraduate programs developed by collaborative VET/ higher education/ service provider partnerships. Risk management capability is obviously key in the cotton industry given the market and environmental shocks which are frequently visited upon it.

The need for business skills, including frontline management, is the single most strongly expressed need by all agricultural sectors over each of the last five years of AgriFood Annual Environmental Scans. This need is also evidenced by numerous AgriFood regional skills projects both in its own right and through training projects funded by the Federal Government. A majority of these regional skills projects were selected by the agricultural sectors in the region concerned (including some with cotton production). In the Western Downs region, which includes a substantial number of cotton operations, some 47% of all allocations were assigned to business skills programs. There has been extraordinary strong demand among the female partners of farmers for business skills. This demand gave rise to the national Skilling Her Enterprise program in the same region.

These skills are critical to the successful implementation of any workforce development strategy. Indeed, without them workforce development is a practical impossibility and training effectiveness and efficiency will be compromised. Finalisation of a workforce development plan at the farm level presupposes an articulated business strategy (which is often not the case).

AgriFood Skills Solutions

In a survey² of Asia Pacific agribusiness leaders, the top three strategic priorities for their respective companies were 'acquisitions', 'international markets' and 'new products'. In the same survey, the most important capabilities for leaders were considered to be implementing change, effective leadership and strategic thinking. Many of those surveyed believed agribusiness talent has come a long way, however companies tend not to have the capabilities needed to seize the opportunities ahead and must do more to invest in their 'employer brand'.

Significant opportunities exist for the development of:

- Short programs based on non-degree structures to upskill existing managers and business owners, delivered in targeted blocks in response to industry's incremental learning culture,
- contemporary degrees that reflect emerging markets and combine business management, innovation and product development, export and supply chain management, risk management and cultural competence and
- learning approaches which are differentiated according to learner cohort and generation.

A focus on women is also recommended: In the regional, rural and remote context it is anecdotally recognised that it is easier to engage the female business partners in training. As influential decision makers in the business and often the office managers they are a key conduit to sharing their learnings and engaging with the male business members. Women traditionally are more collaborative and supportive which adds an element of wellbeing to the outcomes of the workshops delivered in this space.

Current position- some observations

A number of high quality programs and courses which include elements of leadership, innovation and capacity building have been deployed in the industry. These are Australian Rural Leadership Program (ARLP), Future Cotton Leaders and the Young Farming Champions Program, TRAIL: Training Rural Australians in Leadership, the Peter Cullen Trust: 'Science to policy leadership program', Rabobank Executive Development Program and Farm Managers Program and the Nuffield Scholarships.

Cotton Australia conducts myBMP – the industry's best management practice system. myBMP continues to assist growers to meet regulatory requirements, improve farm safety, manage staff effectively and increase resource-use efficiency. The 11 comprehensive myBMP modules guide growers on best practice in biosecurity, biotechnology, energy and input efficiency, fibre quality, human resources and work health & safety (WHS), IPM (insects, weeds and diseases), natural assets, pesticide management, petrochemical storage and handling, soil health and water management. Coverage of myBMP in the industry is now at 60% driven by the linkage of myBMP certification to the Better Cotton Initiative.

The Human Resources module of myBMP includes staff recruitment, contractor management, staff development and performance management. This includes self-assessment manual and resources, guides etc. A full evaluation of the myBMP is not possible within the ambit of this strategy. However, a few observations may be helpful based on the information available. First, the use of ESKi, refereed too elsewhere in this document, should obviously be blended

² Spencer Stuart, Leadership challenges for tomorrow's agribusiness, October 2014

with myBMP as the two appear to have common elements in terms of conveying basic employment principles. Secondly, while 60% coverage of the industry overall is a strong result, more information is needed on how many people are taking advantage of the HR modules themselves and whether it is being correctly applied. The third observation is philosophical. The focus of the HR module is appropriate and no doubt effective – however it is not the appropriate space in which to promote the higher-level skills in leadership and innovation required in the sector. It could however, be considered a prerequisite for participation in customised leadership courses.

Individually people would also be participating in training at their own expense including through business schools. Elements of other courses whether formal (qualifications or degree courses) or informal (workshops) will also frequently cover the topics of leadership and business skills.

Opportunities may be advertised from time to time to participate in programs, such as those above, but there does not appear to be an articulated strategy in terms of where these programs fit into the spectrum of business skills required by the industry. Moreover, some other services and products now being seen in regional Australia tend to suit a food processing environment in metropolitan Australia but struggle because of poor cultural fit and learning mode.

The apparent lack of coordinated planning for delivering these skills in the industry is common throughout most sectors. Participants in the programs need follow-up through continued enhancement of the skills gained and assistance with practical application on farm. A variety of studies have shown that the Return on Investment for training in these higher order skills is much higher than the technical skills and other necessary, but more prosaic requirements around human resource management.

A gradual process of maturing cohorts of business owners and managers through time, consistent with the WFD spectrum analysis suggested earlier and in the Strategic Framework is required.

The products need to be culturally appropriate, accessible and affordable. They need to be:

- available to as wide an audience of Cotton growers as possible,
- sustainable and culturally appropriate to agricultural learning modes and
- inclusive of some form of mentoring by experienced advisers.

It is also important to distinguish between leadership skills which may lead to participants taking on roles in the broader community and advocating for the industry such as Nuffield scholarships and business leadership skills which will enable the creation of an innovative attractive culture and the confident development and implementation of business strategy.

Consultations showed that legislative requirements for certification and machine ticketing operations in areas of Occupational Health & Safety are a particular concern for industry with more assistance needed in how to meet these requirements and the necessity of maintaining currency. Current training is not geared towards the 'small operator/grower'; it is convoluted and complex, with no clear 'how to...' (Interpretation) scenarios for small enterprises. This can be a deterrent for employing permanent staff. This also suggests that the current review of myBMP should look at how well the usefulness and content of the HR module resources are

understood by both users and the 40% who have not engaged with it. A full summary of the consultations are at Appendix B.

Implications

A growing number of industry bodies and peaks understand the importance of skills for leading a business but few have the required depth of understanding or necessary resourcing to take an active role in advising members on the issue. Building the capability of Cotton industry bodies in this area should be a high priority. This should focus on “curating” the wide variety of skills, training and education products and services available in the market which is available to meet these needs.

The precise combination of training required will vary depending upon the sophistication of the particular enterprises. This means that the Cotton Industry will need to consider appealing to the broad spectrum of need for the industry, as well as those for whom cotton production is only one product in a mixed cropping operation.

Actions/Recommendations

It is recommended that the industry undertake the following actions:

- Independently evaluate the appropriateness and performance of existing leadership programs (in the industry and in general) and elements within existing business skills courses.
- Develop a business skills for Cotton Growers Plan. This would draw on a prequalified list of products and providers which are high performing. It would include an evaluation of the HR component of myBMP. AgriFood experience suggests that staged approach to improving the business skills of growers should be pursued, focusing on the following key areas:
 - Business Planning
 - Business Performance
 - Risk Management (with a focus on drought preparedness)
 - Financial Management, including budgeting, reporting, annual planning, managing resources, confidence, cash flow, and long term financial planning
- Seek to participate in piloting training courses for cooperatives and other business structures on supply chain engagement and investment attraction an initiative in the Agricultural Competitiveness White Paper, beginning 2015–16.

Explanatory Notes:

A wide range of workshops are available to meet the needs of agribusinesses in reaching their business management potential. Participants can choose from a menu and can also be guided in terms of appropriate fit to their current skills and knowledge. This list is not exhaustive, but gives an idea of the diversity of training which may need to be provided:

- Making the most of Supply Chain Opportunities – Tenders, Contracts and Procurement,
- Practical Workplace Safety Solutions for Agribusiness,
- Succession Planning,

- Digital Strategies,
- Profitable Farm Planning,
- Profitable Farm Management,
- Farm Governance,
- Rural Business Planning,
- Communication and Negotiation and
- Innovation systems and frameworks.

Actions/Recommendations

It is recommended that the industry implement the following actions:

- Provide a business skills course targeting women. The aims of the program are to provide rural business women with the skills to proactively assess the health of their business, to gain an understanding of required business basics, to extend their network of people working in agribusiness, to meet other women and to learn about other training options available. Topics to be covered would include:
 - Workshops for women in the agribusiness sector,
 - Building business and management skills,
 - Networking with likeminded business women and
 - Providing the right resources to evolve your business

Explanatory Notes:

Within rural Australia women play an integral role in business and it has been demonstrated that by developing their skills the impact is felt not only through the individual business but also in the wider community.

Skilling Her Enterprise framework aims to create a safe, supportive and collegiate environment for women to build their business skills and develop a network of like-minded people to support them beyond the life of the training. The Skilling Her Enterprise workshops were developed to deliver business and management skills for women in the agribusiness sector. A focus on business exit strategies should be incorporated based on feedback from the Rural Financial Counselling Service. WINCOTTO (Women in Cotton) will offer an ideal partner in the delivery of SHE.

The added pressure of operating a small to medium business in rural Australia leads to limited access to likeminded business women and an increased feeling of isolation. By bringing the women together to learn it also creates a strong supportive network of likeminded women.

Actions/Recommendations

It is recommended that the industry implements the following:

- Develop an accessible customised business skills short course for Cotton Growers. This should include a mix of higher-level knowledge in terms of business strategy and cultural-change and innovation models, combined with vocational style training elements to demonstrate how to translate theory into practice on-farm.

Explanatory Notes:

There are existing models for such short courses, such as the Sustainability Essentials for Executives (SEE) Program short course trialled by University of Western Sydney and AgriFoods. Such courses are short, targeted and suit a difficult-to-engage cohort (time poor).

Actions/recommendations

It is also recommended that the industry

- Develops a basic business skills course offering that would have wide appeal for growers that might not otherwise engage with other programs

Explanatory Notes:

AgriFood has developed the nationally recognised AHCSS00025 Farm Business Management Skill Set which sets out clearly the competencies such training needs to achieve in order to be confident of quality outcomes. This has been adopted as the basis for government funded training for agricultural operations in Western Australia. Following targeted consultation and analysis, the suggested units are:

- AHCBUS403A Support and review business structures and relationships
- AHCBUS506A Develop and review a business plan
- AHCBUS507A Monitor and review business performance
- BSBRSK501B Manage risk

They support the development of skills to allow farmers to implement a cycle to “plan, do, check, review” in order to ensure the continued and long term sustainability of their businesses. Skill Sets covering natural resource management and strategic planning and leadership can be added. See Appendix C for more detail.

Attraction and induction

Importance

All businesses, including those with negligible growth have a need to fill job vacancies. The aim of every cotton farm should be to ensure the business is viewed by prospective employees as a desirable place to work so that job vacancies are adequately filled in a timely manner and good staff are retained.

Attraction and induction strategies form an integral component of strategic workforce planning and securing quality, higher skilled workers. As important as offering a competitive starting salary is, other employment-related conditions such as opportunities for training and mentoring are what many job seekers-particularly Generation Y value most highly when assessing the attractiveness of a job vacancy.

Attraction strategies that include provision for liveability and an employee's work-life balance can make the difference between a potential employee applying for a vacant position, or not. The key consideration from the employee's perspective is to achieve overall job satisfaction. For those already on the payroll, these non-salary components of an employee's working arrangements are increasingly being seen as a tipping-point for the decision whether to remain in the job and region.

Current position- some observations

Recruitment methods have changed. The methods adopted and seen as successful just ten years' back have been augmented and in some instances replaced by, for example, the use of social media. Consultations with farm managers has confirmed that different approaches need to be applied to recruiting entry level workers compared to recruitment strategies targeting experienced farm workers, technicians and managerial staff. The word of mouth, informal publicising, note on the community bill-board approach prevalent for recruiting part-time workers and farm hands is not as suitable for targeting employees with higher level skills.

A structured induction to the workplace and the job is essential for the new employee on several fronts. As well as speeding-up the time for a new worker to become productive, a formal Induction program has other benefits including lowering the chance of Workplace Health and Safety incidences.

Recruitment of workers will remain a key aspect of the farm sector's workforce development activities. Although the above data suggests the number of new workers required on farms will decline, it emphasises the importance of recruiting both seasonal workers and more permanent, experienced workers with the right skill sets and attributes. The industry needs to focus on up-skilling existing workers yet still be positioned to attract new workers when the conditions change. Additionally, there will always be some natural attrition of the sector's 7,700 plus workers, a proportion of which will need to be replaced.

There are other pressures on the ability of the cotton farming sector to fill job vacancies. The competition for workers from the resources, mining, and building and construction industries

is well reported. The pool of available workers in rural regions is also declining. ABS data³ confirms nearly two thirds of Australia's population resides in Australia's capital cities. Numbers in regional areas-the most fertile recruitment area for the cotton farming sector - are declining at a time when Australia's population as a whole is growing.

Implications

Clearly, the cotton farming sector has both a continuing need to recruit - both internally and externally, workers to fill vacancies, and to do so in a more competitive and challenging environment. Strategies need to be adopted at both the industry and individual enterprise level to encourage potential applicants. These include:

- Those strategies that position the industry and cotton farms to be viewed as a desirable and rewarding industry/place to work. Due to the greater sophistication of farm operations, workers with higher level technical and para-professional skills will make up a higher proportion of total recruits required on farm. Strategies that raise the industry's profile to potential recruits (school leavers, TAFE and university graduates, new migrants) will make employment in the industry much more attractive thus easing the burden of filling vacancies.
- Empowering farm managers to transition their businesses to be viewed as employers of choice. This will materially assist the filling of vacancies in a timely manner and the retention of good staff. (Note: The concept of 'Employer of Choice' has equal application to the retention of workers and is covered in some detail in the sections on On-farm implementation and Retention and Retirement).
- Encouraging people management capability on farms to be best practice,

Actions, Recommendations

The lead for the implementation for the majority of the recommendations will need to be at the industry level. Where practical, initiatives that could be progressed at the farm level have been included in the Explanatory Notes.

- Develop procedures to increase cotton's representation at conferences, events, university career expos and fairs showcasing the opportunities available in the cotton industry

Explanatory Notes:

- To gain maximum benefit, there would need to be support at both the industry and local (regional) level. At the *industry* level, a starting point would be to diarise all events and to develop and make available to regional representatives an information kit showcasing positive aspects of cotton farming, careers and the need/use on farms of higher level technical skills. Much of this information has already been developed by CA and PIEFA. At the *local* level, responsibilities would need to be allocated for scheduling local representation at appropriate forums.

³ Abs.gov.au/ausstats/abs@nsf/products/32180.0 2012-13

- An example is Farming Futures 2015 Careers Fair sponsored by the UNE⁴. The Fair provides students with an environment to improve networking capabilities with agricultural or agribusiness related companies. For the tertiary students, these events provide a possibility to meet company employees which can lead to work experience or introduce them to graduate positions. These events allow companies to assess students in a semi-formal environment and showcase the next group of graduates.
- Develop and provide to the VET and higher education sector, recruitment agencies and career counsellors cotton production career pathways and opportunities to help sell career's available in the cotton industry. The increasing need for higher level technical skills should be illustrated

Explanatory Note:

- Case studies are a proven way of promoting opportunities and success in an industry. They can highlight the higher level technical skills typically required on the modern cotton farm.
- A strategy to broaden the appeal of a career in the cotton industry is to demonstrate the similarity and transferability of technical and managerial skills required in the industry to other primary industries.
- Develop a forum or online notice board for employers and potential employees to advertise for workers or request work. This could be done either via the Cotton Australia website or through the development of a smartphone app. This app could also be utilised to disseminate training videos or industry standards. It could also be used to disseminate information regarding, for example forecast heavy rain events
- Liaise with Dairy Australia to fast track the development of the Agriculture Employment Starter Kit Initiative (ESKI). Begin engagement with industry to make members aware of the dairy specific resources that are available and help them relate the information to the cotton industry to provide advice until the completion of the Agriculture ESKI

Explanatory Notes:

- A Cotton industry ESKI would complement the myBMP Human Resources Module and should be integrated within it.
- Dairy Australia has looked to improve the dairy industry's recruitment efforts through modules included in their Employment Starter Kit Initiative (ESKI). Through recent discussions with Dairy Australia it is understood that CRDC is involved in the development of a generic Agriculture ESKI which will include cotton industry specific information. The development of these agriculture-focussed tools with specific information and documents for the cotton industry will provide

⁴ Framing Futures 2015, UNE, Armidale NSW 7 August 2015

significant support to those who have not hired previously or who have hired and found the process difficult or unsatisfactory.

