

## Proposal for Queensland Agriculture to Schools Engagement Program (QASEP) to connect the worlds of agriculture, learning and work

### Executive Summary

Agriculture remains the most diverse job market of any sector in the economy. It is well known that for various reasons, the expertise and labour supply needed in our sector is constantly challenged. Further, the rapid pace of digitalisation, mechanisation and the Internet of Things are changing current roles, education needs and training requirements. Overlaying all this is the global challenge of feeding, clothing and growing amenity for 9.8 billion people by 2050 in a changing climate, while maintaining quality products and nurturing the environment.

Agriculture is and will remain a key employer, particularly in Queensland’s regional communities, so it is critical that the awareness, education and employment pathways for our sector are effective. Following the Queensland Government decisions to cease funding for the Schools Industry Partnership Program (SIPP) and close the Queensland Agricultural Training Colleges (QATC) in Emerald and Longreach by the end of 2019, the sector is facing a significant gap in pathway responses.

In response to the Minister’s letter of 23 October 2018, this Rural Jobs and Skills Alliance (RJSA) proposal is consistent with the Queensland Government’s 2018-22 Strategic Plan and provides a pathway for government to deliver innovative, effective policy that is a critical element to realising a capable, high-performing workforce in our sector.

The core materials reviewed are outlined in Appendix 1 and include what we were able to document by covering the five initiatives identified in the Minister’s invitation. Contemporary literature has also been reviewed, and together this analysis forms the basis of the ‘Queensland Agriculture to Schools Engagement Program’ (QASEP).

The evidence presented in this proposal supports a comprehensive industry led program to address the gaps in schools-industry engagement, with an initial investment of \$7.8 million and \$38 million over 5 years to allow Queensland to achieve best practice. The proposal will improve the way schools and agricultural industries interact, provide mutually beneficial experience and learning and deliver the pathways the sector needs. The table below summarises the objectives and activities of QASEP and a graphic overview of the program is provided at Appendix 2.

Objective	Activities
1. <u>Industry awareness and contextualized learning:</u> To increase student awareness, engagement and participation in learning linked to agriculture.	<ul style="list-style-type: none"> <li>- Schools engagement in industry relevant learning initiatives and projects</li> <li>- Ag community engagement and awareness program</li> <li>- Agribusiness Gateways to Industry School Program (AGISP)</li> <li>- Ag in Context Grants</li> <li>- Industry Agriculture Education Learning Hub</li> <li>- Ag professional development program for teachers and career advisors</li> </ul>
2. <u>Career awareness:</u> To build students’ awareness and enthusiasm for a broad range of new and emerging careers in the sector, including STEM careers.	<ul style="list-style-type: none"> <li>- Industry expert mentoring program</li> <li>- Ag try and learn program</li> <li>- Ag community engagement and awareness program</li> </ul>

	<ul style="list-style-type: none"> <li>- Agribusiness Gateways to Industry School Program</li> <li>- Ag professional development program for teachers and career advisors</li> </ul>
3. <u>Experiential pathways</u> : To support students to transition from school to work and develop key employability and work-readiness skills needed in industries	<ul style="list-style-type: none"> <li>- Schools engagement in industry relevant learning initiatives and projects</li> <li>- Ag School to Industry Pathways</li> <li>- Industry expert mentoring program</li> <li>- Ag industry short courses</li> <li>- Qld AgSkilled program</li> <li>- Industry Agriculture Education Learning Hub</li> <li>- Ag GTO to encourage uptake of Apprenticeships and Traineeships</li> <li>- Ag Y13 program</li> </ul>
4. <u>Experiential and continuous learning</u> : To develop students' future work capabilities to current and emerging occupations in agriculture.	<ul style="list-style-type: none"> <li>- Ag Y13 program</li> <li>- Ag try and learn program</li> <li>- Ag GTO to encourage uptake of Apprenticeships and Traineeships</li> <li>- Qld AgSkilled program</li> <li>- Ag School to Industry Pathways</li> <li>- Ag industry short courses</li> <li>- Industry experts mentoring program</li> </ul>
5. <u>Increase schools' capability</u> : To build the capability of school leadership and teachers to provide up-to-date industry relevant learning.	<ul style="list-style-type: none"> <li>- Ag professional development program for teachers and career advisors</li> <li>- Industry expert mentoring program</li> <li>- Qld AgSkilled program</li> <li>- Industry Agriculture Education Learning Hub</li> </ul>
6. <u>Better education resources</u> : To increase access to state-of-the-art, industry standard technology and equipment to support teaching and learning activities.	<ul style="list-style-type: none"> <li>- Industry Agriculture Education Learning Hub</li> <li>- Industry expert mentoring program</li> </ul>

## Background

In October 2018, the Minister for Agricultural Industry Development and Fisheries, the Hon. Mark Furner MP, invited the Rural Jobs and Skills Alliance (RJSA) to develop a proposal for Queensland schools and industry engagement to achieve mutual goals relevant to learning through agriculture education and experiencing agriculture job activities.

The Minister requested the proposal incorporate a review of existing school-industry engagements and an identification of gaps in these initiatives to develop a holistic proposal that provides Queensland with a model of best practice and value for money. RJSA reviewed the Minister's invitation in November 2018 and agreed the Queensland Farmers' Federation (QFF) would develop a draft proposal on behalf of RJSA. Since the Minister's invitation for RJSA to develop this proposal, the government's decision to close the Queensland Agricultural Training Colleges (QATC) in Emerald and Longreach has created challenges for the communities and industries seeking alternate training models.

Recent focus on the relationships between schools and the world of work have tended to be driven by questions about the relevance of school curricula and teaching methods in a rapidly changing real world where technology change is altering jobs, careers and lifestyle prospects at an unprecedented pace. So much so, that many in our communities want a reassurance that our education and training systems are sufficiently engaged to ensure our children are properly prepared for such a changing world.

This has been firmly established by the 'Gonski 2.0 Review' that reiterated the need to strengthen partnerships across the system to achieve educational excellence in Australia. The subsequent Mitchell Institute report (Torii, 2018) identified school-industry partnerships as the means to deliver the value, quality and contextualisation sought through David Gonski's many recommendations. This is where agriculture and rural industries can partner with the education system to offer real opportunities and generate real benefits for the nation and its communities.

