PROGRAM EVALUATION

Evaluation of the Agricultural Education Program

June 2017
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Executive Summary

This publication is part of a series summarising program evaluations to enhance the accountability and transparency of NSW Department of Industry activities. Program evaluations aim to identify whether government intervention is appropriate, and whether the program achieved the intended outcomes.

The Agricultural Education Program

The Agricultural Education Program (the Program) provides a range of services revolving around Tocal College, an accredited registered training organisation (RTO). This enables the Program to provide services to government and industry (on behalf of government), to school students and young people from disadvantaged backgrounds, and into the vocational education and training (VET) market where there are recognised market gaps and workforce capability gaps.

The Program helps drive improvement in industry practice by incorporating best practice teaching in its course offerings. This facilitates innovation and speeds up the embedding of technology in farming systems, pushing practice to the production frontier.

The demand for agriculture related VET services, in NSW, can be characterised as narrow and dispersed, particularly for small rural communities and remote locations. The Program provides an integrated state-wide education and training service that includes service provision in rural and remote locations that would struggle to access these services in the absence of the program.

The Program currently engages the services of 70 full time equivalent staff plus 27 casual staff deployed across eight locations including Menangle, Orange, Ourimbah, Paterson (Tocal), Tamworth, Trangie, Wagga Wagga and Yanco. Total annual Program expenditure is approximately $11 million, with approximately $7 million of revenue.

Objective

The objective of the Program is to provide high-quality agricultural-related education and training, for both industry and broader economic and community benefit, so as to improve capability and productivity of NSW agricultural industries.

Cost Recovery

The evaluation assessed the existing program pricing arrangements relative to the cost recovery principles outlined by the Productivity Commission in its 2001 Inquiry Report on Cost Recovery by Government Agencies.

Application of the Productivity Commission’s cost recovery principles to the delivery of agriculture-related VET courses by the Program indicates that the cost of these services should be cost recovered at the commercial cost of provision. However, prices are regulated by IPART and Smart and Skilled government-subsidised training (vouchers) meaning that Tocal College prices are identical to those of other RTOs providing the same course.
Performance Measures

Key performance measures and indicators measure program performance and progress towards meeting government policy objectives. They demonstrate how effective a program is in producing the required outputs that directly contribute to achieving the desired outcomes.

The Program’s output measures include teacher professional development activities delivered with >80% satisfaction, 85% course completion rates for residential education and traineeships, continued compliance with RTO standards, and 17,500 publications and 1,750 ebooks distributed annually.

Examples of the Programs outcome measures include:

- Reduced disadvantage from residential education and traineeships for youth – estimated via the social return on investment, with the current estimate of 1.42; i.e. for every $1 invested, approximately $1.42 of social and economic value was created by the residential program.

- Beneficial employment outcomes for students completing Tocal College VET courses, including students from disadvantaged backgrounds, are measured and compared with industry averages (excluding Tocal College) via:
  
  o Post-graduation surveys of full time students, with the current metric of 89% of graduates either employed in industry or engaged in related further study 3 months after completing their course.
  
  o Surveying and direct representation from employers, with the current metric of 96% of employers are either satisfied or very satisfied with how Tocal College graduates contribute to their business or organisation.

Outcome Evaluation

The aim of the program evaluation process is to identify the success of a program by highlighting the causal links between program activities and program objectives. The NSW Department of Industry program evaluation framework recommends evaluation methodologies through which to achieve this aim. However, as the Program consists of a broad suite of activities, it is not easily assessable because the case of ‘what would have happened in the absence of the Program’ is difficult to observe.

Currently the Program seeks to demonstrate program effectiveness through existing performance measurements for several key result areas, including RTO registration and compliance, responsiveness to government and industry needs, social return on investment, course completion rates and student employment outcomes. Existing evidence partly indicates that the Program is achieving its stated objective.

Future evaluation approach using the ‘contribution analysis’ or ‘matched comparison group’ evaluation methodologies could provide evidence that the program is achieving the intermediate outcomes of: ensuring timely and cost effective delivery of training to government and industry; increasing or maintain enrolment/completion rates for Tocal College courses; and generating beneficial employment outcomes for students over and above that achieved by other providers.

