



FINAL REPORT 2019

For Public Release

Part 1 - Summary Details

Please use your TAB key to complete Parts 1 & 2.

CRDC Project Number: CRDC1701

Project Title: Measuring and reporting value of capacity building on farms and research to improve workforce capability

Project Commencement Date: 1 July 2016

Project Completion Date: 30 June 2019

CRDC Research Program: 4 People

Part 2 – Contact Details

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Signature of Research Provider Representative

Date Submitted: 12 June 2019

Part 3 – Final Report

(The points below are to be used as a guideline when completing your final report.)

Background

1. Outline the background to the project.

The Cotton Research and Development Corporation (CRDC) Strategic Plan 2018-2023 Goal 3 calls for 'building the adaptive capacity of the Australian cotton industry to enable the industry to achieve its future vision'. It is noted that ... *in addition, we will provide our industry stakeholders with opportunities to develop and advance innovation skills. CRDC RD&E investments will prepare Australian cotton growers for our changing environment and provide them with the skills to adapt to those changes.*

In 2015/16, it was recognised that significant technological advances were unfolding in an expanding Australian Cotton industry. Likewise, previous research had identified a nexus between an available skilled, capable, competent and professional workforce to meet these emerging needs. Thus, the rationale for this project was based on the premise that a skilled and capable workforce is known to contribute to the industry's profitability, sustainability and competitiveness.

However, the extent of availability of such a workforce to the range of cotton growers (from small to more corporate enterprises) as well as to the support sector (in particular the agribusiness advisory sector) and its capacity for, and methods of, professional development were largely unknown. Equally, ways of measuring the return on investment (ROI) and impact of undertaking forms of training, education, skill development and professional development were somewhat rudimentary.

Through the CRDC managed People Program (also representing Cotton Australia or CA), there was a demonstrated need to understand more about how skill development and professional development was undertaken. Similarly, ways of measuring impact and value for money of these initiatives, to provide objective measures of success (on-farm, in businesses and for research work) was also required. As result, a Monitoring, Evaluation and Reporting (MER) process was developed to measure the impact sought.

Objectives

2. List the project objectives and the extent to which these have been achieved, with reference to the Milestones and Performance indicators.

The objectives of this project were to undertake research to enable:

1. Cotton businesses to understand the value of improving the capability of their workforce.
2. CRDC to assess and report on the impacts of its investments via defined metrics in developing human capacity through investments in its People Program, while aligned to the new Strategic Plan.
3. The Australian cotton industry to make informed investment decisions to produce the skilled knowledgeable and progressive workforce it requires to continue being a profitable, sustainable and competitive industry.

The Project Outputs were:

- An Instrument to support cotton industry employers in measuring the return on investment/value of putting time, effort and money into skill development or professional development of their personnel (now proposed to be incorporated into the Cotton myBMP Program), and

- A MER framework on which a Return on Investment (ROI) or a Benefit:Cost Analysis (BCA) could be undertaken to measure the success of social research funded by the industry.
- A series of frameworks to allow the cotton industry to better understand capacity building approaches required or with potential to support future industry personnel development.

The expected Project Outcomes were:

- The capacity for employers to make more informed judgements about the value of skill development, training, education and professional development being undertaken in both formal and informal modes by their personnel and paid for by business owners;
- A simple framework for cotton growers (and agribusiness) employers to assess the value of staff development and professional development; and
- A series of metrics (measures of success) and methods of evaluating success, against the updated cotton industry MER Framework, resulting from this project.

In turn these outputs and outcomes allow the cotton industry to make more informed judgements about assessing the return on investment or impact of projects and activities against the levels of success sought in the CRDC Strategic Plan or other plans / strategies.