It is a foundation of current education practices that Science, Technology, Engineering and Mathematics (STEM) skills define many current and future jobs. But these disciplines also integrate to interdisciplinary skills that help young people understand and develop solutions for real world challenges (Siekmann, 2016). The need for STEM skills in agriculture is only going to increase as a substantial portion of the jobs created in agriculture will need STEM training. Therefore, agriculture is seen as a powerful learning ground for children and young adults and why this proposal integrates agriculture learnings to boost the effectiveness of STEM activities where it is feasible to do so. Industry relationships can help schools align more fully to contemporary skills for work options.

Recent studies show that the education system is challenged by these accelerating trends:

- young people are spending longer in formal education
- this generation of young people will have multiple careers
- the 'new work reality' is that education alone is no longer enough to secure full-time work
- career aspirations are formed early.

While we may be able to identify critical knowledge, skills and capabilities for 'future work', there are disparities across geographical and socioeconomic status (Torii, 2018, p. 2). Likewise, these economy-wide rapid changes are also impacting the school leaver's journey to jobs which are now taking longer and are more precarious. The Foundation for Young Australians (FYA) identifies that exposing students to real world skill experiences early is a key way to shortening that journey (2018). In a recent update, FYA proposes a four-part 'Future Skills Framework 2030' to create a shared vision and action plan (Foundation for Young Australians, 2019).

The Mitchell Institute report (Torii, 2018) noted that education systems around the world approach employer engagement in different ways. While Australia scores relatively high in OECD country comparisons, engagement here tends to have a career awareness focus (but can also involve work experience, internships, job shadowing) rather than the broader and deeper work connections provided for in some other countries.

Education Services Australia (2018) suggests this may be changing, particularly with more schools involved in STEM learning and greater awareness there are many skills and capabilities that industry partners can foster that schools alone cannot deliver. We are seeing more schools using industry partnerships to offer students inquiry-based learning opportunities within the school curriculum, beginning as early as middle primary.

### Selecting an Appropriate Schools-Industries Engagement Model

The Ai Group (2017) STEM Skills Pilot Project found a number of models and approaches to partnerships and the Mitchell Institute report (Torii, 2018) has developed these into a continuum of school-industry linkages as follows:

- Direct partnerships between an individual school and employer involving a range of activities both during school hours and additional time beyond school.
- Large scale partnerships engaging multiple schools, industry partners and intermediaries over multiple years such as the Pathways in Technology (P-TECHs) initiatives.
- Industry-supported teacher professional learning through activities including work placements, attendance at industry conferences/workshops and Massive Open Online Courses (MOOCs).

These were then summarised into a comprehensive Table of Outcomes of School-Industry Partnerships (Torii, 2018, pp. 9-10) which can guide a selection process for any stakeholder seeking to enhance school and industry interactions through structured arrangements.

In many ways these contemporary ‘models’ mirror the recommendations of the NSW Government Review into Agricultural Education and Training that are steadily being implemented in that state (Pratley, 2013). And they coincide with the growing interest in food and fibre education, especially in relation to the technology and science involved in producing and distributing our food. The recent announcement of the Technology Mandatory program for year 7 and 8 students in NSW is a culmination of this momentum and RJSA members will explore how such a program could be implemented in Queensland.

Aside from the Gonski 2.0 Review recommendations noted above, the guiding Australian policy for school-industry partnerships is the COAG Education Council STEM Partnership toolkits in development since 2017. This is a work-in-progress and as of mid-2018 only 500 of 9,000 Australian schools were registered on Starportal, the online platform for students, teachers and parents to engage with local STEM industry partnerships.

So, the state of play as at the beginning of 2019 remains that “more could be done at the system level to ensure school-industry partnerships are a priority in all schools” (Torii, 2018, p16). However, a consensus as to how this will be achieved remains elusive in regard to enriching school learning environments via relevant curriculums, partnerships that enhance teacher links to industry and overcoming systemic barriers to extra-curricular activities. Some school models related to sporting and artistic activities may suggest a way forward for industry and commercial engagements.

The Mitchell Institute report (Torii, 2018, p. 20) has provided a contemporary assessment of the way forward:

- School-industry partnerships need to be valued and measured at the system level.

- School-industry partnerships need to be a priority in all schools.
- Governments need to make it easier for all parties to engage in school-industry partnerships.

Taking these suggestions into account and following a review of the Queensland and national experiences detailed in Appendix 1, agriculture industry representatives propose a 'Queensland Agriculture to Schools Engagement Program'.

## Queensland Agriculture to Schools Engagement Program (QASEP)

This comprehensive proposal covers all school grades, the pathways to work and elements of VET. Noting the experiences from other states, a five-year term is needed to ensure continuity to attract and develop professionals to perform at the highest level. The five key areas identified in contemporary research for effective industry school engagement, namely: (a) awareness, (b) teacher capabilities and connections, (c) careers, (d) experiential learning and (e) training; have been addressed.

### Program aims

QASEP will actively engage with school communities to build awareness of agriculture's contribution to society. The program aims to build school-industry partnerships in Queensland to attract, inspire and provide informed career opportunities for young people to join the agriculture industries and meet their future workforce needs. Program aims will:

- provide real industry experiences that align with school curriculum and learning priorities
- promote the industry and its career options to students, educators and careers advisors
- help future generations to better understand their pathway options to careers in agriculture
- provide experiential learning to career seekers to explore their potential to work in agricultural industries
- provide individuals and groups with training and experiences to assist them to start a career in agriculture.

### Program considerations

Agriculture is a major sector of the Queensland economy. For 2018-19, the total value of Queensland's primary industry commodities (combined gross value of production and first-stage processing) is forecast to be \$18.54 billion, about average for the past 5 years. The sector constitutes about 3.6 per cent of gross state product and is responsible for more than 17 per cent of the state's exports of goods (Department of Agriculture and Fisheries, 2018).