- While a variety of channels for both employers and employees to advertise job and job vacancies – it makes it extremely difficult for both groups. As an example of a possible approach, the seafood industry experienced a similar difficulties and developed a job portal through www.seafoodjobs.com.au
- In preparation for the completion of a generic ESKI, the dairy Australia ESKI could be used as a starting point and contextualised for the cotton industry, e.g. for the [tools on hiring people](#), the dairy award could be replaced with the relevant cotton award.

- Implement the Employer of Choice (EOC) initiative Note: The rationale for the EI tool is detailed in the section Retention and Retirement.

Explanatory Note:

- The EI does not require a whole of industry approach or adoption. Individual farmers concerned about their ability to attract and retain staff may benefit from instigating an EI-type review of their employment practices.
- An information guide for the EI work could be provided through myBMP. However it would be strongly advisable for delivery to be done by a trained facilitator for efficiency, to avoid mishandling of feedback received and to develop the credibility in being an 'expert' EI facilitator.
- Typically, an EI survey and report would cost less \$2,400. This would cover preliminary discussions with the employer including gaining buy-in, conduct of the survey, analysis of responses and provision of feedback.
- Examine the need for an industry-wide Induction Kit for employment on cotton farms. This should be done in the context of resources already available on my BMP.

Explanatory Notes:

- The kit would cover the skills, knowledge and farm-familiarisation essential for any new worker to quickly assimilate to the farm as a workplace and enable all recruits to perform assigned tasks in a safe manner. Areas covered are those applicable to all cotton farms irrespective of the new workers specific job: WH&S, environmental awareness, food safety, bio security and the farms SOPs.
- Each farm would be required to contextualise the kit to their particular farm, imbedding site photographs, position of eye-wash, copies of current SOPs, maps for ease of on-farm navigation, extracts of local legislation etc on waste disposal etc
- An accompanying 'Skills Passport' developed and endorsed by the industry would provide assurance to new employers that a job applicant had completed a Cotton Farm Induction Program. The Passport would include details of what was covered, when, and confirmed by the Farm Manager. Any licenses or accredited courses held by the job applicant could be detailed on the Passport. A master copy of the Skills Passport would sensibly be maintained on-line by Cotton Australia.

Innovation, adaptability, collaboration

Importance

This aspect of WFD is linked closely with Business Capability and Leadership and success in attraction and retention. It requires a combination of both “soft skills” in working with and motivating people, using their existing skills more effectively, and particular systems and ways of working. Mentoring at all levels of the organisation reinforces this framework.

WFD can help create a fertile atmosphere for innovation. It can also imbed some of the essential skills and models for leaders to create innovative operations. The extent to which a firm’s workforce actively engages in innovation is strongly determined by particular work organisation practices. For this reason WFD must itself be innovative and be flexible enough to incorporate new methods or approaches. A rigid approach driven by traditional Human Resource considerations should be avoided.

Two-thirds of major technological changes in organisations fail because of resistance to change. Most of these failures are due to emotional and not technological issues. Effective communication is very important to minimize such resistance to innovation/change. Development of a culture that accepts change as a continuous activity is a key factor in managing the diversity and innovation within a complex organisation. Employees may look forward to change and innovation, if this is linked to a promising future (Nous 2015).

While defined in many ways at its simplest innovation means **solving a problem in a unique way that adds value**⁵. The predominant form of innovation in firms is incremental, and this points to the central role of the broader workforce in the generation, adaptation and diffusion of technical and organisational change. This is very much the case on-farm where new ways of operating are often discovered in the normal course of work and in overcoming day-to-day challenges. A new approach or technology is more readily adopted in this way.

Cross-functional teams (with skills in science, communication, operations) have been shown to be most effective in facilitating innovation and technology transfer/uptake. Transfer or secondment of people is a very effective mode of promoting this as it facilitates the effective uptake of the technology or approach by industry, but also results in the transfer of informal knowledge which is not documented/codified.(Nous 2015). VET trained para-professionals have the strongest capacity to accelerate innovation and technology transfer.

There are large differences across advanced nations in workforce skill formation systems, especially for vocational skills. Such differences result in large disparities across nations in the share of their workforce with formal vocational qualifications, and in the level of these qualifications. The resulting differences in the quantity and quality of workforce skills are a major factor in determining the observed patterns of innovation and key aspects of economic performance. (The Working Paper series of the OECD Directorate for Science, Technology and Industry Phillip Toner OECD 2011)

⁵ Adopted by the leading food multinational Mondelez.

The predominant form of creativity in industry today relies on an open innovation model which entails collaboration and an ability to adapt to changing market and environmental circumstances and disruptive technology. No one farm or even a sector has a monopoly on good ideas. Collaboration and information sharing is paramount, not just to prevent a new pest threat, but to share best practice and to be able to respond to market conditions. Collaboration skills are not innate and need to be learned in most cases.

Collaboration is needed both within the industry but also with other industries in terms of learning from similar challenges they have faced. This builds trust between employers. The lack of trust tends to diminish commitment to training, since the grower feels if they invest in a person they are more likely to move on to another employer, who will capture the benefits of his/her training investment.

Current Situation

The message is that without innovation culture and systems, professionals from multi disciplines, people who can translate knowledge - and VET trained people - the Cotton industry will struggle to sustain success over time.

The industry has a strong culture of innovation in terms of Genetic Modification (GM), environmental management, pest eradication, increased mechanisation and technology use in general. This provides a good base. CottonInfo – a joint venture between Cotton Australia, Cotton Seed Distributors and CRDC - has funded a 25-person team of regional development officers and technical specialists. As well as collaborating with myBMP staff members, the team is the principal pathway by which the outcomes of industry R&D are packaged and promoted and adoption of improved practices is evaluated. They act as a network to facilitate industry R&D communication between researchers, growers, consultants, agribusiness, Natural Resource Management (NRM) bodies as well as cotton and other industry organisations. The team is also a key resource for industry's capacity to respond to emerging or emergency issues at either a regional or national level. CA works with CottonInfo to integrate BMP priorities into their workplan.

Ruth Nettle research supports the contention that as the cotton industry's orientation is towards the global market it has not needed the more highly focused cooperative working relationships found in the grains industry. Coordinated activity, where it does take place, is often driven by the producer and relationships associated with the production system (e.g. GM cotton) rather than collective decisions of farmers. She concluded that when compared to other agricultural sectors, there are fewer opportunities to leverage workforce development initiatives off pre-existing collaboration models. That said, there are very strong informal collaborative networks in play. It is these types of networks which have been the increased focus of the Dairy industry in recent years.

As a smaller volatile agricultural sector, it has also been difficult for the cotton industry to establish and sustain independent relationships with other stakeholders in workforce development, such as TAFE and other education providers, schools, and local government. This has been one of the strengths of the Dairy Australia WFD model that has helped lend to its success – measured by the strength of dairy farmer engagement in various WFD activities including ESKi.

Implications

As mentioned earlier, to be truly effective on-farm, workforce development must be largely invisible as a distinct entity or practice, but be integrated in the farm to such a degree that it is “just the way we do things here”. This means it has essentially become part of the culture of the farm and the way it does business. This will support an innovative, adaptive and collaborative culture.

Innovation often comes from existing workers themselves when they are rewarded and recognised appropriately, and assisted with training in particular skill sets for doing their job better.

Greater recognition of those who ultimately apply new knowledge and practice generated by the research system remains a key to accelerating the speed and breadth of adoption. A new breed of para-professional and technician level job roles are rapidly emerging across the food and fibre industries. These job roles should be the focus of high-level cadetships, and it is during this training that a convergence with the innovation system needs to occur.

Bringing together trainers and researchers and extension officers to provide context, theory and application in one learning process will enable students to spearhead dissemination and application on the ground both during and after training. It is a notion that goes to the very heart of building a sustainable model for innovation within industry and starts to lay the formative linkages between innovation, skills and productivity.

Actions/Recommendations

It is recommended that the industry implement the following:

- Consider developing unified short courses using the model behind the SEE program mentioned earlier – in which the university lecturers/researchers work closely with trainers to design and deliver knowledge, strategy and specific competencies for acting on new approaches or technologies (most suited to groups of growers).
- Facilitate sharing networks in the vein of the Riverina Workforce Development Forum with aim of increasing collaboration and information sharing on workforce development issues, training initiatives and projects.
- Expose university and VET students to high performing innovative workplace cultures – through work experience programs, cadetships and other forms of industry engagement (in both cotton and other industries)
- Identify and run business training programs focusing on how to foster culture change, innovation and adaptive business skills.
 - Providing formal and informal opportunities for growers and their employees to access and participate in ‘Mentoring for Growth’; that are delivered in the local regions by respected Cotton industry leaders.
 - CRDC/CA to adopt a formal Mentoring Program (e.g. ‘Mentoring for Growth’) for growers focusing on staff development and setting key goals for career pathways (on-farm) as well as staff transitioning into other relevant roles as the business evolves in moving to newer technologies and automation.

Case Study: Dairy Australia

Dairy Australia – Leading industry-wide workforce development programs

As one of its three strategic priority areas, Dairy Australia has heavily invested its government and industry levy funding into workforce development programs over the past ten years under the banner of 'People in Dairy'. This program includes a diverse array of initiatives – some of which are listed below:

- **Dairy Industry People Development Council** – to lead and inform an industry workforce development framework designed to regional and national needs of dairy organisations and farmers.
- **The National Centre for Dairy Education Australia** – through agreements between Dairy Australia and RTOs, the centre has an ability to generate significant scale in education and training provision, allowing it to attract high-calibre trainers, invest in resource development, and offer specialised training in technical, business management and industry leadership skills. The industry leadership development programs align to, and support, a three-tier leadership strategy.
- **Regional Development Programs** – operating in each dairy region to support Regional Education and Extension Committees, which establish regional plans of action for workforce development.
- **The People In Dairy Website** – which contains over 300 downloadable resources.
- **Diploma of HRM (Dairy)** – a specifically tailored people management qualification for advisers who service the dairy industry and provide advice on human resources and workforce planning.
- **Young Dairy Network Australia** – supporting young farmers in all regions with social, technical and leadership programs.
- **Employment Starter Kit (ESKi) - Employment Starter Kit** – an easy to use kit that helps farmers recruit, employ, develop and retain their staff. A recent survey by Dairy Australia revealed that 86% of farmers who used the kit reported they had improved their employment practice.
- **Stepping Stones** – a kit that explores the various career paths through the dairy industry. Components of the kit also assist those who are *Stepping Up* to farm business ownership and those who are *Stepping Back* at the end of their career.
- **DairySage Mentoring** – which assists dairy farmers to form mentoring relationships between experienced and younger farmers.
- **Cows Create Careers** – a secondary school program linking 340 schools to their local dairy industry through curriculum-based learning about dairying, dairy manufacturing and related careers.

Source: Nous Group Report

Career pathways and transitions

Importance

Career Pathways are a strategy to support worker transition into and through the workforce. They are usually an integrated collection of programs and services designed to develop students' core technical, academic and employability skills. They can often provide early

identification to farmers of talented youngsters to whom they may later wish to offer employment.

In large farms and corporates career paths can be easily articulated. However small farms do not have enough roles to make a compelling value proposition. This means a need for collaboration and a willingness for people to move on and into more senior position between farms.

VET in Schools and Work experience programs are critical paths for new employees. The Work Inspirations – work experience model from the UK (coordinated by the Smith Family) has been adapted to agriculture through various national pilots. The approach is particularly effective as it is based on several sound workforce development principles. A key one being a focus on individual workers and the recognition given to them by the students during the reporting phase. The *AgCaps framework* offers insights for strengthening VET in schools, based as it is on more intensive industry engagement. Both products might be considered for evaluation and review in terms of lessons for the Cotton industry.

Current position- some observations

A wide range of activities and programs are already underway in this space. In schools: the Primary Industries Education Foundation of Australia membership (PIEFA) - co-investment with CRDC and Cotton Australia; PICSE Centre participation; CARD C Education Officers and Cotton Australia Education Coordinator; Cotton Conference and grower driven schools initiatives. At university: Horizon Scholarships (RIRDC managed); Summer Scholarships; UNE Cotton Production Course and establishment of a Cotton Agribusiness “Round-table” to discuss integration of initiatives; as well as post-graduate awards and scholarships.

Roles within the cotton workforce are clustered at the entry level (especially during picking time, on farm and in gins). At the top, farm manager roles are filled mainly within the family owners, with the exception of corporate farms. Within the supply chain, there is also a requirement for agronomists and technicians to advise and/or deliver crop management services. These roles are mostly employed by external organisations rather than on-farm.

The difficulty is the small number of intermediate roles. This is a common problem across agriculture but the very high capitalisation in cotton production makes it more acute. There is some demand for intermediate tradesperson skills, around the operation and maintenance of increasingly sophisticated equipment and in the corporate sector, mid-management roles. However, the demand for such roles is fragmented and options for sharing that employment across farms is not well developed. Intermediate tradesperson roles were experiencing the strongest competition from the resources sector but this is likely to be reducing.

The challenge is to describe the jobs on offer (on farm but also in the supply chain) and to engage more effectively at both schools and higher education institutional levels.

The education of teachers and trainee teachers is paramount to ensure that agriculture is incorporated into mainstream teaching of core subjects such as maths, science, design and technology, geography and history. Demonstrations can be conducted for teachers for developing lesson plans incorporating agriculture that link directly to the Australian Curriculum using the resources especially developed. These need to be of direct relevance to Cotton, such as those developed by PIEF.

Implications

AgriFood Skills Solutions

A key objective for the industry must be to increase the attractiveness of Cotton farming to graduates of university and higher level VET programs. This starts at primary schools and needs to be followed through at higher educational institutions. This can be achieved by schools/higher education engagement and offering a clear career progression within industry, with skills transferable across the industry, ginning and the broader supply chain. A related objective is to offer encouragement for professionals, para professional and technicians to remain employed in the sector recognising that there are relatively limited opportunities to advance to the position of manager on smaller farms.

Actions/Recommendations

- Design and test a program to encourage cooperation and sharing of staff between Cotton farms, including through a more formal process than might currently operate.

Explanatory Notes:

It could be expected that staff sometimes move between employment on different farms, and industries in a region, on an informal basis and by referral. However, the opportunity to do so needs to be articulated and promoted in the context of career paths and smaller operations, potentially combining it with the school- related programs.

Actions/Recommendations

- Conduct a career progression analysis which will focus on:
 - Confirming the skills, licenses (if any) and other attributes and knowledge required by the range of senior supervisor and manager roles on-farm.
 - Identifying the key skills required in similar roles in the broader agriculture industries

Explanatory Notes:

The expectation is these roles require the incumbent to possess skills and knowledge normally gained through completing a tertiary level qualification, and/or a diploma/advanced diploma from the VET sector, and/or long term on farm experience. They will therefore be of more use and interest when integrated into existing marketing and communications programs.