Future Evaluations

This is the first evaluation of the Program as part of the regular Departmental cycle of evaluations informed by the NSW Government Program Evaluation Guidelines. The evaluation concentrated on the qualitative aspects of evaluation to build capacity of program management to monitor program performance in the future.
Introduction

Future agricultural workforce capabilities

Inadequate workforce capability in Australian agriculture has been identified in multiple analyses, as negatively impacting agricultural productivity. Both governments and industry have recognised this issue. In 2014 the National Farmers Federation proposed a National Agriculture Workforce Strategy in light of their concerns and the 2015 Australia White Paper into Agricultural Competitiveness further identified workforce capability as a fundamental issue. The National Farmers Federations (2014, p.4), for example, points out that:

> Workforce development and improved productivity in agriculture are fundamental elements of a robust Australian economy. Despite this growth, the agriculture workforce is facing significant challenges. The workforce is ageing and it is difficult to attract and retain workers both at skilled and semi-skilled levels. Seasonal fluctuations in labour demand, over which farm employers have little or no control, only serve to exacerbate the problem.

The Agricultural Competitiveness White Paper Factsheet (2015, p. 1) also points to the need for development of a skilled and flexible workforce for Australian agriculture:

> Skilled labour is vital to ensure the agriculture sector remains internationally competitive. Manual labour is increasingly being replaced by GPS-guided tractors, computerised irrigation systems, laser levellers and sophisticated harvesting technologies. The new workforce requires specific technical skills to suit this work environment. Successful farmers need a wide range of skills—finance and business management, IT, animal husbandry and crop management. Farm labourers also need specific technical skills (for example to manage GPS-guided tractors or computerised irrigation systems).

Evidence tends to suggest that education is positively associated with productivity, that is, for each additional year of ‘schooling’, worker productivity tends to increase. The Organisation for Economic Co-operation and Development (OECD) (2010, pp. 11, 22-23) for example, estimated the benefits from improved ‘Programme for International Student Assessment’ (PISA) scores:

> Economies with more human capital (measured by cognitive skills) innovate at a higher rate than those with less human capital, implying that nations with larger human capital in their workers keep seeing more productivity gains. The report notes that schooling drives gross domestic product growth as long as it drives attainment. Economic modelling in the report suggests that if Australia were to achieve a 25 point increase in PISA scores by 2030 and maintain this to 2090, it would provide a projected benefit of more than US$2.5 billion to the Australian economy.

It was suggested by Watts and Harrison (Deloitte 2014, ‘Farming on the verge of a workforce crisis’, para. 3) in the absence of a skilled workforce in agriculture, productivity and profitability will be at risk:

> …. According to the Australian Bureau of Statistics (2013), there are approximately 135,000 farm businesses in Australia, 99% of which are Australian owned. 321,000 people are employed in agriculture (ABARES 2012 – 2013), with over 1.6 million jobs provided across the value chain. However, Australia’s agricultural industry is facing a workforce crisis:

  - Farmers are aging with the average farmer aged between 53 and 59 years old (Victorian Farmers Federation, 2012), compared with the median age of 40 for the rest of the workforce (ABS 2103)
  - Supply of agricultural workers is currently not enough to replace the aging workforce; by 2015 the ABS predicts more workers will be leaving the industry than are entering it
- 70% of the workforce is male, currently restricting the potential pool to tap into for talent (ABS, 2011)
- All categories of agricultural labour are under supplied (Victorian Farmers Federation, 2014)
- Whilst the mining investment boom is on the decline, the lure of financial gain is still attracting younger workers away from agriculture …

Addressing the agricultural workforce supply crisis is an essential requirement in positions Australian agribusiness to realise the opportunities for future prosperity.

The Agricultural Education Program

In recognition that future agricultural workforce capabilities may not meet the demands of industry (and government), the Department of Primary Industries (DPI) Agricultural Education Program is designed to help address the following challenges:

- attracting and training new entrants for a career in agriculture (expanding the pool of skilled people in the workforce);
- ongoing labour and skills shortages for rural and regional industries;
- higher skill and technology vocational requirements of industry;
- improving the safety outcomes and culture of industry (the number of deaths in agriculture in 2016 was more than double the combined total of those in mining and construction);
- ageing workforce; half of NSW farmers could retire in the next 10 years;
- low qualification attainment levels compared to other industries. The participation rate of the NSW population aged 15-64 years in VET is estimated at 22% (NCVER 2016)\(^1\), however participation in agricultural related qualifications makes up a very small proportion of this group (2.6% for the field of education agriculture, environmental and related studies); and
- providing and supporting professional development and career pathways in agriculture and land management.