More than many other sectors of the economy, agriculture has outstanding growth opportunities with the emergence of a food culture and an increasingly prosperous global market that values safe, ethical and sustainable produce (CSIRO Futures, 2017; CSIRO, 2015; Department of Agriculture and Fisheries, 2018). To meet these market demands the mix and diversity of industries that already exists within Queensland agriculture will change and intensification will be required. These growth and structural opportunities bring with them interesting future workforce opportunities and changes (Queensland Farmers' Federation, 2018).

Nationally, the sector has the oldest age profile with a median age of 49 compared with 40 across all sectors of the economy (ABARE, 2018). In some Queensland-centric industries such as sugarcane, the median age is much higher. The need for succession planning strategies to mitigate against skills and labour shortages is a clear priority across all agricultural industries. There is a need to work with the next generation's agricultural workforce to ensure they have the skills to be sustainable in the future. It is important that a culture of continuous improvement is supported to enable the next generation to embrace innovation and changes in technology as part of everyday business (Queensland Farmers' Federation, 2018).

In September 2018, RJSA finalised a three-year strategic plan with the purpose of ensuring a sustainable agriculture workforce in Queensland. One of the objectives (Objective 3) is to guide investment and implement programs to attract, develop, and retain a skilled workforce that will benefit Queensland agriculture's growth.

Within this objective, RJSA identified a priority goal to guide and advise initiatives that aim to attract and inspire new workers for Queensland agriculture. Two strategies were identified to achieve this goal:

- Strategy 1 - Provide advice and support to initiatives that aim at improving the understanding of students, educators and career advisors about career opportunities offered by our industries.
- Strategy 2 - Provide advice and support to programs that aim to improve the uptake of agricultural apprenticeships, internships and mentoring programs in order to provide businesses with the skilled workforce they need to succeed and grow.

The recent Queensland initiatives that supported the delivery of these objectives were:

- The School to Industry Partnership Program (SIPP) to engage and involve school students with agriculture. Future funding has ceased, and any funding saved by the closure of SIPP must be invested in such a way that it helps the sector more efficiently meet its workforce needs.
- The Agribusiness Gateway to Industry Schools Program (AGISP) that actively supported agricultural connections for selected school programs.
- The Queensland Agricultural Training Colleges' (QATC) various roles across two regional campuses and a number of regional hubs. QATC will cease to operate after 2019, and any funding saved by the closure of the colleges must be invested in such a way that it helps the sector more efficiently meet its workforce needs.

QASEP aims to provide a holistic solution to connect and train our future generations to realise a capable, high-performing workforce for our sector. The program addresses the future gaps that will result from recent government decisions and incorporates those elements that are continuing. To successfully achieve this, governments must observe best practice and ensure QASEP is industry led.

As mentioned by the Coldrake Review (2018, p. 3), the themes emerging from various reports on the state of agricultural education and training have been similar: “the shortage of young people choosing careers in the agricultural sector, the gentrification of the agricultural workforce, the dissonance between the inability to attract as against the potential new job opportunities opening up in agribusiness, the imperative to mobilise industry engagement strategies and the need for education and training providers to embrace flexible delivery”. The issue to be addressed is the need for a skilled and adaptable workforce that meets industry’s future needs – one that is well resourced, fit-for-purpose and responsive to ever-changing technological advances.

## Program objectives

RJSA will build on its partnerships with industries, schools, vocational education and training and tertiary sectors to achieve the following objectives:

1. Industry awareness and contextualized learning: To increase student awareness, engagement and participation in learning linked to agriculture.
2. Career awareness: To build students’ awareness and enthusiasm for a broad range of new and emerging careers in the sector, including STEM careers.
3. Experiential pathways: To support students to transition from school to work and develop key employability and work-readiness skills needed in industries.
4. Experiential and continuous learning: To develop students’ future work capabilities to current and emerging occupations in agriculture.
5. Increase schools’ capability: To build the capability of school leadership and teachers to provide up-to-date industry relevant learning.
6. Better education resources: To increase access to state-of-the-art, industry standard technology and equipment to support teaching and learning activities.

In implementing these objectives, QASEP will align with recommendations from the Independent Review into Regional, Rural and Remote (RRR) Education by:

- Expanding the availability, affordability and accessibility of high-quality work experience placements, VET, dual VET/university options and two-year associate degree programs for RRR students.
- Supporting RRR communities to implement innovative approaches to education delivery designed to improve education access and outcomes for students living in remote communities
- Ensuring RRR contexts, challenges and opportunities are explicitly included in the selection and pre-service education of teachers, initial appointment processes and their on-going professional support
- Ensuring RRR contexts, challenges and opportunities are explicitly included in the selection, preparation, appointment and on-going professional support of educational leaders

## Program activities

Objective	Activities
<p>1. <u>Industry awareness and contextualized learning</u>: To increase student awareness, engagement and participation in learning linked to agriculture.</p>	<ul style="list-style-type: none"> <li>- Schools engagement in industry relevant learning initiatives and projects</li> <li>- Ag community engagement and awareness program</li> <li>- Agribusiness Gateways to Industry School Program (AGISP)</li> <li>- Ag in Context Grants</li> <li>- Industry Agriculture Education Learning Hub</li> <li>- Ag professional development program for teachers and career advisors</li> </ul>
<p>2. <u>Career awareness</u>: To build students' awareness and enthusiasm for a broad range of new and emerging careers in the sector, including STEM careers.</p>	<ul style="list-style-type: none"> <li>- Industry expert mentoring program</li> <li>- Ag try and learn program</li> <li>- Ag community engagement and awareness program</li> <li>- Agribusiness Gateways to Industry School Program</li> <li>- Ag professional development program for teachers and career advisors</li> </ul>
<p>3. <u>Experiential pathways</u>: To support students to transition from school to work and develop key employability and work-readiness skills needed in industries</p>	<ul style="list-style-type: none"> <li>- Schools engagement in industry relevant learning initiatives and projects</li> <li>- Ag School to Industry Pathways</li> <li>- Industry expert mentoring program</li> <li>- Ag industry short courses</li> <li>- Qld AgSkilled program</li> <li>- Industry Agriculture Education Learning Hub</li> <li>- Ag GTO to encourage uptake of Apprenticeships and Traineeships</li> <li>- Ag Y13 program</li> </ul>
<p>4. <u>Experiential and continuous learning</u>: To develop students' future work capabilities to current and emerging occupations in agriculture.</p>	<ul style="list-style-type: none"> <li>- Ag Y13 program</li> <li>- Ag try and learn program</li> <li>- Ag GTO to encourage uptake of Apprenticeships and Traineeships</li> <li>- Qld AgSkilled program</li> <li>- Ag School to Industry Pathways</li> <li>- Ag industry short courses</li> <li>- Industry experts mentoring program</li> </ul>