This project would:

- Directly provide the evidence base to enable the industry to plan appropriate workforce recruiting, pathway development and retention strategies for managers and broaden their recruitment base to other agribusiness sectors because there will be commonality across roles and functions;
- Result in a significant and coordinated contribution to support future place-based workforce development in Australia that will foster the attraction and retention of highly skilled, innovative people who can see a long term career pathway within a region, based on interesting, diverse cross-sectoral opportunities.

This will enable a mapping of the common areas of responsibility and the core skills required by those positions/functions.

Actions/Recommendations

- Develop a variety of educational materials and teaching resources with a focus on the Cotton industry – involving leading cotton farmers
- Engage regional universities with faculties of education to provide lectures and demonstrations of the education materials to trainee teachers. This should include site visits to farms
- Deliver targeted teacher workshops in key rural and regional areas to demonstrate use of Cotton and Cotton jobs in Education materials.

Explanatory Notes:

This work would require the engagement of teachers to undertake resource development and to deliver professional development and other workshops. Over the past 2 years, AgriFood Skills Australia, working in partnership with the Primary Industries Education Foundation and the Federal Government has been undertaking a significant national project to assist teachers and students better understand the products and processes associated with food and fibre production. These organisations could assist with these activities.

Skills utilisation and training

Importance

A key determinant of the productivity and profitability of any business is the extent the employees, across all levels of responsibility hold the skills and supporting knowledge and understanding to undertake their allocated tasks. Any mismatch between task and skills and held by the responsible worker impacts on the short and longer term efficiency of the individual worker, the team and the business as a whole. The more obvious impacts are on:

- Completion of the task, using procedures etc required by the farm management team
- Safety
- Quality and fit for purpose of end product/service
- Job satisfaction
- Team cohesiveness
- Organisational reputation if quality of end product is compromised

The workforce on cotton farms usually comprises a mix of permanent and casual workers, transient or sourced locally filling a range of roles from semi-skilled to supervisory and managerial. Each of these variables must be taken into consideration when the farm management team is planning the need for and, type, extent and timing of skill development for their employees.

AgriFood⁶ suggests that in the future there will be a need for a higher level of training for advanced production techniques, a higher level of skills in leadership management, mentoring, risk management and the ability to translate research and development into successful new

⁶ AgriFood Skills Australia Environmental Scan 2015

products. The environment will demand highly skilled people who understand and can respond to the changing demands of the modern agricultural business operating environment and the global market place. The most obvious method of an organisation's employees gaining these new skills is through recognised training programs conducted by VET or tertiary training providers

As a precautionary note, the acquisition of skills through structured training programs is but one way of workers gaining the skills and experience needed for their job or to prepare them for broader on-farm responsibilities. Training conducted by, for example the local TAFE or university has an important role in the skill development of employees, but there are other development activities which have much to offer in preparing new or existing workers to do their job, or prepare them for other roles. These include job rotation, attendance at field days and industry demonstrations, farm exchanges, participating in conferences and workshops, and toolbox meetings.

Recognition of Prior Learning (RPL) is an integral component of a true competency-based training and assessment system. This is a formal acknowledgement of an individual's skills and knowledge; whether it was acquired through training, work or life experience. The RPL process of obtaining a qualification provides skilled individuals the opportunity to become credentialed and gain recognition.

The mix of the most appropriate skill development intervention on cotton farms will vary depending on the size of each farm and thus its workforce structure. This structure varies depending on the size of the farm. The work force on a typical smaller operation typically consists of 1-2 operational staff and the farm owner. Mid-size operations have a third tier with either a dedicated leading hand or one of the senior operators assuming leading hand responsibilities during harvest/planting/peak irrigation periods. Larger corporate operations typically have a manager, leading hand and operational staff. Operator staffing is typically made up of seasonal international tourists (backpackers) and occasionally 457 visa holders.

The composition of any farm's workforce has important implications for how the management team plans the skill development of workers. During peak periods backpackers, casual and contract workers constitute a critical percentage of the seasonal workforce. Their peripatetic nature means there is little commitment to nor opportunity for formal training and little incentive for the employer to train them over and above functional tasks and basic workplace health and safety.

Current situation

Surveys undertaken in the industry in the 2013-14 season showed that, just less than one-third of the sample had plans for training in the 2013-2014 season. The five most frequently mentioned areas of training planned were: training casuals/new staff, machinery-GPS, business management and general farm duties and WHS⁷.

Backpackers, who provide much of the seasonal workforce needs of cotton farms have major limitations including short work tenure and often no consideration of long term impact of day-to-day activities⁸. Ideally, attracting local seasonal workers to return annually during peak

⁷ CRDC Project UM1201(Moffat and Nettle) Lachlan & Murrumbidgee Production Valley Case Study

⁸ Findings from Industry Training Needs Analysis –Cotton Industry Skills Development Project Phase 1 Report

period is more advantageous to the grower; however, this is becoming less common with the introduction of GM cotton (no chipping) and highly mechanized harvest processes (no module building) thus the continuity of work throughout the year has declined (in the past the traditional cycle of on-farm operations included cotton picking, harvest, chipping, ginning). There is likely to be less reliance on operational staff over time with new approaches such as the adoption of bank-less channel systems and round module pickers, resulting in a decline of 80% in labour requirements for those particular activities. These changes to the on-farm operational model provide an opportunity to keep long-term experienced staff.

Acquiring unskilled labour (backpackers) at the moment is relatively easy, for the cotton industry, although supply is not as strong as it used to be. Problems exist in attracting leading hands and middle managers. The higher levels of technology demanded means that there are fewer jobs but high skills and experience (niche skill sets) are required.

Over the years, the cotton industry has invested heavily in developing a wide range of technology and services to enhance farming, management, marketing and support systems aimed at driving industry productivity and sustainability. The Human Capacity Assessment and Benchmarking (HCAB) project⁹ is a system to gather data and provide an analysis tool to monitor the effectiveness of cotton industry extension and training activities. It provides the industry with an effective tool to collect benchmarking data on changes in Human Capacity over time; enabling better informed decisions about investment in extension and training. The process allows industry to clearly articulate and demonstrate existing skills, competence and capacity as land stewards and, more importantly, strategically invest in capacity building by identifying any areas of skill deficiency. Auditing and benchmarking capacity across all levels of industry allows targeting of training programs to address identified gaps and leverage of existing skills resulting in an increased return on training investment.

HCAB is based on the Units of Competence from the nationally endorsed Agriculture Horticulture and Conservation and Management Training Package (AHC10)¹⁰. This web address and the online system are owned by Cotton Research and Development Corporation. The Cotton Industry Skills Benchmarking is a web-based system that allows participants to carry out a self –assessment (Boud. D, 1995) in a wide range of relevant skills which are categorised into 21 Skill Areas. These skills are all based in Units of Competence from the AHC10 as a tool to carry out an audit of skills and knowledge and give a broad picture of human capacity in the industry and therefore align to what is considered to be current industry best practice. The Cotton Industry Skills Benchmarking system is structured to provide industry wide information on skills, but also to be used as a tool that farm managers can use to develop a profile of the skills of their own staff. This will be useful for making decisions about investment in training and could also be used as a recruitment tool.

In order to confirm the accuracy of the benchmarking data, it was compared to the results of the Skills Needs Analysis workshops which were convened across various areas that include Narrabri, Goondiwindi, Griffith, Hillston and Darlington Point as part of Cotton Australia's

⁹ Skills benchmarking in the Australian Cotton industry (*Australian Cotton Conference Paper by Charlie Bell/Sally Friis-2014*) Tocal College in partnership with CRDC and industry leaders has developed and delivered an online Human Capacity Assessment and Benchmarking system-refer www.agskills.com.au

¹⁰ Refer <http://training.gov.au/Training/Details/AHC10>

Cotton Industry Skills Development Project The comparison demonstrates that the results produced by the online system align to a reasonable degree with the data collected from industry focus groups.¹¹ In summary, the cotton industry's Skills Benchmarking and Needs Analysis tool has been developed, tested and validated by industry. It is freely available to the cotton industry as a tool to assist with skills assessment and monitoring of changes over time.

Skill sets¹² are becoming increasingly recognised as playing a critical role in the timely acquisition of skills by workers where a key consideration is the need for immediate application of the changed behaviour at the workplace. They reflect that learning is typically incremental and occurs in small but continuing grabs over a worker's lifetime. There is the opportunity to engage/up-skill workers in training based on skill sets including those included in an industry's Training Package to address underlying issues brought about by increasing competitive business environments and issues affecting working in an ever changing industry such as new technologies, emerging trends in automation, robotics etc.

Implications

The incremental learning needs of individual cotton industry enterprises and learners means that current funding models (VET and Tertiary) need to be explored; especially in the current climate of emerging technologies, changing business models and new market access (e.g. Trade agreements). The proposal is not the replacement of full qualification with only Skill Sets but rather the option of Skill Sets with funding to support this; formally recognised and promoted.

The increasing demand for higher level of skills throughout the agrifood industry has been highlighted by several industry groups¹³. There are several drivers to the movement by some education providers to develop hybrid courses which combine the rigour and theoretical discipline of a first year undergraduate programs with the job specific and applied focus of VET programs:

- the increasing requirement for farm workers who possess higher level technical or para/professional skills together with a sound understanding of underpinning knowledge,
- science and technology now not the sole domain of the university sector, and
- the need for new workers at all levels of responsibility to be work-ready when recruited.

The Cotton farming sector could well benefit from this recent move to offer associate degree type courses such as those under development by University of New England/ TAFE NSW.

Due to the diverse background of seasonal workers and the range of specialist skills and abilities they collectively possess, there is an opportunity to implement a system of 'skills

¹¹ For Outcomes, refer to Appendices section of this document -Tables 1 and 2

¹² Skill Sets are 'single units of competency, or combinations of units of competency from an endorsed training package, which link to a licence or regulatory requirement, or defined industry need'. The more commonly used and broader term 'skill set' is a combination of different **skills** that someone has and can use in a particular job, and in the Australian context does not have to be linked to a Training Package: .

¹³ Refer AgriFood Skills Australia Environmental Scan 2015 Pg 26

sharing trade-offs'. In return for providing a seasonal worker with training beyond what is absolutely essential for him/her to perform their allocated tasks, an arrangement could be made for the seasonal worker to pass on their unique skills to other employees including the farm management team. This would require a process of identifying the skills etc held by each seasonal worker and identifying those work or non-work related specialist skills and abilities which may be of interest to others. As an example, a worker skilled as a graphic design artist could be encouraged to coach other (volunteer) workers in designing websites and marketing materials whilst training the farm's administrative staff in desktop publishing.

Actions/Recommendations

- Commission a full Skills Needs Analysis of on-farm operations.

Explanatory Notes:

- A full SNA would provide rich, current data on the skill needs of current and future workers. Emphasis can be placed on particular aspects of the work activities; for example skills required by cotton farms' line managers/supervisors, or seasonal workers undertaking irrigation, picking and ginning operations.
- A SNA can also capture information on a variety of aspects of the attraction and retention of the farm sector's workers.
- An SNA tool has been developed by Tocal College for CRDC – but would need to be evaluated as fit for purpose before being used.
- A strong business case for accessing government funds to support training such as through the Commonwealth government's Industry Skills Fund¹⁴ can be based on the findings of a SNA.

Actions/Recommendations

- Consult with industry to verify the need to identify Skill Sets specific to cotton farming and if substantiated propose a business case for them to be added to the AHC10 Training Package

Explanatory Notes:

- The basis for identifying required Skill Sets will be an outcome of an (on farm) industry SNA. A carefully designed SNA will identify groups of skills and supporting knowledge required to undertake specific functions or closely related groups of functions; that, is something less than a job. An example is the Enterprise Trainer-Mentoring Skill Set¹⁵ to provide the skills for leading hands/supervisors who have responsibility for mentoring and training at the workplace (e.g. induction of new workers).

¹⁴ The Industry Skills Fund targets SMEs and has provision for funding full vocational courses (eg Certificate III in horticulture) as well as Skill Sets.

¹⁵ TAESS00008 Enterprise Trainer-Mentoring Skill Set (Two units-'Mentor in the Workplace', 'Provide Workplace skill instruction')

- Skill Sets underpin short courses, and may consist of as few as one unit of competency. Funding from Commonwealth and state/territory governments for short courses often is predicated on the course being based on an endorsed Skill Set
- Skill Sets are particularly relevant to businesses which employ seasonal workers for which involvement in a full (vocational) course is neither warranted nor practical. Cotton farms fit this criterion.
- Completion of a course based on a Skill Set may encourage more ambitious and permanent workers to progress to a full vocational or tertiary course which will be of benefit to the farm and the individual.

Actions/Recommendations

- Source funding to support skill set¹⁶ training in livestock and dry land (cereal/pulse etc.) farming among Cotton growers

Explanatory Notes:

- Skill sets rather than full qualifications are more appropriate to demonstrated industry need. Among other things they can be delivered in short tailored courses.
- Grower consultations and validation have shown that it will be important for training to reflect seasonal climatic changes and new crop varieties encouraging a diversified operational model that includes dry land and livestock farming. This will require a workforce with diversified high level skills that can move between various on-farm operations. This enables growers/employers to maintain the current staff levels and provide long-term sustainable employment for existing workers that live locally.
- Relevant types of on-farm training will be required, providing workers with the opportunity to adapt and ability to move between varying farm operations more easily.
- Investigate the development and application to the cotton farming sector of hybrid university/VET programs under development in several states

Explanatory Notes:

- UNE in Armidale is leading the way in trialling flexible programs with streams to cater for a range of primary industries, such as the Bachelor of AgriFood Systems. A stream for the cotton industry is apparently already available as a pathway for preparing graduates who possess the higher level skills in technology now required on cotton farms, who would offer a higher degree of 'work readiness' than the traditional university graduate.

Actions/Recommendations

- Identify the full set of skills and abilities, both work and non-work related held by seasonal workers.

Explanatory Notes

¹⁶ The skill set may or may not be an endorsed Skill Set which is included in the AHC10 or other Training Package.

- A simple template could be designed by Cotton Australia to be issued for completion by all seasonal workers on commencement of work on a farm. The form, preferably on-line, would provide the farm management team with the opportunity to use the full skill set of each worker. This could be deployed within myBMP.
- Farm managers would be in a position from the first days of employment of a seasonal worker to utilise any specialist skills held; e.g. confined space ticket, interest in advanced electronics, heavy vehicle license. This could be deployed within myBMP.

Retention and retirement

Importance

Strategic planning for retention and retirement of staff forms an integral component of a robust and quality workforce development planning strategy. Retention of key personnel including highly trained technicians and farm managers can be pivotal to the profitability and on-going success of a farm.

Larger businesses recognise that some turnover of staff is healthy for the injection of new ideas, techniques and intangible aspects such as enthusiasm. The relative small number of permanent employees on Australian cotton farms negates the importance of this positive aspect of worker turnover¹⁷; however of the industry's 7788 employees, 17% can be categorised as Senior Experienced and a further 19% as managers¹⁸ which suggests some turnover can result in positive outcomes.

The most successful farms are at the leading edge of implementing the outcomes of research and development. Retaining the best and most suitable workers is integral to a business' productivity and profitability through increasing its capability to be innovative, adopt new technologies and for the application of research outcomes.