The project Achievements can be summarised as being:

- An MER Framework (series of underpinning frameworks) on which a Return on Investment or a Benefit: Cost Analysis could be undertaken to measure the success of social research funded by the industry – including metrics, systems, M&E methods, etc;
- These MER frameworks can be particularly applied to capacity building projects – funded by industry;
- A draft process by which the Cotton myBMP system can be adapted and developed – to meet emerging indicative extra myBMP Level 3 practices (supports HR practices in the revised module). This includes checklists and the capacity for training and professional development in leadership and a higher-level personnel management; supported by personnel performance metrics, to gauge improvements over time and alignment with industry performance;
- A series of frameworks, mapping data/schematics and findings/recommendations from the project – to support thinking and action in the industry around higher-level personnel management and creating a culture of learning in the industry;
- Increased awareness (including a recommendation around creation of a Cotton Industry Personnel Roundtable) – to support a strategic, on ground thinking activity to ensure implementation of project outputs, within the framework of a longer-term strategic plan of attack. Its purpose is to support the wider recognition/adaptation to changed industry needs in a global marketplace, which has a stronger focus on higher technology-based farm/business management practices. In addition, the focus is to support acquisition, management and retention of appropriately skilled personnel (including engaging younger more technologically savvy personnel across the growing and agribusiness sectors – could be expanded to all personnel sectors in the industry);
- Engagement with members of the People Program – and a group of additional Informed Persons; who could be instrumental/a catalyst for driving change in the industry;
- Extrapolation of these findings to a wider industry emerging issue – namely the fit of personnel management into wider higher-level business management (rather than production) across all cotton industry sectors and which appears to be lacking in this changing marketplace;

- A series of example Informed Persons Case Studies – which can help demystify the issues and solutions; particularly at an on-ground level relevant to growers at different stages of their business development (focused on personnel management);
- The data contains a number of approaches to personnel management gained from engagement with a range of Informed Persons – which could be used as the basis of industry conversations, strategic thinking and engagement around the project outcomes; in particular to support the proposed Cotton Industry Personnel Roundtable;
- Insights which can be benchmarked over time – using the Cotton Grower Survey and the Crop Consultants of Australia survey process to measure change over time and acquire additional data to ensure these matters are more fully understood (as needs evolve over time);
- The Catalyst for commencing an ‘Industry Conversation on Personnel and Business Management’ – which draws together work in the People Program and Cotton Workforce Development Project activities; and hopefully ensures the conversation continues on.

Methods

3. Detail the methodology and justify the methodology used. Include any discoveries in methods that may benefit other related research.

The methodology used in this research was guided by a People Program Steering Committee and was modified as the research progressed to meet evolving needs informed by the research and industry factors affecting the project evolution.

The approach used followed a research pathway of:

- Review of past People Program projects funded by CRDC (establishes metrics).
- Exploratory interviews with growers and agribusiness in the Namoi Valley (refines metrics).
- Insights sought from other industry personnel / workers such as those from/managing the Cotton myBMP program; Cotton Australia, Qld Farmers Federation, etc (refines metrics, scale and scope of RD&E work being undertaken and proposed) and applied programs.
- Literature Review (refines metrics, in context of scale and scope of RD&E work previously undertaken).
- Review of the pre-project and initial Monitoring, Evaluation and Reporting (MER) Framework used as the basis for the 2013-2018 CRDC Strategic Plan Workforce Capacity Program (insight into previous metrics, understanding the basis for assessing the success of previous capacity building RD&E work).
- Further development of a MER framework (based on development of metrics, key success factors, impact measures and Benefit:Cost Analysis parameters to inform development of the framework).
- Interviews/case studies with more advanced (in terms of personnel management) cotton growers and agribusinesses across a range of enterprise types and regions (in order to test the efficacy of the unfolding MER framework, against its application by more thoughtful, ‘people focused’ employers). (This subsequently included insights into more advanced holistic business management).
- Insertion of research questions into the workforce section of the Cotton Grower Survey 2018 (246 responses) in order to expand the reach and understanding of key factors affecting the employment of cotton industry personnel by employers.
- Regular engagement of the QualDATA team with the People Program Steering Committee (to ensure the emerging process and results were fit for purpose).