Objective	Activities
5. <u>Increase schools' capability</u> : To build the capability of school leadership and teachers to provide up-to-date industry relevant learning.	<ul style="list-style-type: none"> <li>- Ag professional development program for teachers and career advisors</li> <li>- Industry expert mentoring program</li> <li>- Qld AgSkilled program</li> <li>- Industry Agriculture Education Learning Hub</li> </ul>
6. <u>Better education resources</u> : To increase access to state-of-the-art, industry standard technology and equipment to support teaching and learning activities.	<ul style="list-style-type: none"> <li>- Industry Agriculture Education Learning Hub</li> <li>- Industry expert mentoring program</li> </ul>

Refer to Appendix 2 for a graphic overview of QASEP.

### Program Resources

Consistent with Gonski (2018, p. 46), “Brokers provide support in making connections, building networks, developing partnering skills, and providing tailored support as partners move through the various stages of partnership development.” QASEP will be the broker to encourage the uptake of school-community engagement to overcome the resource intensity of bilateral engagement arrangements.

The delivery of the program will be supported by the following resources:

**Professional staff and support** - Employment of six FTE staff members to act as intermediaries, partners and brokers in driving partnerships and implementing program activities in individual and groupings of schools.

**Research services and evaluation** - Research activities and consultation with experts will take place to identify and update best practices in schools regarding industry partnerships and pathways. The program will also need to build and implement an impact and evaluation framework to assess benefits of the program.

**Online platform** - The portal will allow the delivery of activities including virtual delivery of meet the farmer, expert forums, STEM based activities, virtual tours, simulations etc. via technology to schools.

### Program detail and costing

ACTIVITY	CONCEPT	INVESTMENT Y1	INVESTMENT 5 YEAR
<b>Schools engagement in industry relevant learning initiatives and projects</b>	<p>The aim is to promote Food and Fibre education within Queensland schools as an essential part of the Australian Curriculum delivery and adequately support its promotion and adoption by schools</p> <p>To achieve this, the project will aim to provide industry context to learning opportunities including:</p> <ul style="list-style-type: none"> <li>- Provide industry-based learning projects that align to school learning outcomes</li> <li>- Provide industry-based examples and activities to help understanding of the school curriculum</li> <li>- Provide industry input into curriculum design</li> </ul>	\$600,000	\$3,000,000

ACTIVITY	CONCEPT	INVESTMENT Y1	INVESTMENT 5 YEAR
	<ul style="list-style-type: none"> <li>- Support innovative learning and teaching approaches</li> <li>- Liaising with industry bodies (i.e. MLA, CA, APL) to ensure that an industry created curriculum is suited and relevant to the QLD curriculum</li> <li>- Aligning resources delivered by industry bodies to the curriculum and then provide structured excursions (Workplace visits), experiments and interactions with industry that link directly to the curriculum</li> <li>- Deliver industry related STEM based curriculum and learning projects.</li> </ul> <p>To develop this activity, resources available through Primary Industries Education Foundation Australia (PIEFA) and other industry bodies will need to be reviewed and promoted.</p> <p>Learning resources will need to be developed, tested and constantly updated. Therefore, the budget will include the engagement of a learning resources development expert.</p>		
<b>Ag community engagement and awareness program</b>	<p>Engage with the general public at large scale events to create awareness of the importance of agriculture, showcase careers in agriculture and provide linkages to industry.</p> <p>The program will provide:</p> <ul style="list-style-type: none"> <li>- Personnel to present at careers expos and participate in awareness building campaigns</li> <li>- Enable site visits, simulations, and activities that create awareness of emerging occupations and demonstrate the skills needed</li> <li>- Promotion of available resources such as information available in Career Harvest and People in Agriculture.</li> </ul>	\$125,000	\$625,000
<b>Agribusiness Gateway to Industry School Program</b>	<p>During 2019 transition to an industry-led program which develops and implements the school engagement activities in line with their local industry's key skills and workforce priorities. This approach will be informed by the review of the Gateway Schools' model currently being undertaken by the Department of Employment, Small Business and Training (DESBT).</p>	\$450,000	\$2,250,000
<b>Ag in Context Grants</b>	<p>This program will be available to non-Gateway schools to receive a grant (previously \$5,000) to provide meaningful industry-based learning experiences to encourage students to make connections to agriculture in their community</p>	\$100,000	\$500,000
<b>Industry Agriculture Education Futures Hub</b>	<p>The hub will aim to increase the employability of tertiary agricultural students by preparing them with the skills and knowledge for a successful career in an increasingly complex and highly technical industry.</p> <p>The hub will aim to provide expertise, facilities and access to up-to-date and innovative technology and equipment available and used by the industry. Schools will be able to use the hub</p>	\$150,000	\$750,000