Staff retention rates are directly linked to individual job satisfaction and feelings of empowerment through skills set development which signals a degree of recognition by the farm's management team. Similarly retirement/succession planning gives workers the assurance of their value as being integral to business success and on-farm operations. Additionally, planning this aspect of business operations provides opportunities to up-skill and develop other workers in the succession planning process essential for them to undertake the functions of departing workers. This is important to eliminate or minimise the impact on business operations on the departure of valued workers/staff.

Retention of workers cannot be considered in isolation. In particular, the foci identified as important for individuals to understand and strive to achieve (being in the right role, education and career development, reward, and work-life balance) have a significant influence on decisions individuals make on remaining with an employer.

¹⁷ Cotton growers employ an average of 6.6 people per farm (Roth Rural, 2013).

¹⁸ CRDC Cotton Growing Practices Survey Report -2013.

Specialist agriculture industry journals are of the view that ‘starting remuneration’ must be market-competitive but training and mentoring young graduates is the key to both making them productive and retaining them in the long term.¹⁹ The need is for businesses to have a strategic HR plan around this area.

There are several other factors within the broader operational environment of the cotton farming sector which impact on its ability to retain workers as well as providing new opportunities. These include:

- An ageing population: The economic future of any country is heavily shaped by its demography and Australia has an ageing population resulting from better health care, birth control and advances in medical science and research. At an industry level, individual enterprises need to become adept at job re-design to support an increasingly older workforce. Cotton farms are not isolated from the ageing of the Australian workforce.
- Increased participation of women in Cotton Industry. Traditionally agriculture has been an industry involving more males than females in the workplace. The cotton industry has actively encouraged women to participate at all levels of the industry.²⁰ ²¹Women occupy a number of senior positions in the industry, as well as undertaking roles such as agronomists, researchers and in cotton marketing. Crop Consultants Australia is the major membership body for professional crop growing advisors. Overall, 12 percent of the membership is female, with most of the older members being male. Within the less than 35 years demographic, 50 percent of the membership is female, with a recent influx of female agronomists entering the industry.

Current position- some observations

While significant focus has been placed on the attraction of new employees to the workforce, less focus has been placed on workforce planning and the capacity of employers including the retention and skilling of employees. This is an issue in agriculture and especially for SMEs across the supply chain (Australian Workforce and Productivity Agency, 2013).

This is becoming more critical when considering what is needed to retain workers. Generation Y (18-34 year olds) are becoming the biggest proportion of workers growing from 34% of the workforce now to 42% by 2020²². They work to live rather than having their parents’ attitude of living to work, with one well credentialed study reporting:

- 38% of Gen Ys see opportunity for advancement as a ‘must-have’ in a job
- 79% viewed additional training as ‘very important to have’, and

¹⁹ Agriculture Appointments June 2015 “2015 Salary and Trend Report” pg 11

²⁰ The current CRDC Board of Directors Chair is female and Cotton Australia has also had women undertake the role of Chair of the governing board and have had one to two female board members for the past five years

²¹ In 2000, a ‘women in cotton’ organisation known as WinCott was formed. WinCott has enabled a women’s network to develop, and strengthen the linkages and participation of women within the industry. There are currently 400 members. Australian Grown Cotton 2014 Sustainability Report- CA/CRDC

²² Reported in Agriculture Appointments June 2015 “2015 Salary and Trend Report” pg 17

- regular training would motivate 90% to stay with an employer longer.²³

Clearly, any workforce development strategies around attracting and retaining workers must consider the characteristics and needs of Generation Y who are becoming a more important pool of potential workers.

The advantage of annual seasonal workers returning to work in the industry, provides growers the opportunity to harness their experience and skills to up-skill new entrants to the industry through informal toolbox sessions with practical 'action learning' opportunities on-farm.

The farming sector recognises that planning for retirement (grower and employees) is an essential business operation and key elements of retirement strategies should be investigated and form an integral part of the workforce planning strategy. Examples of 'planning for success in retirement' are currently evident but not widely published; e.g. growers with ageing workers provide on-farm accommodation/housing to the retired worker in return for mentoring and up-skilling of new and younger, seasonal employees (AgriFood Consultations 2015).

Retention of on-farm staff remains a challenge. Although the labour and employment forecasts indicate an easing of unmet labour demand, the shortage of skilled labour in the cotton industry may not ease and we may see a 'labour churn' or poaching of skilled labour between farms. Resource sector competition can create labour shortages largely due to the targeted workers possessing cross-industry skills such as machinery operation and machinery servicing, making those employees attractive to both sectors. A high turnover does not encourage the investment in, and progression of, new workers to skilled labour status.

Implications

The Situational analysis provides current data on the characteristics of the cotton farming workforce. Any unplanned turnover of any proportion of the 63% of workers who are permanent employees must have a net detrimental impact on the productivity and profitability of the farm business unit.

There are two aspects which influence whether an employee is going to remain with his employer:

- the manner in which the organisation is presented and perceived as a 'good place to work' by employees and
- the individual employee's perception about the business' actions relating to them as a person.

An organisation's management team is in a strong position to influence whether employees perceive it to be what is often termed an Employer of Choice (EOC). A business viewed as an EOC is much more likely to attract job applicants and retain their permanent and casual workers. At one end of the continuum, a highly regarded EOC will exhibit²⁴:

²³ McCrindle white paper-*New generations at work OP cit pg 16*

²⁴ Refer O'Donohue and Wickham (2008) '*Managing the psychological contract in competitive labour-market conditions*'

- strong leadership with inclusive management style and employee engagement,
- community involvement or reputation/status with broader industry and business,
- attention to HRM, and health/safety and welfare of employees,
- learning opportunities linking HRM to business strategy,
- competitive reward and recognition systems based on performance and
- environmental consciousness about conducting businesses in a global environment.

Actions/recommendations

- The cotton industry investigate, trial and, if successful, implement an industry-wide professional development program to provide farm managers with tools to identify and respond to impediments to retaining their employees.

Explanatory notes:

- The benefits will have an impact on other aspects of the organisation's workforce development activities including employee engagement and attraction, skills utilisation and job design.
- There are several programs which are designed to meet the required outcomes including what is known as the 'Employer of Choice' concept. These include AgriFood's Enterprise Insight Tool, a survey-based approach combining a unique blend of questionnaire, technology and facilitation.

Actions/recommendations

- Farm management teams be provided with information on strategies to minimise the impact of (permanent) staff turnover through a series of local workshops supported by on-line information and resources.
- Farm management teams be provided with information on strategies to minimise the impact of (permanent) staff turnover through a series of local workshops supported by on-line information and resources.

Explanatory notes:

1. The sessions and support information would cover the need for and benefits of providing RPL of existing workers' skills and having current information on the skill needs of key farm positions. Information on funding support and how to engage specialists to undertake the analysis would be covered.
2. Emphasis would be on the use of short, clearly focused training programs meeting a specific need with immediate or near-term application rather than the need to undertake a full VET or higher-education qualification

Work systems and job roles

Importance

Similar to all businesses, cotton farmers face a significant challenge in matching the experience and skill level of workers required on farms with the sector's typical employment arrangement. The additional challenge faced by cotton farmers is the sector's dependence

AgriFood Skills Solutions

on seasonal workers for its casual workforce needs, the increasing sophistication of work practices, and the now prominent role of contractors in many facets of a farm's operations. To maximise productivity and profitability, the cotton farming business must adjust its workforce operating processes and procedures to reflect the farm's changing work systems and job roles.

The emerging industry trends in the use of mechanization, automation, intelligent robotics and remote sensing impacts upon most industries. Unmanned aerial vehicles or drones, additive manufacturing, next generation broadband, cloud computing and smart personal devices will continue to reshape rural Australia and optimize resources; impacting on **work systems and job roles**. This emergent technology²⁵ advancement dictates the need to re-design and adopt new higher skills roles in order for businesses to remain competitive in this new environment.

Current Position - some observations

On-farm contractors

The Australian Workforce and Productivity Agency records the rise of a new set of workers in the farming sector –on farm contractors - a trend that is evident in the cotton industry. The trend is for an increase in small business consultants, paraprofessionals and specialist contractors, many of whom have taken the place of extension services in conveying knowledge about new developments and techniques.

The Cotton Industry is dependent on contractor services for some of their farm operations with 98% of farms indicating they use contractors (Roth Rural, 2013). Contractors are used and are important for ground preparation, planting, fertiliser application, harvesting, spray application, ground rig operation, and module transportation. Contractors therefore make up a significant proportion of the cotton industry workforce and must be factored in to any workforce development initiatives instigated for the cotton farming sector of the industry.

In a recent survey²⁶,

- 98% of farms in the survey used contractors for at least some operations,
- 15% used contractors for ground preparation, 7% for planting and 15% for fertilizer application,
- 48% used contract harvesters and 34% had all of their harvesting done by contractors,
- 43% used ground rig contractors for spray application (16% for all of this work) and
- 85% had modules transported by contractors.

Technicians in demand

As the nature of farming becomes more technical there is a greater demand for knowledge. The once pyramid shaped workforce comprising owners and a mass of low level operators is

²⁵ New and emerging technologies include air, soil and crop sensors which combined with drones enable real-time understanding of current farm conditions and are a fundamental platform to an automated farm (Agrifood Skills Australia *Environmental Scan 2015*)

²⁶ The CRDC Cotton Growing Practices Survey Report -2013

becoming diamond in shape as technology and automation continues to remove low-skilled job roles and a creates a need for a new breed of skilled workers or technicians. Para-professionals and specialist contractors grow to form critical, highly capable workers.

Implications

Cotton farmers face a significant challenge in matching the experience and skill level of workers required on farms with the typical employment arrangement. The above data illustrates that approximately 60%-65% of employees are casuals; however the majority of work is classified as needing skills typical of experienced, senior experienced or managerial levels rather than entry-level workers.²⁷

To address this dilemma, strategies for gauging skills held by casual workers on recruitment and for providing short, directed skill development programs that have immediate application on the job are required.

Other implications of the above characteristics of the typical cotton farm's business arrangements and worker profiles include:

- Upskilling of permanent workers is essential to position farms to respond to and keep pace with the need for higher level technical and para professional skill sets.
- Contractors have replaced service providers and extension officers as the conduit for new procedures and products, methods and machinery. Systems are needed to capture any new skills and operating procedures from contractors and have the essential components passed on to permanent (and where possible key casual workers) to ensure ongoing and correct application of the new systems on the farm. This is in recognition that contractors are not permanent employees and therefore will not have a permanent presence on farms.
- New job roles will be required to address emerging trends including the need for higher level technical skills on farms.
- The holding of workplace training skills by supervisors is of greater importance due to the increasing need to provide farm workers with OJT. One driver is the need to transition low skilled workers into higher level technical skills as the industry moves to niche skills set requirements to address the emerging automated farm operations

Actions/recommendations

- There are clear similarities to the responses farmers should consider in responding to the farm's business arrangements and worker profiles, to those required to address business planning and the challenges of recruitment, retention and upskilling of workers. The very nature of workforce planning means that there are no clear boundaries between the individual components and the following recommendations need to be considered in conjunction with those of those included in other sections of this report.

²⁷ Refer sub heading " 2: Employment Patterns" above

- Develop a Skill Set specifically for the Cotton Industry to underpin short courses for farm supervisors and managers to equip them to provide workplace training

Explanatory Notes:

- A starting point would be to review TAESS00008 Enterprise Trainer-Mentoring Skill Set (Two units: 'Mentor in the Workplace' and 'Provide Workplace skill instruction'). The industry may deem it appropriate to include additional units, for example on workplace assessment
- A secondary benefit would be to position farm managers etc who gain the Enterprise Trainer-type skills to more readily assimilate the new procedures, technology and processes brought to the farm by contractors and pass them on to other farm workers.
- Develop procedure and resources for farm managers to readily identify skills and licenses held by casual employees and to implement short upskilling training programs to eliminate any gaps in the skill sets²⁸ required by employees.

Explanatory Note:

- This process will assist the farm management team more readily identify those casual or seasonal workers in which an investment in training is sound; that is, there is likely to be a Return on the Investment (in time, cost of training, resources, absence from the job to undertake training etc). For a more complete discussion on ROI, refer to *****
- As part of myBMP and Cottoninfo, provide regional workshops to assist farmers develop job descriptions and related workforce planning processes to respond to emerging industry trends in mechanisation, automated operations etc.

Workforce planning (as part of business planning)

Importance

Workforce planning relates to that suite of activities which help the assessment of the current workforce capability and the future capability needed to meet changes in industry and the individual farming operation.

As a business plan takes shape, and the objectives and activities required to meet them are defined, the numbers, job roles and skills needs of staff become better defined.

While significant focus has been placed on the attraction of new employees to the workforce, less focus has been placed on workforce planning and the human resource capacity of employers. This impacts on the retention and skilling of employees. This is not only an issue in agriculture but especially for SMEs across the supply chain (Australian Workforce and Productivity Agency, 2013).

Research has been undertaken on changing business models and how this will shape the future look for the workforce and type of jobs that will be needed. It is clear that in the case of Cotton, like other similar industries, (Nous 2015) the workforce will continue to shrink and

²⁸ For notes on the meaning of 'skill sets', refer to Section Skills Utilisation and Training

will be both smaller and higher skilled in the future. Farm scale will continue to increase. This will be accelerated by adverse weather conditions and the availability of water. At the same time the increase in mixed farming operations including Cotton will require more diverse skills sets among the workforce.

Current position- some observations

Traditional employer/employee approaches to work organisation are reducing with companies increasingly seeking a flexible mix of consultants, intermittent employees (seasonal, casual), or contingent workers (contract, part-time, temporary). These new relationships require companies to manage workers in new ways. Diversity is another pressing issue with the Australian workforce comprising a wider group of ages and nationalities than ever before - a factor compounded by many family businesses becoming 'employers' for the first time (AgriFood 2015).

Skill Needs Analysis has been undertaken already from time to time – but with new operators and the passage of time this requires updating and/or validation or delivery for the first time in new areas. This therefore needs to be a continuous process.

However, labour market data in this sector is very patchy and out of date. This inhibits effective workforce planning and outcomes. The absolute numbers of people occupying different types of jobs and occupations on a farm needs to be measured accurately through a census.

As mineral prices fall to a third of their peak value and major resource projects continue to transition from the construction to production phase, skilled workers are filtering back into the mainstream workforce. These workers come with an inherent understanding of regional work conditions, world-class skills in safety, and a high work ethic. Many resource sector skills are highly transferable - management, supervision, logistics and scheduling, operating large scale mobile plant and equipment. How much of a positive impact this will make requires some research.

As the food and fibre industries becomes more corporatised, and industry bodies become more involved in workforce planning, there are significant opportunities for industry and governments to work together and develop real opportunities for sustainable employment of Indigenous Australians. Industry consultations highlighted a number of successful indigenous programs operating within some farms. (See separate section.)

Newly settled migrants, including asylum seekers and refugees, remain an untapped resource of potentially skilled labour for the industry.

Implications

Without sufficient data sets effective workforce planning becomes very challenging across the industry. This has implications at the farm level, in the sense that growers become subject to the short term and sometimes predictable, shortfalls in skills and labour (outside those pertaining to more predictable harvest and seasonal variations).

Actions/Recommendations

- Conduct a labour market analysis, possibly enhanced by the 2016 Census, to establish existing workforce numbers and existing skills base within the Cotton industry and across permanent, casual, contract and seasonal workers.

Explanatory Notes:

This would establish the scope and size of the workforce. Australia's 17th national Census will be held in August 2016 and there are opportunities to use the census data cross-referenced with relevant ANZCO codes to establish a broad picture of the industry and its workforce.