- Undertake work-shopping of the emerging results with a final group of users – in the research community, amongst employers and CRDC and CA personnel (to ensure ultimate fit for purpose and fine tuning of the emerging measurement tool, metrics and MER framework).

Results

4. Detail and discuss the results for each objective including the statistical analysis of results.

The objectives of this project were to undertake research to enable:

1. Cotton businesses to understand the value of improving the capability of their workforce.
2. CRDC to assess and report on the impacts of its investments via defined metrics in developing human capacity through investments in its People Program, while aligned to the new Strategic Plan.
3. The Australian cotton industry to make informed investment decisions to produce the skilled knowledgeable and progressive workforce it requires to continue being a profitable, sustainable and competitive industry.

The full report noted the difficulty of quantifying the results; although statistically relevant quantitative and qualitative data was reported. Because personnel management is a soft skill, many subtle issues need to be addressed. This proved somewhat problematic in implementing the methodology – although, the final report itself, was strongly recognised by the People Program Committee, CRDC and Cotton Australia as having contributed substantially to the industry discussions around personnel management; changes to Cotton myBMP and to supporting wider thinking about more holistic business management.

During the project, engagement with the agribusiness sector was expanded – with the result that findings around personnel management for growers are equally applicable to the agribusiness sector.

Defined, clear MER frameworks, metrics and M&E methods were reported as key areas of project results. Previous work of the project team elsewhere in the Australian agricultural and agribusiness sector demonstrate the applicability of these findings not only in the cotton industry, but more widely across the agricultural and agribusiness sectors.

Accordingly, the MER processes designed to allow CRDC (and CA) to objectively consider the level of success/impact (quantitative and qualitative) of People Program (capacity building) funded projects can be benchmarked across other sectors (dairy, meat and livestock, horticulture, etc).

The proposition of a Cotton industry Personnel Roundtable; plus the development of a series of schematics, models and strategic thinking around personnel management in the current and future evolving cotton industry workforce; supports continuing initiatives which, if supported, will provide a continued forum for discussion, agreement, funding, etc designed to produce the skilled, knowledgeable and progressive workforce required to support the future of the cotton industry.

Outcomes

5. Describe how the project's outputs will contribute to the planned outcomes identified in the project application. Describe the planned outcomes achieved to date.

The expected Project Outcomes were delivered as planned; namely:

- The capacity for employers to make more informed judgements about the value of skill development, training, education and professional development being undertaken in both formal and informal modes by their personnel and paid for by business owners – addressed by means of proposed changes to the Cotton myBMP HR modules; a series of metrics (Key Success Factors and Key Performance Indicators) on which growers and agri-business owners can make far more objective judgements about the value of their investment in skill development, training, education and professional development than they were able to previously. This includes the longer-term potential for the proposed Cotton Industry Personnel Roundtable and for the People Program (the program itself and its members), plus further capacity building RD&E, to make a more structured impact-based contribution to the required future personnel acquisition and management in the industry;
- A simple framework for cotton growers (and agribusiness) employers to assess the value of staff development and professional development – addressed partly by the MER frameworks, as well as the models, schematics and discussion in the project report (and with the People Committee, CRDC and CA, and employers) to support increased objectivity in decision-making; and
- A series of metrics (measures of success) and methods of evaluating success, against the updated cotton industry MER Framework, resulting from this project – which are objectively (and quantitatively and qualitatively) articulated within the various frameworks delivered as part of the project findings.

As noted above, these outputs and outcomes have stimulated the commencement of a cotton industry personnel management and business management 'open conversation'. The report findings and the proposed Cotton Industry Personnel Roundtable provide a vehicle for the cotton industry to make much more informed judgements about assessing the return on investment or impact of projects and activities against the levels of success sought in the CRDC Strategic Plan or other plans / strategies.

Due to the rigour of the processes used – while looking back to past project work and previous CRDC Strategic Plans and reframing work to meet the needs of the current CRDC Strategic Plan (2018-2023) – it is expected that the frameworks and processes developed as a result of this project will have a life expectancy of significantly longer than the life of the current strategic plan.