ACTIVITY	CONCEPT	INVESTMENT Y1	INVESTMENT 5 YEAR
	<p>to support innovative learning projects that aim at increasing use of inquiry based and real projects related to industry. The hub will include industry business, and or research and training facilities across different regions.</p> <p>Specific learning projects and activities will be designed using the available resources.</p>		
<b>Industry expert mentoring program</b>	Develop the skills of industry professionals to act as mentors to teachers and school students. Industry professionals will then be connected to teachers and students as mentors for the delivery of specific activities and projects.	\$150,000	\$750,000
<b>Ag try and learn program</b>	<p>This program will enable people who are interested in agriculture to sample and test what it is like to work in the industry. Students will be placed in industry for a short time.</p> <p>The program will provide students a better understanding of the industry and the work that's involved so that they can make an informed decision about their future. Programs such as FEAST Future Experience managed by UQ in Agriculture, Science and Technology will be promoted.</p>	\$700,000	\$3,500,000
<b>Y13 program</b>	<p>This program seeks to provide an industry gap year to encourage school leavers to take up employment on farms between school and university. This gap year program will connect gap year students to training options.</p> <p>Current traineeship requirements around new entrants are not appropriate for this industry as many employers are interested in traineeships after 1-2 years of casual employment. Farmer employers are reluctant to invest in traineeships until they are confident in the candidates.</p> <p>The idea is to have a cohort of interested growers involved in the program who will recruit students to work on farms for a year between school and university.</p> <p>Stakeholders would be: a cohort of growers, industry bodies, and a variety of available resources in the Y13 online portal to engage students and schools.</p>	\$100,000	\$500,000
<b>Ag School-Industry Pathways</b>	In this program students complete a Certificate II (under the VETiS model) within the related primary industries' qualifications. The program will provide work placements for these students, training resources and mentoring to support their learning. It will also promote and facilitate activities to help young adults who would like to forge a path in agriculture and related industries.	\$250,000	\$1,250,000
<b>Ag GTO (Group Training Organisation) to encourage uptake</b>	The Group Training Organisation (GTO) model is the preferred one when it comes to providing the needed support to meet the specific needs of the industry to use apprenticeships and traineeships for new entrants. The Agriculture specific GTO will employ apprentices and trainees and place them with host	\$150,000	\$750,000

ACTIVITY	CONCEPT	INVESTMENT Y1	INVESTMENT 5 YEAR
<b>of Apprenticeships and Traineeships</b>	employers. The GTO will ensure that employees receive suitable training and experience. The GTO will find a suitable 'host' employer for each apprentice or trainee to work with on a daily basis while ensuring the employer is guided through the process.		
<b>Ag industry short courses</b>	A series of flexible training short courses providing school children with some basic industry training that can help them meet the identified skill needs required by the industry. These short courses will also help test their suitability for that work.	\$300,000	\$1,500,000
<b>Qld AgSkilled program</b>	<p>This industry-led program will deliver training to those with a genuine interest in agricultural industries. This includes those entering the industry (starting at school level) and those already in the industry looking to upskill.</p> <p>Current, relevant and flexible, the training will be designed and delivered to suit business needs and learners with a range of skills and experience. Fee-free training on areas where industry have identified training gaps will be provided.</p> <p>Specific elements will include:</p> <ul style="list-style-type: none"> <li>- Skills Needs Analysis: Identification of skills gaps</li> <li>- Skill development: Flexible accredited and non-accredited (aligned to units of competencies) training</li> <li>- Training will be provided through appropriate RTOs.</li> <li>- Training resources development - latest up-to-date training resources developed.</li> </ul> <p>AgSkilled aims to deliver through training:</p> <ul style="list-style-type: none"> <li>• Safer farming practices</li> <li>• More efficient production techniques</li> <li>• Better business and technology knowledge</li> </ul> <p>The program will contribute towards:</p> <ul style="list-style-type: none"> <li>• Driving the productivity, profitability and competitiveness of the agriculture industries by developing a dynamic workforce capable of managing current and future challenges</li> <li>• Establishing a clearly defined career pathway underpinned by an appetite for lifelong learning underpinned by flexible VET training that is relevant, current and meets short-and long-term industry needs</li> </ul> <p>This program will work closely with the Regional Skills Investment Strategy (RSIS) to ensure the delivery of flexible and relevant industry training.</p>	\$3,000,000	\$15,000,000
<b>Ag professional development program for</b>	The program will aim to improve teachers and career advisors' awareness and understanding of industry relevant knowledge to be able to provide guidance and industry relevant learning.	\$200,000	\$1,000,000

ACTIVITY	CONCEPT	INVESTMENT Y1	INVESTMENT 5 YEAR
<b>teachers and career advisors.</b>	<p>The program will aim to run easy-to-access professional development workshops and webinars for teachers. The program will encourage school teachers to attend available industry conferences and training events in a range of STEM industry related subjects.</p> <p>The program will also hold an annual Food, Fibre and Agricultural Educators conference to provide professional development for teachers and agriculture assistants interested in agriculture, science and technology.</p>		
<b>SUPPORTING RESOURCES</b>			
<b>Professional Staff, 6 FTEs and Support<sup>1</sup></b>	<p>These professionals will act as intermediaries, partners and brokers to drive partnerships as well as implement the programs activities which include:</p> <ul style="list-style-type: none"> <li>• Overseeing the implementation of the program whilst ensuring manageable and trackable outcomes meet industry's needs</li> <li>• Providing RJSA and the government with relevant, real time information about the state of agricultural education and employment in QLD through its board/steering committee</li> <li>• Providing cross-industry engagement with students that is not seen to favour one commodity but ensures broad and not narrow experiences wherever possible</li> <li>• Having a vibrant and mobile workforce who can travel extensively to ensure maximum coverage of the state.</li> </ul>	\$1,050,000	\$5,250,000
<b>Research and Evaluation Services</b>	<p>These services will identify and implement Best Practices in schools – industries partnerships and pathways. These services will also include building and implementing an impact and evaluation framework to assess benefits of the program.</p>	\$250,000	\$1,250,000
<b>Online portal</b>	<p>This online platform will aim to help the delivery of the activities of the program. The portal will help schools to access relevant information, resources, and training, as well as encourage online interactions with industry experts and peers. It will help the professional staff to provide connections and inspire awareness to enhance schools to industry partnerships.</p> <p>The portal will allow the virtual delivery of meet the farmer, expert forums, STEM based activities, virtual tours, simulations etc. via technology to schools who are unable to easily access excursions.</p> <p>The portal will also deliver relevant online training/mentoring for teachers and staff.</p>	\$200,000	\$1,000,000
<b>TOTAL</b>		<b>\$7,775,000</b>	<b>\$38,875,000</b>

## Program governance

An independent board/steering committee will be established to oversee QASEP involving representatives from RJSA, PIEFA, independent experts representing the education sector, and employment in agriculture, and an independent chair (using Queensland government and Australian Institute of Company Directors' guidelines for board selection). RJSA will selection members of the governance group, with program KPIs and direction the responsibility of the board/steering committee.