Proposed data sets include:

- Age, sex and usual address,
- Income, labour force status, occupation, hours worked and Industry of employment,
- Workplace address /Journey to work,
- Country of Birth/Year of Arrival,
- Main Language other than English spoken at Home/Proficiency in spoken English and
- Attendance at an educational institution/ highest year of schooling and non-school qualifications

Actions/Recommendations

- Analysis should be undertaken of the future Cotton workforce as a result of new technologies, demographic and social change (emerging and evolving job roles, implications for work organisation and skills development).

Explanatory Notes:

As the industry increases its adoption of new technologies and science becomes pivotal to lifting productivity, jobs will be displaced, re-made and new ones created. This futures-oriented research will project a decade ahead and explore the on-farm job roles likely to emerge, diminish and those that will evolve across the industry. It will consider the implications for work organisation and skills development.

Workplace conditions

Importance

Comparisons of wages between agricultural jobs and those in other sectors can be misleading in that they do not take account of a range of in-kind and lifestyle benefits which many employers bestow on their employees. These can include provision of accommodation, utilities payments, car and fuel costs and other benefits. Taken together, and when well promoted, these can significantly increase the relative attraction of jobs in remote rural locations.

In the same way workplace conditions, along with well-defined job roles, can have a very strong effect on attraction and retention performance. These conditions can include provision for some degree of physical comfort, labour saving devices and tools, heating and cooling and

refreshment facilities. Adequate rest breaks and social and recreational opportunities all add to the mix. Wage rates above the award is also used in some circumstances.

Current position- some observations

There are many examples across all agricultural industries in which individual businesses set a particularly high standard for workplace conditions. There is no data we are aware of which provides any intelligence on cotton farms' working conditions. However, increased mechanisation has reduced the tedium and physical strain of previous methods of farming.

Given the challenge of attraction and retention in this industry it would be helpful to assess current working conditions in the sector. Guidance could be provided to growers who see a need to make improvements.

In addition, there is clearly still uncertainty among a significant number of growers about what their WHS obligations are, particularly in light of changes in the law in recent years. This is confirmed by experience in other sectors and strong demand in business skills workshops for assistance in meeting WHS legal requirements. The [Australian Work Health and Safety Strategy 2012–2022](#) identifies the agriculture industry as a priority industry for action.

Note that to help growers address WHS and IR obligations beyond that in BMP, Cotton Australia works with John Temperly of Farmsafe/Ag H&S Centre at Moree to generate information and guides, references and videos which are communicated through their channels and also link to BMP. John is heavily involved in updates of myBMP modules currently. CA also run WHS workshops for growers and is about to undertake a series of HR/WHS workshops regionally, with a focus on the new myBMP module.

Similarly other consultants generate regular communications information on IR obligations, expert input to myBMP module updates and also free sessions for growers on IR concerns.

Implications

While significant effort is put into WHS and IR issues, some cotton growers may be in breach of their legal obligations. They may also be unaware that their workplaces and facilities fall beneath norms that would make their farm a more attractive place in which to work.

Actions/Recommendations

- Continue the strong emphasis on WHS awareness through specific workshops and/or as part of broader business skills courses. Survey the industry's awareness of its obligations.
- Conduct workplace health checks on cotton farms and provide a checklist/ready reckoner to allow benchmarking of workplace conditions against best practice in the sector.
- Commission a best practice workplace case study of a typical cotton farm to assist in promotion of the concept.

Indigenous Labour Force

Importance

AgriFood Skills Solutions

Indigenous Australians represent a significant if underutilised resource for the cotton and other agricultural industries. There are existing Indigenous Employment Strategies embedded (successfully) in the Resources, Mining, Manufacturing and Retail industries.

Many of the characteristics of Indigenous culture are also characteristics of successful organisations — respect, trust and willingness to work for the good of the group (or family or team) rather than for individual gain.

The business case for an Indigenous Employment Strategy can be built on the following elements:

- Access to markets and stakeholders. Being committed to Indigenous employment is becoming important when applying for government contracts and private tenders, and it can open up additional business opportunities for businesses/companies.
- Access to talented people. Finding the right people, particularly when there are labour shortages is difficult. Despite Australia's ageing population, Indigenous communities are growing and are a source of capable, committed workers.
- Representing cotton stakeholders. Meeting expectations and making the industry more attractive to Indigenous and non-Indigenous stakeholders.
- Creating cultural diversity at work. Increasing the cultural mix encourages new perspectives and awareness of business opportunities, and boosts workplace satisfaction.
- Enhancing the business/company's reputation. Being known as **an employer of choice** and a business/company that is progressive, inclusive and socially responsible is a very positive move.

Current position

CRDC has funded a small number of projects involving understanding the skills base of local Indigenous community members and up skilling the local Indigenous workforce. These initiatives also deliver other community outcomes (e.g. biodiversity and NRM outcomes as in the case of Caring for our Country funded work [NRM project with Indigenous training/workforce component]).

There are informal indigenous employment approaches being undertaken on some cotton farms that may provide some of the elements for a more formal approach. Discussions with these growers (AgriFood Consultations 2015) indicate the need for:

- Culturally appropriate recruitment and retention processes,
- Training and development models e.g. 'Skills Sharing' trade-off such as indigenous incumbent provides information/training to the grower and other staff re cultural heritage, land and culture in return for on-farm operation skills set training and
- Mentoring the Indigenous worker into higher skills roles, including management and coaching of staff.

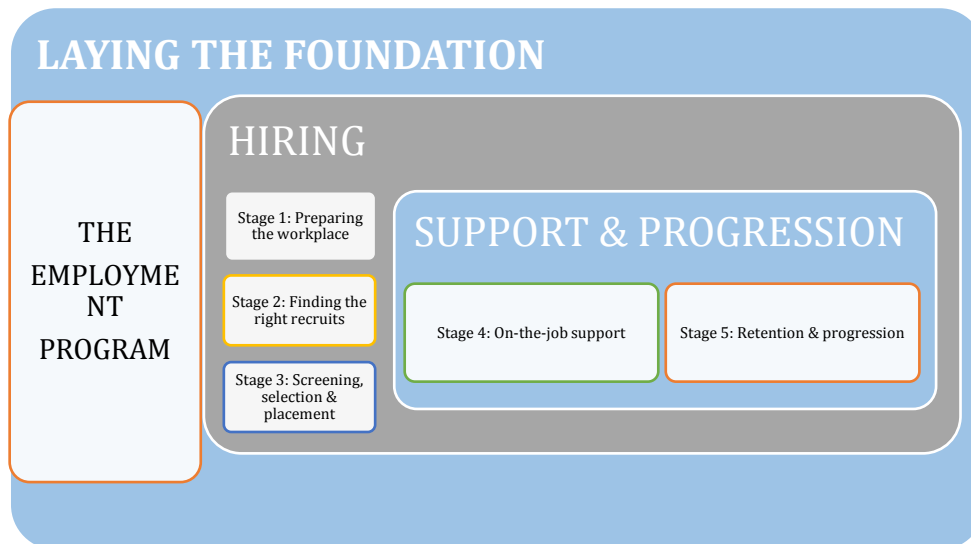
There is significant government funding available to develop and implement an Indigenous Employment Strategy (IES), which can be integrated into the broader WFD strategy.

Implications

In order to secure success of an IES for the Cotton Industry, strategic planning and a 'functional' framework (IES Model) have to be designed as part of the Workforce Development Strategy. Essential components include:

- a well designed pre-employment strategy,
- a mentoring and coaching strategy and
- an IES Model

Diagram 2 – Indigenous Programs



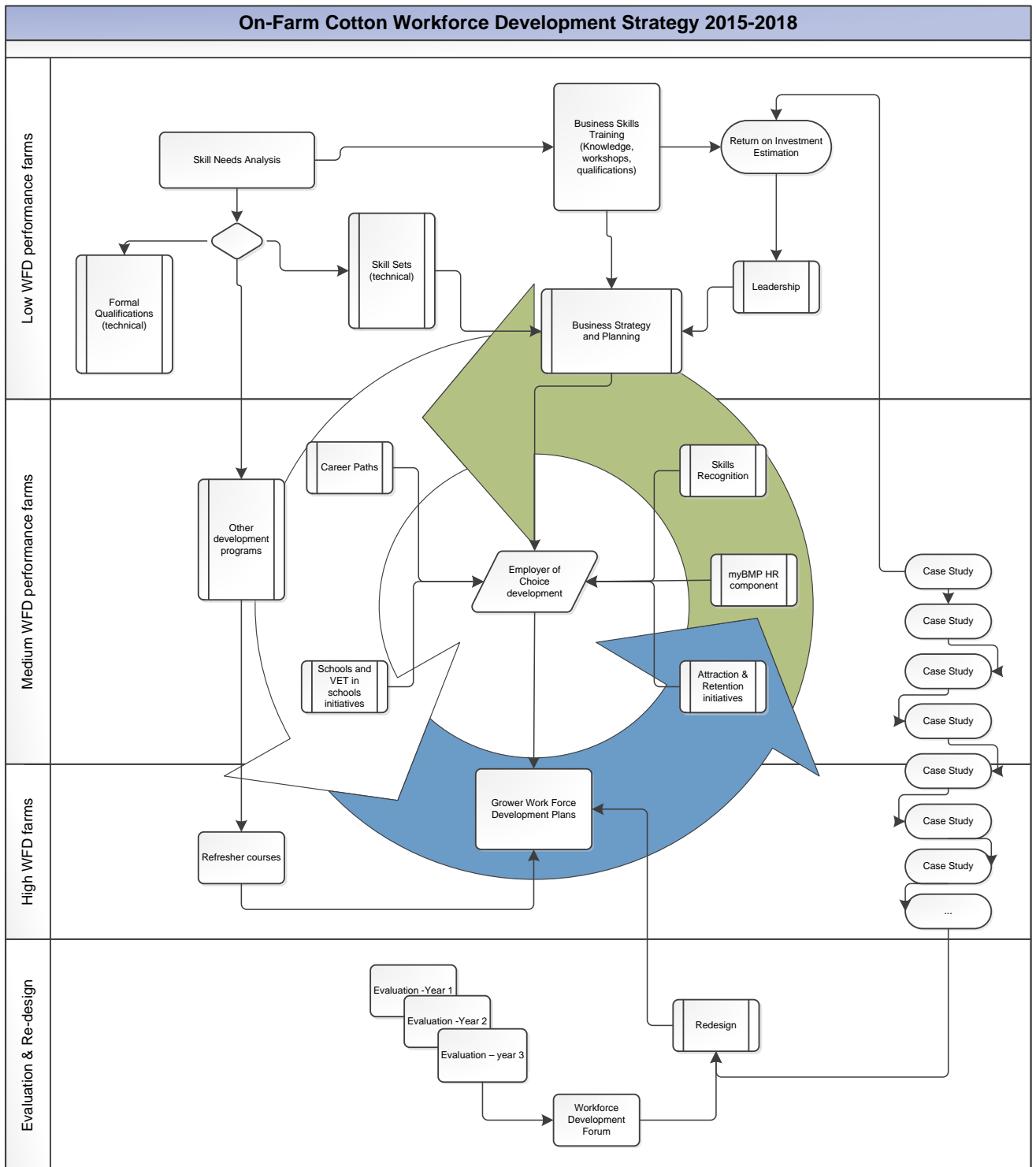
Actions/Recommendations:

- Explore the funding opportunities for 'demand funding' for implementation of an IES, as per current Commonwealth Government funding strategies, e.g. Indigenous Advancement Strategy.
- Engage growers in specific high Indigenous occupancy communities (with existing informal Indigenous Employment Strategies) to form a 'community of practice' to trial a regional IES
- Gather data and evidence from the recommended IES trial for publication and presentation at industry workshops and seminars (e.g. 'best practice' case studies).

Explanatory Notes

More detail on various Government support mechanisms and programs is at Appendix B.

Strategic Framework



The delivery of the Strategy will involve simultaneous engagement with different cohorts of growers – based on the degree of sophistication of WFD engagement (low, medium, high). Initial implementation would see a significant effort around Skill Needs Analysis, progressing at both an industry level and eventually farm-by-farm as time goes by, with a focus on the low cohort. This would provide stronger support for engaging existing training support from various government programs.

Establishing business plans, off the back of business skills training, will help align a continuous Return on Investment program built around case studies. These case studies would focus on the medium to high level cohorts of companies but could also compare those with low WFD who progress to high WFD over time.

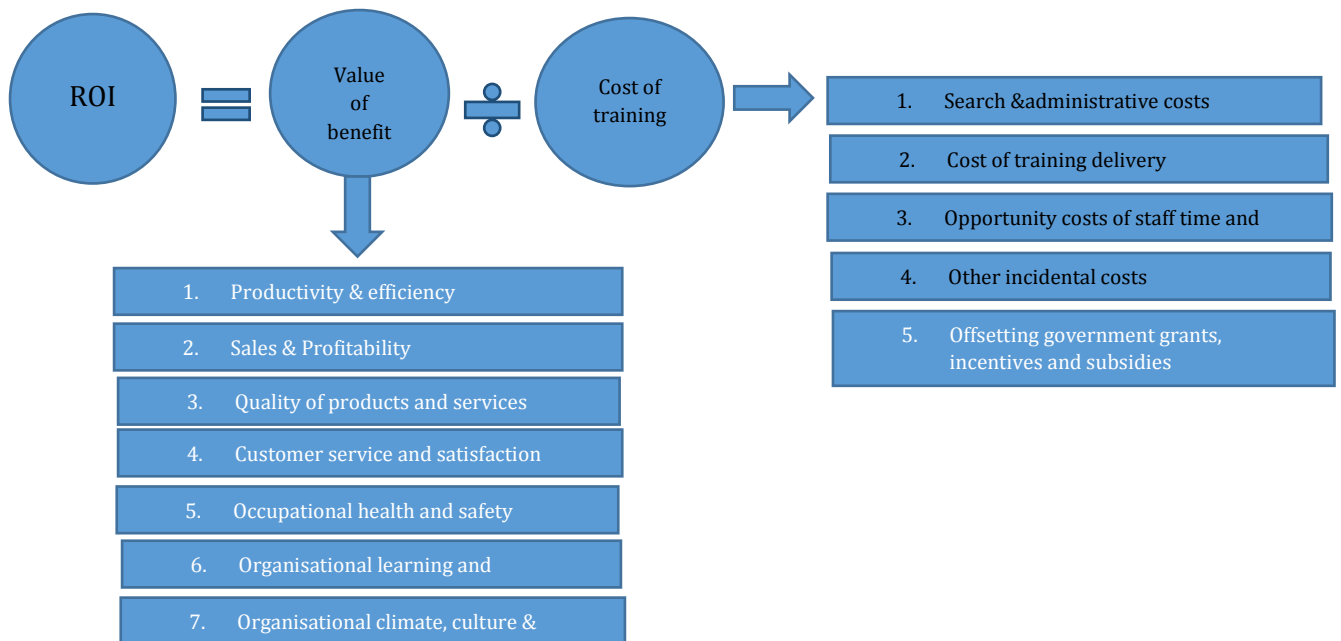
While a wide array of training progresses, the plan will mature cohorts of growers into the more challenging process of enhancing employer culture (Employer of Choice) built around creating compelling innovative workplaces. This will link to various initiatives including recognizing and improving the skills of existing workers, career paths and schools initiatives.

Evaluation will be ongoing and would culminate each third year with a forum to review all aspects of the plan. Redesign and change of emphasis may be required at this point.

Return on Investment

In general, studies of enterprise returns on training investment overwhelmingly indicate that firms recoup their investments in training many times over in raised productivity and enterprise performance. This is not to mention improved attraction and retention outcomes from more skilled, confident and nurtured staff. However, the case for increased investment in training at the enterprise level is poorly understood by many employers. This is also the case for cotton growers.