6. Please describe any:-

- a) technical advances achieved (eg commercially significant developments, patents applied for or granted licenses, etc.);**
- b) other information developed from research (eg discoveries in methodology, equipment design, etc.); and**
- c) required changes to the Intellectual Property register.**

A range of commercially significant models, schematics and project findings emerged. However, none have particular, specific commercial relevance warranting required changes to the Intellectual Property Register.

Conclusion

7. Provide an assessment of the likely impact of the results and conclusions of the research project for the cotton industry. What are the take home messages?

During the commissioning of this project, it became apparent that one of the most significant limitations facing the industry – growers, advisers, the agribusiness sector, the value chain, researchers, business owners/managers, etc – is continued access to appropriately skilled personnel in the longer term.

As a result of the project, a range of methodologies are now available to support more orderly access to, management of and retention of appropriately skilled personnel. At this point, there is limited quantifiable impact (key data are reported in the project findings) which can be stated.

However, the response from the People Program Committee at the final project debrief, demonstrates their belief that the project results, findings and recommendations (when fully synthesised and implemented) will have a significant future impact on the industry.

The Key Take-Home Messages are:

- A robust, defined across-industry/agri-sector MER methodology now exists – on which capacity building projects can be assessed for their level of impact (including the ability to use appropriate Benefit:Cost Analysis methods);
- This methodology can be extrapolated to support business owners and managers to make more objective assessments on the value proposition regarding their expenditure on skill development, training, professional development, etc;
- An open conversation around a more expansive approach to personnel management in the cotton industry has commenced – and the will is apparent to continue this conversation. This is on the basis that there is strong recognition that personnel management is a major limitation to the future of the industry (all sectors);
- A series of models, schematics and processes (Cotton Industry Personnel Roundtable) now exist – to provide a framework on which the continued conversation can be built;
- A number of previously largely unrecognised industry personnel and other limitations emerged from the project – namely the lack of personnel management and development skills/processes for higher level employed personnel to use; a similar lack for business owners and managers themselves and recognition that wider business management (as opposed to production) skills and professional development (of which personnel management is a significant but not the only subset) are missing;
- These emerging issues must be addressed urgently due to their expected future industry impact.

Extension Opportunities

- 8. Detail a plan for the activities or other steps that may be taken:**
- (a) to further develop or to exploit the project technology.**
 - (b) for the future presentation and dissemination of the project outcomes.**
 - (c) for future research.**

The researchers understand that the People Program Committee – and CRDC and Cotton Australia – are considering how best to implement the project findings, including disseminating the results. Accordingly, no specific extension or adoption plan has been developed from the research work.

Assuming the MER Frameworks and associated materials are implemented by both CRDC and Cotton Australia – as well as through employers – then a significant impact will have been achieved. Furthermore, that will result in longer term impact as capacity building projects are more rigorously considered, their findings assessed for their own impact and there is a way of assessing the wider contribution of capacity building/social research work to industry change over time.

The following areas were foreshadowed for future attention (research, extension, project work, etc) as a result of project recommendations:

- That further discussion, resource development, training and skill development is undertaken to develop cotton managers' understanding of the requirements to develop a more innovative and entrepreneurial workforce – to recognise the skills required to manage personnel in a more empowering and interactive manner and to bring in outside (the cotton industry) expertise to support this process;
- That a project is established to pilot implementation of more advanced personnel management skills and training for owners and managers of cotton farms and agribusinesses;
- That this work includes educating cotton managers on the implementation of The Personnel Sequence – in context of having and developing more appropriate Enterprise Management Philosophies (this model is a project finding);
- That these processes are developed in conjunction with updates to the Cotton myBMP HR modules;
- That the Cotton Grower Survey and Crop Consultants of Australia surveys are both used as vehicles to benchmark the level of success and change over time in changed personnel management strategies (and impact);
- That a stronger focus on understanding and implementing business best practice professional development is commenced in the cotton industry; and
- That the proposed Cotton Industry Personnel Roundtable is used as a vehicle to drive this change – along with the People Program – as a major industry funding and leadership vehicle.