## Biography

- ABARE. (2018). Snapshot of Australia's Agriculture Workforce. *ABARE Insights*(3).
- Coaldrake, P. (2018). *Review of the future of vocational education, training and skilling in central-western Queensland*. Queensland Government .
- CSIRO. (2015). *Rural Industry Futures: Megatrends impacting Australian agriculture over the coming twenty years*. Retrieved from <http://www.agrifutures.com.au/wp-content/uploads/publications/15-092.pdf>
- CSIRO Futures. (2017). *Food and Agribusiness Roadmap: Unlocking value-adding growth opportunities for Australia* .
- Department of Agriculture and Fisheries (DAF). (2018). *Queensland AgTrends 2018–19: Forecasts and trends in Queensland agricultural, fisheries and forestry production*.
- Department of Agriculture and Fisheries. (2018). *Queensland agriculture and food research, development and extension 10 year roadmap and action plan* . Retrieved from <https://publications.qld.gov.au/dataset/qld-agriculture-and-food-research-development-and-extension-roadmap/resource/5ab53e3a-b245-4271-aefc-774fcc560765>
- Department of Agriculture and Fisheries. (2018). *Queensland agriculture snapshot*.
- Education Services Australia. (2018). *Optimising STEM Industry- School Partnerships: Inspiring Australia's Next Generation Final Report*.
- Foundation for Young Australians. (2019). *Future Skills Framework 2030*. Retrieved from <https://www.fya.org.au/futureskills/>
- Gonski, D., Arcus, T., Boston, K., Gould, V., Johnson, W., O'Brien, L., . . . Roberts, M. (2018). *Through Growth to Achievement: The Report of The Review to Achieve Educational Excellence in Australian Schools*.
- Innovation and Science Australia. (2017). *Australia 2020: prosperity through innovation*. Canberra: Australian Government.
- Mann, A., Rehill, J., & Kashefpakdel, E. T. (2018). *Employer engagement in education: Insights from international evidence for effective practice and future research*. London: Education Endowment Foundation.
- Pratley, J. E. (2013). *Review into agricultural education and training in New South Wales*. NSW Government. Retrieved from <http://hdl.voced.edu.au/10707/284608>.
- Queensland Farmers' Federation. (2018). *Ag Futures and Training Needs Research Report* . Report submitted to Jobs Queensland .
- Queensland Farmers' Federation. (2018). *Ag Futures and Training Needs - Research report*. Jobs Queensland .
- Regional Australia Institute. (2016). *The Future of Work – Setting Kids up for Success' report*.
- Siekmann, S. (2016). *What is STEM? The need for unpacking its definitions and applications*. National Centre for Vocational Education Research. Retrieved from [https://www.ncver.edu.au/\\_\\_data/assets/pdf\\_file/0023/61349/What-is-STEM.pdf](https://www.ncver.edu.au/__data/assets/pdf_file/0023/61349/What-is-STEM.pdf)
- The Australian Industry Group (Ai Group) . (2017). *Strengthening school-industry STEM skills partnerships*. Office of the Chief Scientist.
- Torii, K. (2018). *Connecting the worlds of learning and work: Prioritising school-industry partnerships in Australia's education*. Mitchell Institute.
- World Economic Forum. (2016). *The future of jobs: employment, skills and workforce strategy for the Fourth Industrial Revolution*. Retrieved from <http://hdl.voced.edu.au/10707/393272>.

## Appendix 1 Some Recent Initiatives for Agriculture Schools – Industries Engagement

Queensland has over 13 years of experience with programs to keep the education and training sectors informed about agriculture activities and industry opportunities, but by everyone's admission they have underperformed. Inadequate program structures, fragmented approaches and under-resourcing or misdirecting for the tasks required have been the main reasons for the underperformance. In 2018, both the Coldrake Review of QATC and DAF's external assessment of SIPP highlighted that the past approaches were inadequate for the tasks required now and into the future. RJSA has requested the ACIL Allen report for Jobs Queensland on industry engagement several times (but not received) and suspect that it would make similar conclusions.

These shortfalls or gaps are squarely linked to the reality that these programs are internal to two government departments, with only limited involvement and ownership by industry. The literature suggests that this is a failure of program design and should be addressed. Industry engagement with the education and training sectors needs to be of the highest standard and industry led and driven. But industry is busy with business and often overlooks the connectivity to schools, training and skills pathways to jobs. This is the gap that RJSA members believe needs to be addressed through QASEP, as the following assessments illustrate.

### Agribusiness Gateway to Industry Schools Program (AGISP)

AGISP is a component of a state-wide industry engagement and workforce development strategy to support the long-term development of a highly skilled workforce. The Queensland Department of Employment, Small Business and Training is building partnerships between schools and industry to facilitate this with six industry groupings so far engaged. The program provides opportunities for industry and the education sector to work together to deliver outcomes for students, local communities and businesses. Students that participate in the program will be exposed to a range of learning experiences that will assist them in their career choices and pathways to employment. Industry organisations have discretion over how the industry specific projects operate and the type and level of engagement with participating schools.

AGISP is managed by DAF on behalf of industry with RJSA now providing an industry reference point for experiential learning opportunities in selected senior schools. For 2018-19, 31 schools were actively engaged, and this involved about 6,740 students, including 1,055 undertaking some VET courses. For 2019 and beyond, RJSA will seek to ensure more industry involvement with more schools and their VETiS training activities.

### Queensland Agriculture and Food Research and Development 10 Year Road Map

There are several contemporary guiding reports outlining the opportunities and challenges for Australian and Queensland farmers, agribusinesses and service providers. Both the Queensland and Australian Road Maps for Agriculture identify education and skills training as critical for industry development using a modern and skilled workforce. The Queensland Roadmap acknowledges the capability and skills challenge for agriculture and food RD&E is whether the pipelines are in place to deliver the researchers, extension officers and other experts that will be needed by the sector in 10 years' time and beyond. This requires an explicit strategy and action plan "to proactively work with industry and key stakeholders to promote future career opportunities in agriculture and food across the education sector and encourage the focus on science, technology, engineering and mathematics (STEM) in schools to prepare young people for careers in agriculture and food RD&E" (Department of Agriculture and Fisheries, 2018). These actions must be



complementary to the broader schools-industry engagement that supports real industry experiential learning.