There are multiple concurrent market failures that have led to underinvestment in skills and workforce development in the agrifood sectors in regional Australia (ACIL-Allens 2014). A key informational market failure occurs whereby employers and learners do not have the information to assess whether there is likely to be a return on investment in training, or whether the training offered is likely to be of adequate quality or relevance.



The key objective of estimating ROI is that it would be an important means of encouraging firms to take training and upskilling more seriously as they would see tangible evidence of the returns from expenditure on staff training.

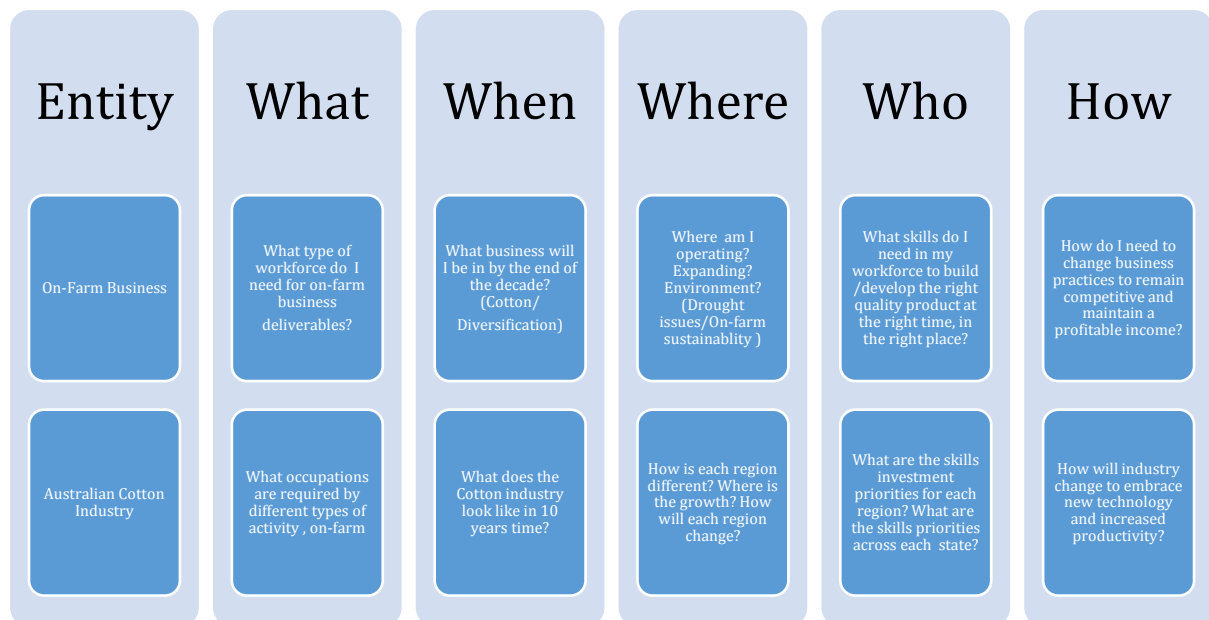
A key focus is detailed enterprise-based case studies. In their own right, these case-studies can provide very strong evidence of ROI for specific enterprise types and circumstances. There are currently 15 case studies available under the tool from a wide range of agrifood industries. Other resources to assist self-assessment are also available. This would need to be developed further with at least further 15 case studies in the Cotton industry – providing a representative sample by more popular or innovative training and WFD interventions, business types and locations.

While assigning a dollar value for cost and benefits is possible for certain activities, in other cases this might not be possible or even appropriate.

Tools

Agrifood Skills Solutions with the assistance of the Australian Workforce and Productivity Agency has developed a ‘ready-reckoner’ model, based on case studies, which can assist industries to better understand and measure the ROI for training at the enterprise level. It also then helps them identify some possible formal training options.

A variety of tools can be developed based on the simple framework outlined below. It can provide a useful checklist or self-assessment framework to prepare growers for participation in various training programs.



Operationalisation & Governance

It will be important to establish supporting governance arrangement for this strategy and its implementation. While it is possible an existing network or working groups could take on this role, the creation of a dedicated entity would be optimal. This will be important to maintain the necessary focus, as in our experience training and WFD issues tend to lose priority over time within broader agenda setting. We suggest:

- Establish a Cotton Workforce Development Industry Committee which would consider workforce and education and training together.
- This Committee would need to include growers with a strong pedigree in WFD, opinion leaders in the industry as well as senior industry body staff.

Its roles would be to refine and provide guidance on implementation of the strategy for the cotton industry; review and provide oversight of the implementation of the Cotton Industry Workforce Development Strategy; and assist with increased collaboration and information sharing on relevant workforce development issues, education programs, training initiatives and projects.

While possible to work through existing platforms such as myBMP or CottonInfo, we would recommend evaluating the case for establishing *a stronger online presence* with an interactive platform of products, tools and services which growers can draw on. Evaluation of the People in Dairy website (Dairy Australia) compared to existing platforms should be considered. The platform could include various resources, self-assessment tools, webinars and instructional videos and so on. This would need to be supported by *digital awareness training* to help growers connect with confidence to the online world and interact effectively with the platform.

We would also recommend the appointment of *an independent broker or advisor on workforce development and training*. The broker could help advise on strategy implementation, the choice of various training products and training providers and could conduct or supervise SNA and Occupational Analysis design and delivery.

Evaluation

The strategy incorporates ongoing evaluation and assessment. This process will be overseen by the Cotton Workforce Development Industry Committee. The Strategy incorporates a national industry skill needs analysis and labour analysis at the outset of implementation. This needs to incorporate survey questions to help establish a base-line of the level of WFD engagement by the industry as a whole. A specific survey assessing the level of understanding of WFD and commitment might also be considered. Surveys to gain feed-back on the results of specific programs would be ongoing. The effectiveness of this would be enhanced through online provision. The evaluation would need to assess both quantitative and qualitative measures

We suggest an overall review of the entire strategy around a WFD Forum held at the end of the first three years duration. The evaluation methodology would include a document review, stakeholder survey and consultations. This would then allow for redesign and changes of emphasis and adjustment.

Table xxx - Provisional Key Performance Indicators (KPIs) for evaluation

Measures	KPI
Efficiency	<p>Cost of activities, projects, case studies etc relative to impact.</p> <p>Numbers of participants in training courses, particularly business skills.</p> <p>Appropriateness of governance and project management arrangements.</p>
Effectiveness	<p>Evidence of change in employer practice.</p> <p>Levels of labour and skills gaps reported by industry.</p> <p>Evidence of higher levels of training.</p> <p>Improved local and indigenous employment outcomes.</p>
Sustainability	<p>Evidence of changes in employer culture.</p> <p>Evidence of increased engagement with myBMP and the formal training system.</p> <p>General trend in attraction and retention reported.</p>

Situational Analysis

Performance

Australian cotton growers' performance is largely determined by external factors such as global cotton demand, the world price of cotton and domestic growing conditions. Australia is a relatively small cotton producer on a global scale and is reliant on exports with over 99% of ginned cotton exported (IBIS 2015).

Trading conditions for Australian growers have fluctuated over the past five years due to increased volatility on the global cotton market. Erratic swings on global prices, prolonged drought conditions and floods have also affected revenue. These factors pushed up the cost of growing cotton and forced smaller, less-viable operators out of the industry. The industry underwent a brief period of resurgence between 2010-11 and 2011-12 as global cotton prices spiked. This spike was short lived, and falling prices and a smaller area sown in cotton is expected to result in industry revenue declining 47.3% to \$874.8 million during 2014-15. Lower prices have been offset by higher domestic production volumes.

The industry has been periodically affected by below average production caused by drought and lower international prices. A shortage of water in all irrigation valleys has severely restricted areas of irrigated cotton and low prices have made dryland production more

challenging. In the past two years good rainfall has replenished irrigation storages which has enabled the resumption of irrigation activities. Improved prices and developments in technology have at the same time restored the viability of dryland production. This has enabled strong growth in the area of cotton planted and stimulated demand for skilled workers.

Australian cotton producers are consequently expected to enjoy better trading conditions over the five years through 2019-20 as global cotton prices halt their current slide and the total area of cotton farmed increases from the current slump. A fall in the Australian dollar will also help the industry along with increasing global demand from developing countries. Overall, industry revenue is forecast to grow by an annualised 10.2% over the next five years, to \$1.4 billion in 2019-20 (IBIS 2015).

The Cotton Farm

There are 900 farmers with 1250 farms on average over the last 5 years (Cotton Australia, 2015). Of these some 64% were in NSW and 36% in Qld in 2014/15. Between 1982 and 2013, consolidation within the agricultural sector saw the average farm size increase 13 per cent from 2,720 to 3,077 hectares and the overall number of farms reduce by more than a quarter from 178,000 to 128,917 (ABS, 2013). The number of farm businesses has decreased more rapidly than the area of land devoted to agricultural production, which implies a trend towards larger and amalgamated farms (Productivity Commission, 2014). Cotton has been a leader among agricultural sectors in this trend.

In light of increased price competition domestically and in overseas markets for agricultural commodity products, some farmers are more actively pursuing on-farm value adding strategies with a view to capturing some of the price premiums associated with certain niche products. This has included cotton farmers looking at new ways to do ginning and joining cotton identity programs such as the Better Cotton Initiative (BCI).

In broad terms the types of farms active in the industry are:

Table 2 – Farm Types

Family Farms	Corporate Farms	Services
Cotton dominant	Large Family Farms e.g. Harris's.	Contract consultants
Mixed farms	Twynams, Auscott Cubbie, Bengerang Ltd.	Chemical suppliers Research services

The labour cohort on cotton farms consists of:

- Casuals (stock husbandry, live-in)
- Seasonal workers (backpackers, nomads) – irrigation & mulching

- Contractors (with machinery & without machinery)
- Permanent roles: Farm Manager /Assistant Farm Hand

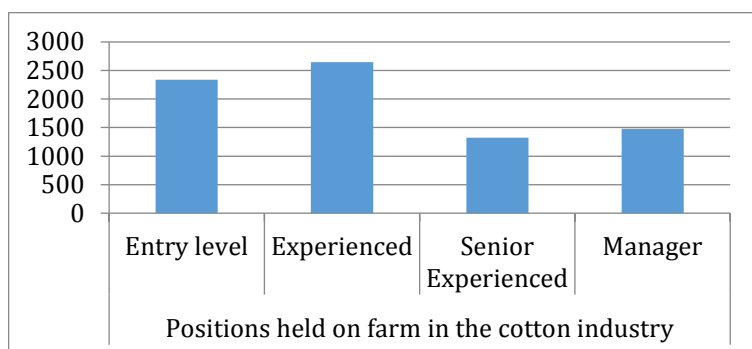
Almost all farmers who grow cotton also grow other crops and about 50% graze either sheep or cattle. This is due to both environmental factors (soil quality) and economic factors (spreading the risk) associated with cotton growing. The main skills required for mixed farming, livestock and cropping businesses are supervisory skills for full time workers and the following skills for part time or casual workers: tractor driving and heavy machinery, animal husbandry, OHS, chemical handling & application, mustering, fencing and yard work. More data is required on mixed farming.

Employment Profile

Individual cotton farms are generally small employers. Cotton growers employ an average of 6.6 people per farm (Roth Rural, 2013). By this measure, around 8,000 people were employed on farm with 4,500 of those located in NSW and 3,500 located in QLD. This figure is likely to have fallen recently due to a significantly smaller crop than when this survey was undertaken.

In broad terms around 30% of staff are at entry level, 34% are experienced, 17% are senior experienced and 19% are at manager level (Nettle 2014).

Figure 3 – Experience levels Cotton Farm



Most staff are employed full time (63%), with casuals accounting for 28% of the workforce and those employed on a part time basis comprising 8%. Some 74% of the 2180 casual staff are at the entry level. 82% of the entry-level workers (or 1916 of the 2336 entry level staff members) are 417 visa holders. The majority of casual staff are back-packers. To be further updated.

Permanent staff are mainly full time. 3% of those (or 147 people) are 457 visa holders. At the time of the most recent survey in 2014 some 36% of those workers were newly employed (over the past year). The average vacancy rate was 0.4 positions on farm. However this figure varies between valleys with some areas reporting vacancies as high as 50% of the farm workforce. Again, this is likely to have fallen with the 2014 crop size.

The industry has labour and skills shortages across low and higher skilled categories. Local labour is difficult to source, particularly post drought (expansion phase). A poor season(s) in one region will see few essential staff retained as employees and often family members taking on an increasing burden of work. In another region a good season will see a return to significant labour and skills gaps.

In the period 2007-2011, employment in agriculture in the cotton growing regions decreased by 2.7% (Nettle, 2012). Employment in the agricultural industry overall has decreased by 27.2 per cent in the last 10 years, the largest decline of any industry in Australia over this period (NFF, 2014)

Salaries

No specific salary data was available for the Cotton industry. However trends in the broader agribusiness sector are indicative. Growth in the agribusiness sector will drive competition to attract and retain the best employees and competitive remuneration is likely to play an important role. A review of agribusiness salaries from 1995 through to 2015, shows that growth in salaries in a number of key areas has been substantially slower than average salaries in other industries.

Figure 4 – Agricultural salaries



Source: 2015 Salary & Trend Report; Agricultural Appointments

The worst performing salaries are for farm managers, which have grown at just 29% of average salary growth across Australia over the 20-year period. This under-performance is probably due to a range of factors, in particular the highly variable nature of agricultural production and the more recent strong Australian dollar. Droughts were also prevalent over the period from 1995 to 2009 and these placed severe strains on all agribusiness operations.

The remuneration data shows two-tiers within the agribusiness sector, with more rapid salary growth in the higher technical areas such as agronomists, technical sales, technical manager and quality assurance managers. These are becoming more highly valued as agribusiness and *AgriFood Skills Solutions*

agrifood industries strive to present strong technical arguments and services to their increasingly sophisticated customer base.

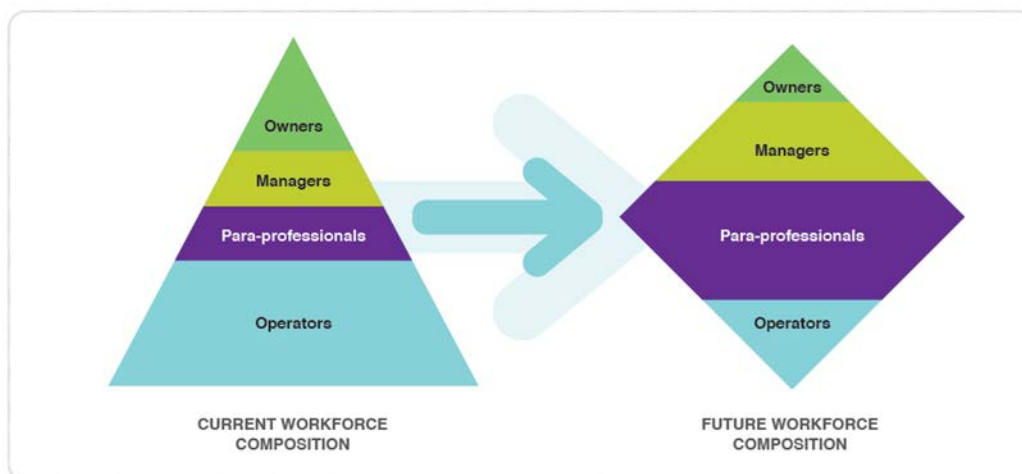
Farm production now utilises far more technology and complex machinery to drive productivity growth, and these changes have placed a higher value on technical skills. Our data shows agronomists have recorded the strongest salary growth since 1995 – nearly 20% greater than the average salary. This reflects both the increased technical requirements for these roles and also the substantial skills shortages relative to the number of available roles. This is due to the ongoing decline in the number of agricultural science graduates from Australian universities.