9. A. List the publications arising from the research project and/or a publication plan.

(NB: Where possible, please provide a copy of any publication/s)

No publications arose from this research – nor are publication is proposed (at this stage).

B. Have you developed any online resources and what is the website address?

A proposed structure for the potential additions to the Cotton myBMP HR module can be viewed here (<https://couthtsjr.com.au/cottontool/>).

It is noted that The Personnel Sequence is partly derived from a “Plan, Get, Manage and Retain Framework” used by a report co-author when conducting the [ABDI](#) Business Management Program. (This Program is relevant to considerations around higher-level personnel management, in context of higher-level business management professional development and as noted by a case study respondent).

Part 4 – Final Report Executive Summary

Provide a one page Summary of your research that is not commercial in confidence, and that can be published on the World Wide Web. Explain the main outcomes of the research and provide contact details for more information. It is important that the Executive Summary highlights concisely the key outputs from the project and, when they are adopted, what this will mean to the cotton industry.

The Objectives of this project were to undertake research to enable:

1. Cotton businesses to understand the value of improving the capability of their workforce.
2. CRDC to be able to assess and objectively report on the impacts of its investments in developing human capacity, via an appropriate monitoring and evaluation system.
3. The Australian cotton industry to make informed investment decisions about how best to produce the skilled, knowledgeable and progressive workforce required into the future.

In other words, the Purpose was to support the cotton industry to make more informed assessments of the return on investment or impact of capacity building projects and activities at a strategic level.

The project outcomes can be summarised as:

- An overall Monitoring, Evaluation and Reporting (MER) Framework and measuring system was developed – to allow assessment of the level of success of industry funded social research and capacity building projects funded by industry;
- A personnel management process to support cotton growers in better managing and understanding the value of skill development, training and professional development – via an adapted and further developed Cotton myBMP system (supports Level 3 HR practices in a revised module). This includes checklists supporting increased capacity for training and professional development in leadership and higher-level personnel management; using personnel performance metrics, to gauge business and industry improvements over time;
- A series of frameworks, mapping data/schematics and findings/recommendations from the project – to support thinking and action in the industry around higher-level Personnel Management and how to create a culture of learning in the industry;
- Increased overall industry awareness (including a recommendation to create a Cotton Industry Personnel Roundtable) that supports a strategic and on ground thinking activity to ensure implementation of project outputs, within a framework of a longer-term strategic plan of attack. The purpose is to support the critical contribution of higher level personnel and their management in industry adaptation to changed cotton needs in a global marketplace (stronger focus on higher technology-based farm/business management practices; supporting acquisition, management and retention of appropriately skilled personnel; engaging younger more technologically savvy personnel across the cotton growing and agribusiness sectors; including expansion to all personnel sectors in the industry);
- Engagement with members of the People Program – and a group of additional Informed Persons – who could be instrumental/a catalyst for driving change in the industry;
- Extrapolation of these findings to a wider industry emerging issue – namely the fit of personnel management into wider, higher-level business management (rather than production) across all cotton industry sectors and which appears to be lacking in this changing marketplace;
- A series of example Informed Persons Case Studies – which can help demystify the issues and solutions; particularly at an on-ground level, relevant to growers at different stages of their business development (focused on personnel management);
- The data contains a number of approaches to personnel management gained from engagement with a range of Informed Persons – which could be used as the basis of industry conversations, strategic thinking and engagement around the project outcomes; in particular to support the proposed Cotton Industry Personnel Roundtable;
- Insights which can be benchmarked over time – using the Cotton Grower Survey and the Crop Consultants of Australia survey process to measure change over time and acquire additional data to ensure these matters are more fully understood (as needs evolve over time);
- The Catalyst for commencing an ‘Industry Conversation on Personnel and Business Management’ – which draws together work in the People Program and Cotton Workforce Development Project activities; and hopefully ensures the conversation continues on.

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