## Education Queensland STEM programs

Australian Bureau of Statistics (ABS) data indicates that in 2017 there were 1,737 schools in Queensland (61% state schools, the rest independent but operating within the same QCAA frameworks). These Queensland schools had 812,792 students who were serviced by 88,565 teachers and support staff.

Education Queensland has a strategy for STEM in Queensland schools that is linked to digital technologies and utilises partnerships with industry, universities and the community to expand uptake in every Queensland school. It is acknowledged that agriculture can offer a powerful integrating setting for STEM subjects as well as provide appropriate experiences to boost (a) student engagement, (b) student achievement and (c) teacher capability and confidence in these subject areas.

The Optimising STEM Industry - School Partnerships: Inspiring Australia's Next Generation Report (Education Services Australia, 2018, p. 43) states it is important to identify a framework within which schools and industry can operate. They argue industry can play a role in:

- Supporting staff with expertise to engage with schools
- Providing context and content
- Providing facilities and technical capabilities
- Providing real examples of how curriculum knowledge is useful in the workplace
- Providing financial support, for example seed funding, or teacher replacement
- Providing opportunities for work placements or pathways to work in conjunction with schools and VET where appropriate
- Providing concrete links between STEM skills in school and pathways to employment opportunities through career information.

## Schools Industry Partnership Program (SIPP)

SIPP was a partnership between DAF and AgForce that was funded from 2005 to 2018. The government made the decision to discontinue funding the program due to apparent limited reach and equity considerations. Since then the Department of Employment Small Business and Training has provided one-year funding to support some of the key elements of SIPP through the AGISP.

QFF on behalf of RJSA reviewed the external evaluation report and found its use of DAF's Evaluation Guidelines to assess effectiveness and value for money of SIPP inconsistent. This is mainly because several 'planned outcomes' are used interchangeably throughout the report. For instance, if SIPP was designed to address declining labour force participation in agriculture by increasing enrolments in agriculture-related tertiary education (p.3), then in our view the annual investment of \$181,000 misaligns with such an ambitious objective. RJSA accepts the transition arrangements being put in place for 2019 and will work with members to ensure close alignment with AGISP and the wider schools' engagements that will be developed during the year.

## Queensland Agriculture Teachers Association (QATA)

QATA is a member organisation that facilitates communication and exchanges of information between teachers of agricultural subjects in Queensland schools with a focus on the development of teaching skills relevant to agricultural education. While RJSA members recognise QATA as an important point of call for schools' engagement, the proposal for 2019 and beyond will require us to engage widely with teachers

involved in the full STEM spectrum. In recent years, the AgForce SIPP team has conducted the bi-annual Food, Fibre and Agricultural Educators Conference and this approach should be considered for future years as an efficient means for updating teachers and improving their confidence to educate about contemporary agricultural industries and agri-tech.

### Primary Industries Education Foundation Australia (PIEFA)

PIEFA informs students, teachers and the broader community about the role and importance of primary industries in the Australian economy, environment and wider community through resources and partnerships that communicate contemporary information about our food, fibre and primary industries’ production and supply chains. It manages the important web portal, Primezone, that provides teachers, parents and students with primary industries education resources from Foundation to Year 10, across all eight learning areas, that is relevant to the Australian Curriculum.

In 2018 PIEFA took on the role of managing, curating and expanding the Career Harvest website to be the first point of contact for students, teachers, career advisors and parents to seek information about jobs, careers, pathways, scholarships and internships within agricultural, agribusiness and associated industries. RJSA is an active sponsor of this important national approach to encourage new entrants to seek work in the sector.

PIEFA essentially promotes its members’ materials and has a national focus which leaves gaps in resource materials relevant to Queensland agriculture and school curriculum. These gaps will need to be addressed professionally in 2019 and beyond. PIEFA has proposed a Queensland Food & Fibre Education arrangement similar to the one being implemented in NSW. RJSA members will assess its capacity to deliver in Queensland school contexts following a briefing from PIEFA on progress in NSW with “Technology Mandatory Y7 and Y8” early in 2019.

### VETiS in Queensland schools

Department of Employment, Small Business and Training  
 Market Oversight – Training Activity Report (Summary): 29/01/2019  
 VET in Schools (VETiS) (Secondary school students and Youth in Detention)

Primary Industries (PI) students:	Commencements		Completions	
	2016/17	2017/18	2016/17	2017/18
Agriculture	1,088	1,142	486	627
Horticulture	250	91	165	65
Land M’gmt	29	15	25	4
<b>Total PI:</b>	<b>1,367</b>	<b>1,248</b>	<b>676</b>	<b>696</b>
<b>Total All students:</b>	<b>24,766</b>	<b>20,731</b>	<b>15,876</b>	<b>11,140</b>

### Cotton Australia Year 13

‘Cotton Gap’ is an opportunity for cotton growers to reach operational staff who have just finished school and are interested in either a long-term career in the cotton industry or 12 months’ employment in the form of a ‘gap year’. Employers are supported to ensure they are meeting their workplace health and safety and employment requirements (through myBMP) and are aware of relevant and current government subsidies