Salary growth for farm managers has lagged behind other positions and is even below the rate of inflation. These roles have probably borne the brunt of the strong prevalence of drought over most of the period, but this is an area of tightening skills supply, which will change this situation rapidly in the near future. There has been some shift to additional forms of remuneration, in particular performance-based incentive schemes.

Staff profile

As the nature of farming becomes more technical there is a greater demand for knowledge. Contracting employment numbers provide a very incomplete picture of the structural change underway. The once pyramid shaped workforce comprising owners and a mass of low level operators is becoming diamond in shape as technology and automation continues to remove low-skilled job roles and creates a need for a new breed of skilled workers or technicians. Para-professionals and specialist contractors grow to form critical, highly capable workers (AgriFood 2015).

In the Cotton industry the mid-manager, supervisory roles²⁹ and paraprofessional roles are the most difficult to fill even as these categories expand on the back of increased mechanisation, technology and the increased supervisory role expected of farm workers. The decline in the resources sector will alleviate this to some degree.



²⁹ Agricultural supervisor – Cotton technician

On-farm Contractors

The Australian Workforce and Productivity Agency records the rise of a new set of workers in the farming sector - a trend that is evident in the cotton industry. The trend is for an increase in small business consultants, paraprofessionals and specialist contractors, many of whom have taken the place of extension services in conveying knowledge about new developments and techniques.

The Cotton Industry is dependent on contractor services for some of their farm operations with 98% of farms indicating they use contractors (Roth Rural, 2013). Contractors are used and important for ground preparation, planting, fertiliser application, harvesting, spray application and ground rig operation, and module transportation. Contractors therefore make up a significant proportion of the cotton industry workforce however, their exact number is unknown as is any possible workforce or skills gaps in this area (AgriFood Skills Australia, 2013).

Labour shortages

Finding appropriately skilled staff is an issue that continues to affect more than 60% of rural employers (NFF, 2014). In the cotton industry, the trend to employ 417 visa holders as entry level workers would be a factor in this issue particularly given the lack of a pathway for 417 visa holders to move to 457 visas enabling them to stay on farm after they have gained a high level of skill if they do not already hold an agricultural qualification. While having the personal capability many transient workers are unable to stay long enough to gain middle management skills.

Although the labour and employment forecasts indicate an easing of unmet labour demand, due to a decline in the resources sector, current practices do not encourage the progression to skilled labour status. The shortage of skilled labour may not ease in the cotton industry and we may see a 'labour churn' or poaching of skilled labour between farms (Nettle 2014).

Managers in a time of corporate restructures in some cases face massive new challenges – steering companies through structural adjustment whilst at the same time driving efficiencies, seeking new markets and retaining their social license with consumers (AgriFood 2013).

Traditional roles in occupations such as agronomy continue to experience shortages due to prolonged downturn in student numbers (AgriFood, 2015). More recently, shortages of sector-specific technicians are becoming increasingly prominent as industry practices reach new levels of sophistication and demand for technological capability and skills that did not exist in the workforce 5 or 10 years ago builds (AgriFood, 2014). Cotton Picking Machine Operators and Cotton Grower occupations are still reporting shortages (AgriFood 2015). See Appendix E. The ANZSCO classification codes used for this assessment tend to obscure more subtle shortages such as irrigation designers. Skills shortage research undertaken by the Department of Employment indicates there is a shortage of Agricultural Scientists in Australia. Domestic completions for this area fell in 2010. This occupation is not included on the skilled occupation list (NFF, 2014).

Sourcing workers from overseas

Many growers are relying on overseas workers to fill gaps. The *Agricultural Competitiveness White Paper 2015* signals Government initiatives to improve access for agricultural industries. Overseas workers have played a small but important part in the Australian agricultural industry for quite some time, helping farmers at peak times when local labour is difficult to access. Difficulties in sourcing suitably qualified higher skilled staff has led to an increased trend in growers sponsoring overseas workers to work on farms, mainly via the 457 visa. However, overall the use of 457s in agriculture is not high.

Cotton Australia, along with the NFF and many other groups, has long stated that the current ANZSCO codes need updating to better reflect the roles and skills mix of farm occupations nowadays, importantly, key agricultural occupations, such as farm overseer or supervisor (mid way between the Farm Hand and Cotton Grower occupations). Because of this, the agriculture sector faces barriers in sourcing skilled labour from overseas via the 457 pathway. In 2012–13, only 2% of 457 visas granted were granted to the agricultural sector. For cotton, the Roth Rural and Regional survey questions from the 2013 labour section reflected a similar low usage of 457s. Also the 2014 NFF WF strategy and their underpinning farm survey work showed data on the ‘success’ rate of 457 applications which was quite low. It also means there is currently no pathway for promising, but unqualified backpacker workers (who wish to stay to work in rural areas) on 417 visas to transition to a 457 visa. Without an agriculture-related degree, backpackers on a 417 do not meet the requirements to be sponsored by a farm employer.

The above issues have been strongly acknowledged by government in the recent Government response to the Independent Review into the integrity of the subclass 457 program, with a core recommendation being to enable changes to add skilled occupation shortages which can be shown to exist in the community but not on the ANZSCO list and refine Consolidated Sponsored Occupations List (CSOL) in cases of concern to the Ministerial Advisory Council.

In support of improvements to this situation, the Government’s recently released Agriculture White paper identifies a review of the current 457 visa occupations list as one of the first tasks of the new Ministerial Advisory Council on Skilled Migration.

A number of agriculture industries (pork, dairy and now cotton) are/have pursued the development of a Labour Agreement (LA) as an alternative pathway for accessing appropriately skilled workers from overseas, outside standard migration programs. Under a LA, an enterprise can design an occupation and conditions to suit the business.

The Federal Government is promoting/expanding the Seasonal Workers Program, Labour Agreement and Working Holiday Maker (417 and 462) visas in northern Australia to help meet on-farm labour, enabling employers to sponsor overseas workers outside standard migration programs (*The Agriculture Competiveness White Paper 2015*).

Box 2 – Using the 457 Visa

Case study: use of a 457 visa on a cotton farm

A cotton grower in the Namoi Valley recently used the 457 visa to permanently employ a qualified electrician from Ireland. The employer was able to demonstrate that they had invested 2% of total payroll on staff training and that they were unable to employ suitably qualified

Australian workers. They were able to justify a genuine need for an electrician in order to service electrical equipment like aerators and augers on grain silos, as well as maintenance of electrical networks on buildings (e.g. sheds and houses).

Through the 457 Visa, this employee now has four years permanent employment with the ability to apply for permanent residency in Australia once this time has expired. This grower used the services of a skilled migration consultant based in Sydney to help with the application

Source: AgriFood consultations 2015

Future trends

Attempts to predict industry's future workforce and skill development needs, can be particularly fraught as industries continue to evolve, converge or re-locate and as new job roles emerge while others become obsolete.

Survey work of growers done by Cotton Australia paints a positive picture of 'cautious optimism' for the future, despite the challenges such as water availability and drought. Self-perceptions of being 'traditional cotton growers' are becoming more nuanced as scale increases and diversity in farm types, irrigation and scale changes (Cotton Industry Vision 2029).

Federal Government projections suggest that employment will be subdued in Agriculture over the five years to 2018, with an expected decline of 0.9% per annum over the five years to 2018 (NFF, 2014). This may be due to a combination of factors including weather and also a subdued outlook expected over the medium term due to moderate world economic growth, a relatively strong Australian dollar and strong competition on world markets.

Whilst these projections signal challenges for producers, growers will still be aiming to produce the highest yielding crop allowable at the time with the labour force economically allowable. This may mean working smarter with a smaller number though more highly skilled workers. This view is supported by a Deloitte Access Economics report that attributes the significantly less people required in cropping up to 2025 due to productivity innovation and technology efficiencies.

New technologies continue to be deployed such as a round-bale picker which reduces labour requirement, and along with the expansion of digital capacities more generally, they will reinforce the requirement for a smaller pool of more skilled labour, with abilities to operate complex systems.

The ongoing importance of the partnership between industry and government for the cotton industry in research, development and extension is obvious and will continue to drive development and innovation. It is notable that the CRDC's assessments have identified minimum returns to growers of \$7 for every \$1 invested and \$14 to society (Cotton Australia Annual Report 2014-15). Successful developments in the market are also promising such as the inclusion of Australian cotton in local brands.

The environment in which the industry operates at the farm, industry and international scale is rapidly changing. Rising input costs, increased volatility in production prices, climate, general shortages of skilled staff, greater consumer awareness and rapidly emerging

technologies and market challenges are all impacting the industry. All these factors suggest the industry is going to be increasingly complex and volatile. The challenge for the industry is to continue to adapt to these changes to remain profitable, sustainable and competitive into the future (CRDC, 2013).

The conclusion that may be drawn from this is that the industry needs to focus on upskilling existing workers, but still be positioned to attract new workers when the conditions change.

The industry will require an increasingly nimble workforce i.e. the willingness on the part of individuals to learn new skills and adapt to change. This requires the continued fostering of a workforce committed to ongoing professional development, employers identifying and supporting continuous on-the-job-learning and the accumulation of experience as well as improved managerial capability.

Emerging technologies, changing business models and new market access requirements are just some of the factors driving an unprecedented rate of change across agrifood sectors. The speed and enormity of change is leaving many workers to play 'catch up' in their job roles and many enterprises without the skills base they need to take advantage of emerging opportunities.

Research undertaken by Nous Group for AgriFood identifies some of the major trends among which are:

- The increasing levels of risk and complexity associated with greater climate volatility, the emergence of new types of technology, and reforms to water markets and statutory marketing authorities. This is very evident in the wide variety of market and industry reports available in the Cotton industry.
- The technology-driven trend of increasing production and processing complexity, sophistication and automation will require a more highly skilled but smaller workforce
- Broadly speaking, new technologies require workers with higher language, literacy, and numeracy skills, while highly specialised skills are required for some proprietary technologies.
- High-level risk management skills are required to manage climate volatility, particularly for more complex production systems where a poorly managed adaptation can be very costly.
- The 2002-07 drought diminished the financial capacity of many farmers to absorb and manage the risks associated with greater business complexity.

These longer term and more recent trends, and the business models and structures associated with them, will have profound implications for the future cotton industry and agrifood workforce. The workforce will look very different:

- It is likely to be smaller and more skilled, with strong growth in the proportion of professionals and technicians.
- Knowledge needs will be profoundly different and will include more advanced production techniques, leadership, management, mentoring, risk management, and the capability to translate R&D into products

- In some instances, businesses will need to up-skill their existing workforce (particularly in industries like cotton with significant market fluctuation) for with new and emerging capabilities and the industry will need to attract and grow an entirely new cohort of technicians and para-professionals that have yet to leave school.
- Larger and more sophisticated businesses will continue to have the resources and capabilities to access new types of knowledge and practices with minimal government support.

In agriculture, the challenge will be to help those mid-size farm businesses with serious aspirations for growth make the 'leap' into the top bracket of productive enterprises. *Young farmers are best placed to make this leap*, given they tend to be attracted to larger farms, better educated and connected, more receptive to new technologies and more open to risk. This will require support and information in terms of succession planning, new forms of ownership and collaboration.

Appendix A - Consultations Summary

On-Farm Site Visits:

On-farm site visits completed (19 June 2015) around the Thallon/St George area (visited 3 sites; small, medium and large cotton growing properties). A more detailed report of the on-farm site visits are documented in a separate synopsis '**On-farm Consultations**' (these include scenarios of successes achieved on-farm).

Glenn Rogan "Benelong" Property (large cotton property):

Quote by Glenn: '**What happens if you DON'T train a person and they stay?**'

Advanced and high tech operation with evidence of operating with advanced workforce strategies. Three full-time staff, one casual, two contract staff. Glenn has superior strategies for:

- Recruitment and retention (backpackers benchmark of minimum qualifications required)
- Indigenous employment and advancement strategy (unique and culturally appropriate)
- VET reform and application evident in general business operations
- Advanced review processes of staff engagement re retention and skilling (clear role descriptions, expectations,)
- Evidence of mentoring and coaching of staff
- Superior marketing strategies in place.
- Provided excellent 'scenarios' for recruitment of visa 457 workers, backpackers and local indigenous people

Strategies that are underway and efficiency proven:

- Using **contractors** with specific high skill sets to train and mentor existing and casual staff.
- Changed existing operational model to incorporate new role of Office Manager/R&D Manager with Quality Assurance to drive level of operational efficiency and fiscal responsibility
- **Attraction of backpackers** with high skill sets in other industry areas in a 'skills sharing-trade off'; whereby the backpacker remains on-farm longer sharing his/her knowledge in a specific high skill areas e.g. desktop publishing/marketing in return the grower/employer provides specific training for on-farm niche skills areas. The cost of a backpacker leaving is minimal in financial areas but more in time investment due to training and up-skilling (language barriers and culture).

Key business goals:

- Indigenous employment strategy ; innovative ways to engage local indigenous people whereby the indigenous incumbent provides cultural heritage and history knowledge sharing with grower/employer, family and staff in return for up-skilling, training and employment in on-farm operations.
- Indigenous school student attendance retention by providing unique opportunity for the student with the highest attendance record numbers to meet and spend a day with a famous/recognized football hero- this strategy will motivate other students to secure the same unique opportunity through regular school attendance (uplifting the level of education for indigenous people in the St. George/Thallon area and showing value of following a career in Cotton).
- Growing the business management and administration skills in day to day operations
- Providing opportunities for 'succession planning' and moving family members into the business operation with incentives like 'skin in the game' (financial payoff).

Recommendations:

- On-farm operations show improved productivity with the uptake of Business management and administration skills.
- Recruitment, training and development practices would benefit from the new VET requirements around students registering on USI site (grower/employer can track qualifications and skills of incumbents); thus the USI registration process requires refinement in certain key areas to facilitate the recruitment process for growers to extrapolate relevant information.

****Important point to note: Glenn would be an excellent presenter/mentor in going forward with this strategy (implementation and beyond).***

Rob Jacobs (small to medium enterprise – depends on season):

Advanced and high tech (with evidence of mechanization –due to size of operation). Informal workforce strategies in place; with only one permanent staff (general farm hand – indigenous and experienced in on-farm operations), one cadet (newly appointed). The general farm hand also has managerial duties; including mentoring and coaching of the cadet. Recruitment is done informally utilizing local networks (only 12km from St George CBD). Rob has superior strategies for:

- Training and development for staff
- Mentoring and coaching ; using skills analysis to build staff on-farm capability

Recruitment for entry level positions with low skill level required is reasonably easy and informal recruitment processes is mostly successful. Recruitment for higher level positions (technical and management level) is only marginally successful and requires formal recruitment strategies and processes to secure quality candidates.

Key business goals:

- To maintain current indigenous mentoring strategy of newly appointed general farm hand (indigenous) in business operational management practices.
- To develop newly appointed trainee/cadet in high skills sets in technology and on-farm general operations

Recommendations:

- Legislative requirements for certification and machine ticketing operations in areas of Occupational Health & Safety demands that more emphasis has to be placed on meeting these requirements and the necessity of maintaining currency (huge gaps in this area still within the cotton on-farm operations).
- A closer investigation is required around current formal recruitment processes as it can be flawed for growers that are more remote (attracting the right skill sets for the mechanized, automated cotton operational business).