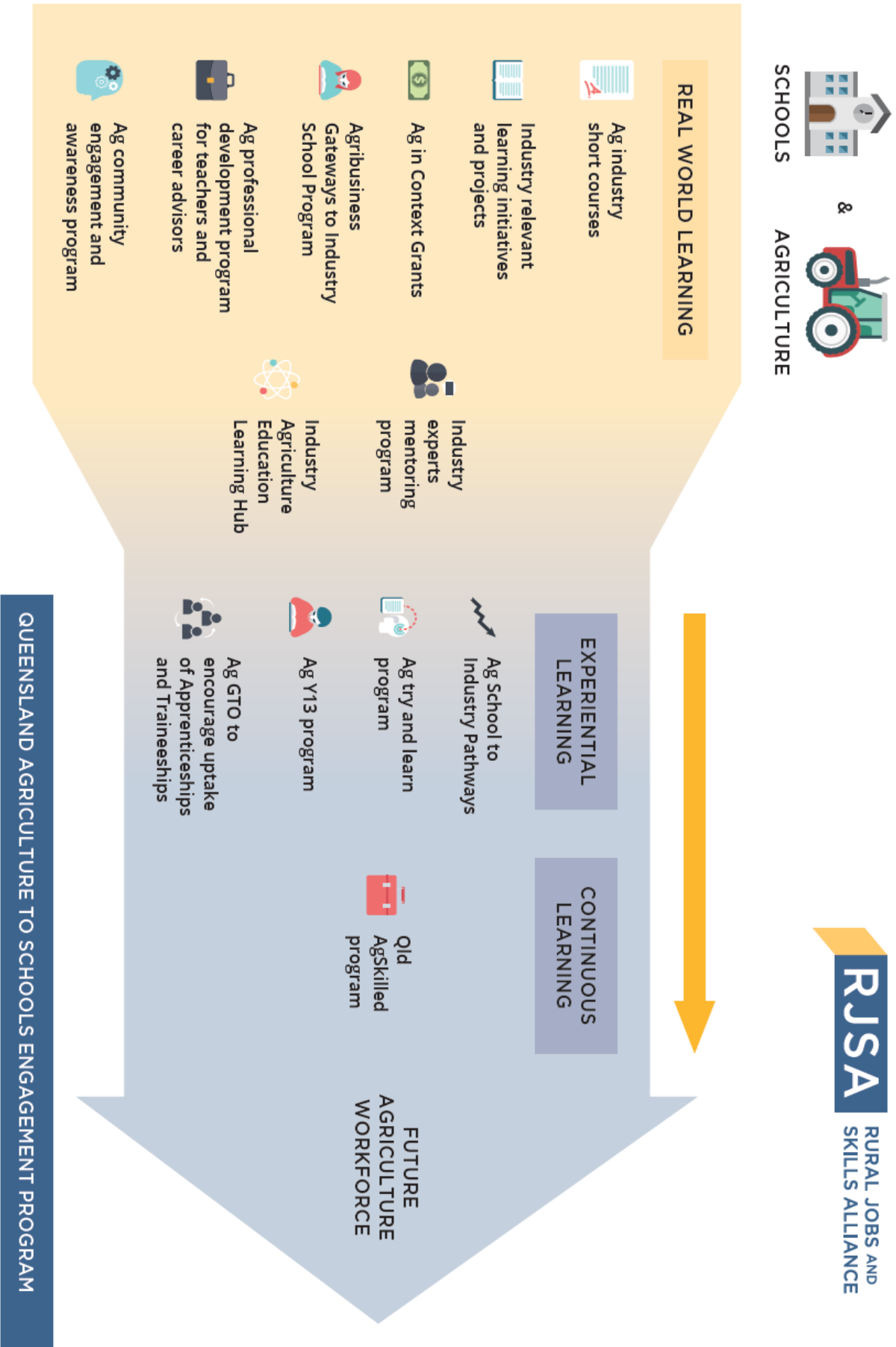
for employment and training. Entry-level training opportunities are made available to new industry entrants. The success of these type of programs depends to some extent on weather conditions and commodity prices providing farming enterprises with opportunities to employ young people. In 2017 there were 17 successful placements, but in 2018 there were just 8 placements due to limited farm opportunities because of drought. <https://cottonaustralia.com.au/work-in-cotton/cotton-gap>

[Review into Agricultural Education and Training in New South Wales \(Pratley Review 2013\) and subsequent implementation of recommendations.](#)

The comprehensive NSW Pratley Review completed in 2013 made recommendations for both industry and government across all aspects of the education and training sectors to produce incremental improvements that when taken together would produce transformational change and restore agriculture “to its rightful place as a leading player in the Australian community”. The many processes to bring about those changes are only now being implemented, one of these being the \$14.7 million over three years AgSkilled cotton and grains industry partnership for VET to support the NSW Agriculture Industry Action Plan to 2020 using the NSW government Smart and Skilled Initiative.

For slightly different reasons the Victorian government has announced a \$20 million four-year smarter, safer farms initiative to four industries to drive training improvement through research farms that will become hubs for industry-schools engagement and industry training.

Appendix 2. QASEP at a glance



## Appendix 3. The Rural Jobs and Skills Alliance (RJSA)

RJSA is a collaborative initiative across agriculture industry representative organisations to provide a united voice for agriculture to assist Queensland industries in attracting, training and retaining appropriately skilled agricultural workers – both now and in the future.

The Queensland agricultural sector is complex and does not have the resources available to many other sectors. Hence, collaboration across agricultural industries was necessary to ensure that the sector keeps pace and remains competitive in attracting and developing a fit-for-purpose workforce. QFF, Growcom, CANEGROWERS, Cotton Australia and AgForce took the challenge and worked together for several years to improve our industries' engagement with the education and training sectors.

By October 2015, with Ministerial approval, stakeholders negotiated a Collaborative Agreement with the Department of Agriculture and Fisheries to fund a three-year work program to support their efforts to attract and retain suitably skilled workers for the wide range of jobs that need to be filled to support the sector. In 2018, the government committed to fund RJSA for a further three years.

As expected, it took time to get consensus from the diversity of agricultural industries operating across Queensland, but RJSA is now starting to find its critical need and new member industry organisations have joined the Alliance (i.e. TABMA and Irrigation Australia). Partners have agreed that RJSA is an important mechanism for engaging Queensland's agricultural industries, government agencies and training providers to consider what actions and program initiatives are most useful in addressing rural workforce issues, especially those associated with the attraction, retention and development of appropriately skilled workers.

Through the success of RJSA, a degree of capacity in workforce planning that benefits the whole agriculture sector has been developed. RJSA now has strong links with state and federal employment and training agencies and has established itself as a key source of the labour market and training intelligence for industry and government. Government funding is critical to the continuation of RJSA's progress and members have demonstrated their commitment for this industry-led initiative with a strategic plan for 2018-21 now in place to prioritise effort and help ensure a sustainable workforce for the sector:

[https://www.qff.org.au/wp-content/uploads/2018/10/RJSA-Strategic-Plan\\_v4.pdf](https://www.qff.org.au/wp-content/uploads/2018/10/RJSA-Strategic-Plan_v4.pdf).