****Important point to note: Rob provided most of the information required in identifying on-farm skills sets required from entry to advanced level. (A list of skill sets are provided in the Appendices section of the WFD Strategic Plan).***

Ed Willis (Medium enterprise Bullamon Plains Pastoral – Diversified operations in Cotton, Dry land, livestock)

ED Willis has an established cotton operation since 1987; with diversified dry land and livestock farming operations. Diversification is essential to maintain economic sustainability and maintain current workforce. Ed has only 10% cotton in the ground and supplements income from livestock farming operations. He has incorporated workforce planning into strategic and operational business plans; necessitated by the current business drivers and intangible climate conditions (drought, flood etc.); ‘boom and bust’ nature of the industry. Ed has superior strategies for:

- Retention, succession planning and retirement
- Diversified operations for cotton on-farm
- VET skill sets matching to move workforce between the diversified farm operations

Key business goals:

- Ed’s preference is recruitment and retention of Australians and providing on-farm higher level skill set training that is relevant to diversified cotton farming operations.
- Legislative requirements for certification and machine ticketing operations in areas of Occupational Health & Safety demands that more emphasis has to be placed on meeting these requirements and the necessity of maintaining currency (huge gaps in this area still within the cotton on-farm operations).

Recommendations:

AgriFood Skills Solutions

Training and development strategies should take into account the following trend/nature of diversified on-farm operations:

- Seasonal climatic changes necessitates the on-farm operations to be a diversified operational model that includes; dry land and livestock farming ; thus requiring a workforce with diversified high skills that is transient between various on-farm operations. This enables growers/employers to maintain the current staff levels and provide long-term sustainable employment for existing workers that live locally.
- Skill set training in livestock and dry land (cereal/pulse etc.) farming is very relevant for this type of on-farm training; providing workers with the opportunity to adapt and ability to move between varying farm operations.

****Important point to note: Ed provided most of the information required in identifying ticketing for heavy machinery and operations. (Industry Occupational Health and Safety legislative requirements and relevance to implementation on-farm is key concern – workers have skills to operate machines but no formal papers/certificates/licenses).***

Industry Peak Body Consultation:

Stuart Armitage – Darling Downs Cotton Growers Inc. (Vice-President) and Grower:

Broader industry perspective, relating directly to on-farm experiences the following invaluable information was provided by Stuart in terms of current and emerging issues for the Australian cotton industry.

Seasonal changes: 5 million bales to 2 million bales this year (2015) – due to drought. However, prices this year has improved considerably and provided better fiscal outcome than previous year.

Contractors: The industry tightened the expenditure belt in the area of contractor engagement due to the seasonal climatic factors. Issues for contractors are;

- Overheads in their machine maintenance and operations
- Excess machines with huge cost to repay and only on average 1-2 of their machines working on-farm
- Forced sale of machines during low-operational demand times; (often at a financial loss) and when the operational demand increases (peak season) contractors cannot full-fill all on-farm operational requirements (due to earlier sale of machines to remain financially viable in times of drought).
- Contractors are required to manage their own skills requirements to remain in the industry (as they are only engaged for a niche high level skill set and the machines/technology at specific times)

- Contractors with machine and header are still easily secured on a permanent type retainer (although numbers are reduced due to mechanization/automation of the Cotton industry)

Mechanisation: There is an 80% drop in engagement of staff directly due to the move to mechanization of the industry.

Compliance Training / Workplace Health & Safety: Current training is not geared towards the 'small operator/grower'; it is convoluted and complex, with no clear 'how to...' (Interpretation) scenarios for small enterprises. Certification and machine ticketing is a huge issue in terms of compliance regulation demands for Workplace Health and Safety, which is very daunting for most on-farm operations. This is often a deterrent for not employing permanent staff.

Identified gaps (knowledge): Growers/employers are not always aware of the Training, skilling and development (HR) opportunities available through government and other strategies.

Training required and considered essential for now and the future: Essential skills and training are required in Business Management, Financial and Succession Planning. Refresher courses in Excel, AgData (Phoenix) and general office administration.

Impacts for Ginning to on-farm operations: This topic is covered in a separate document.

Recommendations:

- A Workplace Health & Safety module that is specifically centered around the small enterprise (with 1-2 employees)
- The provision of a visible/transparent information sharing of opportunities for training, skilling, funding and development of employees/workers on the CRDC/CA website.
- Development of strategies to engage up-skill and mentor young people on-farm (family and community) to be ready for the challenges facing the industry into the future (building a resilient cotton workforce).

Informal Meeting/Additional information:

Informal meeting with The Hon Minister John McVeigh (in his capacity as member of a generational cotton growing family and previous Ag portfolios)

The discussion was brief, but robust in sharing current and emerging trends in the cotton industry; which clearly underwrites/endorse the research findings of Ruth Nettle and others (size of the industry, reduction of workforce numbers, mechanization/automation, and legislative changes impacting on Visa 457 holders).

John felt it would be more advantageous for this project (in terms of clarity, context, and validity of information/data) if an in-depth discussion is held with an industry peak body that has a

AgriFood Skills Solutions

wide representation, not only in Queensland Darling Downs but also representing the region at inter-state cotton peak bodies. Hence the referral to Stuart Armitage (Vice-president representing the Darling Downs Cotton Growers Inc. at local and interstate level).

Appendix B : Key stakeholders – Interest and Alignment

Stakeholder Group
Cotton Growers
Cotton Industry
Local communities
Government
Institutional industry Service Providers
Farm Service Providers
Advisory
Education and Training Providers

Appendix C : Identified skills for farm business management

Function	Skills	Knowledge
Financial planning	Budgeting Understanding financial statements Develop a financial plan Gross marginal analysis Cash flows Enterprise analysis Credit management Collect and interpret data	sources of credit
Business planning/operations	Develop/implement/review a business plan Assess operating environment Identifying/quantifying opportunities Innovation / assess new developments Collect and interpret data Marketing / analysing market options Negotiation skills	Impact of internal factors Impact of external factors
Workforce planning, development & management (succession planning)	Identify critical job roles Recruitment Job role development Communication Time management Interact with others Skills needs analysis Leadership Performance review / management	Impacts of stress Basic health issues Legislative requirements (IR, WHS) Induction

Function	Skills	Knowledge
	Manage people	
Risk management - strategic	Forward contracting Insurance Risk matrix Whole farm planning SWOT analysis	Understand risk Risk tolerance Risk mitigation Production risk Price risk Risk variability
Resource management	collect and interpret data identify production triggers physical / land planning	

Appendix D - Indigenous Funding Strategies

1. Indigenous Advancement Strategy (IAS)

The Australian Government is committed to improving the lives of Indigenous Australians through increased participation in education and work, and making communities safer where the ordinary rule of law applies.

The Government has committed \$4.8 billion over four years to the Indigenous Advancement Strategy (the Strategy). In addition, a further \$3.7 billion has been allocated through National Partnership Agreements, Special Accounts and Special Appropriations. When taken into account, the total Indigenous-specific funding through the Prime Minister and Cabinet portfolio is \$8.5 billion. A significant level of grant funding is also available through Indigenous-specific and mainstream programmes delivered by other agencies. The Strategy is broad in scope, and flexible enough to support a wide range of activities, with a focus on action to achieve clear and measurable results, and with payment linked to the achievement of results and intended outcomes.

The IAS will replace more than 150 individual programmes and activities with five broad programmes these are:

1.1 Indigenous Advancement - Jobs, Land and Economy Programme

This programme aims to get adults into work, foster viable Indigenous business and assist Indigenous people to generate economic and social benefits from land and sea use and native title rights, particularly in remote areas.

1.2 Indigenous Advancement - Children and Schooling Programme

This programme focuses on getting children to school, improving education outcomes including Year 12 attainment, improving youth transition to vocational and higher education and work, as well as, supporting families to give children a good start in life through improved early childhood development, care, education and school readiness.

1.3 Indigenous Advancement - Safety and Wellbeing Programme

This programme is about ensuring the ordinary law of the land applies in Indigenous communities, and that Indigenous people enjoy similar levels of physical, emotional and social wellbeing enjoyed by other Australians.

1.4 Indigenous Advancement - Culture and Capability Programme

This programme will support Indigenous Australians to maintain their culture, participate equally in the economic and social life of the nation and ensure that Indigenous organisations are capable of delivering quality services to their clients.

1.5 Indigenous Advancement - Remote Australia Strategies Programme

This programme will address social and economic disadvantage in remote Australia and support flexible solutions based on community and government priorities.

IAS Application and guidelines can be accessed via the following link:

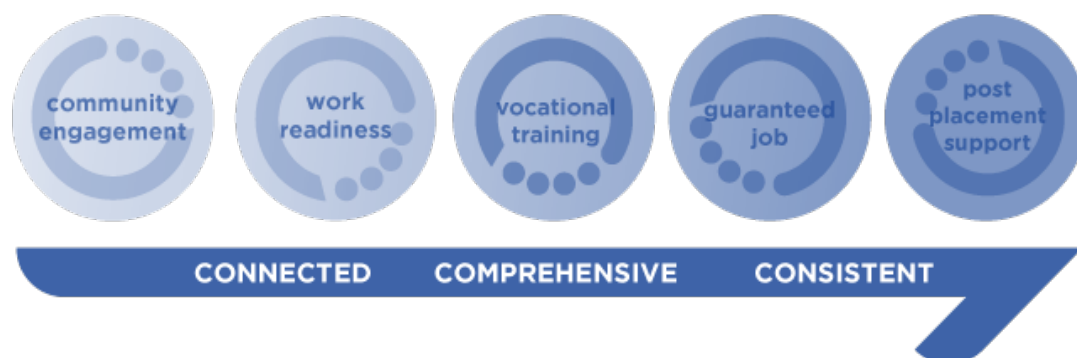
<http://www.dpmc.gov.au/indigenous-affairs/publication/indigenous-advancement-strategy-guidelines-july-2014#1.1>

2. Vocational Training and Employment Centre (VTECs)

The role of VTEC's is to connect Indigenous job seekers with guaranteed jobs and bring together the support services necessary to prepare job seekers for long term employment. The guarantee of a job before job-specific training starts is the key feature of VTECs.

VTECs operate with the support and involvement of local Indigenous communities and their leaders and are aligned to the values and needs of both Indigenous communities and employers. These operators are funded by the Commonwealth to link to job seekers with employers, whilst providing the funded services.

The five components of VTEC services are:



	Community Engagement - Engaging with Indigenous communities and building work aspirations amongst Indigenous job seekers.
	Work Readiness – Strengthening the capacity of Indigenous job seekers and comprehensively addressing barriers to employment.
	Vocational Training - Preparing Indigenous job seekers for a specific job in line with employers’ requirements.
	Guaranteed Job – A guaranteed job creates mutual commitment between job seekers and employers.
	Post Placement Support - Focuses on employee retention which could include employee mentoring and cultural awareness support for employers.

“Companies with successful Indigenous employment initiatives wanted to succeed, but not only for moral or “feel-good” reasons. They had a business rationale for making the program work and were committed to Indigenous Australians. In general, these companies had an inclusive approach to all employment — a diverse workforce and an appreciation of diversity built into company values, behaviours and business systems”...

Appendix E : ANZCO-Occupations and Qualifications in demand

Source: AgriFood 2015

ANZSCO Code	ANZSCO Occupation Title	Recognised Job Role	Qualifications	Justification
121	Farmers and Farm Managers	Mixed Crop Farmer Crop and Livestock Farmer Cotton Grower	AHC50110 Diploma of Agriculture AHC51410 Diploma of Agribusiness Management AHC60110 Advanced Diploma of Agriculture AHC60310 Advanced Diploma of Agribusiness Management MTM70111 Graduate Certificate in Agribusiness MTM80111 Graduate Diploma of Agribusiness	Evolving nature of farming into rural business driving widespread need for improved management skills in existing owners and managers. New skills required across farming specialisations (mixed crop and livestock) in response to major policy initiatives in areas such as water management, animal welfare and biosecurity. Identified by the NFF in its 2014 submission on the Skilled Occupation List (SOL) Listed on the Consolidated Sponsored Occupations List (CSOL)
721111	Agricultural and Horticultural Mobile Plant Operators	Cotton Picking Machine Operator	AHC32610 Certificate III in Rural Machinery Operations	Persistent shortages of regionally located mobile plant operators and drivers cited as a consequence of skilled labour drifting to the resource sectors, particularly felt in areas where the industries are co-located with employers reportedly recruiting from overseas. Deemed a critical occupation by industry. Identified by the NFF in its 2014 submission on the Skilled Occupation List (SOL)

Appendix F - References/Bibliography

ABARES, ABARES Outlook Conference 2013, *Future food, future farming in perspective*

ABS, Employee earnings, benefits and trade union membership, Cat. No. 6310, August 2007 to August 2012

Agrifood Skills Australia. (2015) – *Contemporary Business Strategies and Learning models in the agrifood industry* Nous Group

Agrifood Skills Australia. (2013). *2013 Environmental scan of the agrifood industry*. Canberra, Australia: AgriFood Skills Australia

Agrifood Skills Australia. (2014). *2014 Environmental scan of the agrifood industry*. Canberra, Australia: AgriFood Skills Australia

Agrifood Skills Australia. (2015). *2015 Environmental scan of the agrifood industry*. Canberra, Australia: AgriFood Skills Australia

Australian Workforce and Productivity Agency. (2013). *Food and Beverage Workforce Study*. Canberra, Australia: Australian Government

Beddie, F., Creaser, M., Hargreaves, J., Ong, A. (2014). *Readiness to meet demand for skills: a study of five growth industries*. Adelaide, Australia: National Centre for Vocational Education Research, 2014

Cotton Australia. (2013). *Cotton Australia Strategic Plan 2013-2018*. Mascot, Australia: Author.

Cotton Australia. (2014). *Cotton Annual 2014*. Mascot, Australia: Author.

Cotton Research and Development Corporation. (2013). *CRDC strategic research and development plan 2013-2018: Investing in RD&E for the world leading Australian cotton industry*. Narrabri, Australia: Author.

Cotton Research and Development Corporation. (2013). *Cotton Futures Forum outline and summary of the event*. http://www.crdc.com.au/sites/default/files/pdf/Futures-Forum-Delegate-Report1_0.pdf. Author

Deloitte Access Economics. (2011). *Modelling of supply and demand for Skills Australia*.

National Farmer' Federation. (2014). *National Agriculture Workforce Development Plan*. Canberra, Australia: National Agribusiness Education, Skills and Labour Taskforce (NEST)

Nettle, R., Moffatt, J. (OTHERS) (2013). *Draft Workforce Development Strategy*. Melbourne & Sydney, Australia: The University of Melbourne, The University of Sydney

Cotton Industry Vision 2029

Cotton Australia Strategic Plan (2013-2018)

Cotton Research and Development Corporation Strategic R&D Plan (2013-2018)

Environmental Scan 2015, 2014, 2013, 2012 (Agrifood Skills Australia)

Phase 1 Cotton Industry Skills Development Project – Progress Report

Tocal College – Background Paper (Service Delivery to the Cotton Industry)

AgriFood Skills Solutions

17th Australian Cotton Conference – Conference Paper ‘Skills Benchmarking in the Australian cotton industry’ by Charlie Bell

CRDC Cotton Growing Practices Survey Report -2013 (Human Resources)

National Farmers Federation National Agriculture Workforce Development Plan (June 2014)

Dairy Australia-People in Dairy (check website for details)

Australian Cotton Conference Paper by Charlie Bell/Sally Friis-2014

www.agskills.com.au

Australian Grown Cotton 2014 Sustainability Report – CA/CRDC

Australian Workforce and Productivity Agency, 2013