\(^1\) National Center for Vocational Education Research – Annual Report 2016
Evaluation of the Agricultural Education Program

Step 1 - Problem and Objective

The problem being addressed

In the absence of government intervention in agricultural education, the agricultural industry may not be able to bridge the skills gap in the sector, due to an ageing farming workforce and a shift towards niche, technologically driven agricultural products. This would mean that Australian agriculture might fall behind and lose its competitive advantage.

Vocational skills are a vital part of productive capacity, as education and training play a significant role in driving improvements in industry practice. Skills also assist in facilitating innovation and embedding technology in farming systems of the future, thereby pushing practice to the production frontier.

Vocational training in agriculture in NSW is a thin and dispersed market, often occurring in small rural communities and remote locations. This has been recognised by the NSW training market and the Independent Pricing and Regulatory Tribunal (IPART). NSW DPI Education Programs, delivered by its training arm (Tocal College) provide an integrated state-wide education and training service that includes service provision in rural and remote locations that would struggle to access these services in the absence of the program.

In the absence of government intervention, primary and secondary school students would also miss out on foundation-level education on agriculture and other primary industries as teachers often lack the expertise or understanding of where food and fibre come from. Without the development of appropriate teaching resources, professional development activities and learning experiences, teachers may lack the confidence to teach agriculture and other primary industries-related material to school students. Over time this would result in less ‘agriculture’ being taught in NSW schools.

Students from disadvantaged backgrounds and regional students would also have fewer opportunities to undertake training and improve their future employment prospects in the absence of government intervention.

In addition, in the absence of government intervention there would also be gaps in the delivery of agriculture-related VET courses in NSW as the market would not otherwise provide either:

- some of these courses due to low or intermittent demand;
- courses of a sufficient quality to meet the future demands of industry and government;
- courses that incorporate appropriate ‘farm safety’ to protect students once they commence employment;
- and courses on niche topics (e.g. Stock horse breeding and training) and courses where the development and maintenance of course materials and curricula require regular input from industry and/or government specialists.

Furthermore, without established capability to provide agriculture-related vocational education and training (VET) courses in NSW, government would be without the capacity to develop and/or deliver courses in a timely manner. This would result in reduced regulatory flexibility and may cause training, that is required by government, to be delivered too slowly to be effective and/or be too expensive to be efficient. Past experience has shown that private providers have to assemble or develop the necessary skills and expertise each time.
they are engaged to develop and deliver specialist training courses for government. This results in delays and cost increases.

Scale and extent of the problem

The Department of Industry, in carrying out its activities, often requires agricultural-related and biosecurity-related training courses to be developed and/or delivered on short notice, at value for money. Without this capacity, training required by government is unlikely to be delivered on time or at a reasonable cost, so as to be an effective tool in government policy implementation. No estimates exist as to the precise scale of this problem. However, in the context of a pressing biosecurity incident, any delay to the delivery of appropriate training has the potential to have a significant economic impact.

The sustainability of agriculture in NSW is dependent on a ready supply of skilled labour. Over time, in the absence of departmental involvement, there may be less production from NSW agriculture, and/or that production may be less sustainable or not as environmentally friendly as it could otherwise be.

Another aspect of farming is the relatively poor safety outcomes in the industry, with the number of deaths in agriculture in 2016 being more than double the combined total of those in mining and construction.

The following information provides an overview of the agriculture industry as it currently exists so as to illustrate what would be at risk in the absence of involvement.

In 2013-14 the agriculture industry in NSW employed 65,716 people, which extended to 120,129 people when considering the services to agriculture and other extended employment. This represents approximately 2% of total employment in NSW, but the share is much larger in rural areas of NSW. Employment in agriculture in NSW accounts for approximately 28% of the total Australian employment in agriculture.²

In 2013-14 the Gross Value of Production (GVP) from agriculture in NSW was $11,278 million (which was 22% of the Australian agricultural total). This extended to a GVP of $24,563 million when considering the Australian Bureau of Statistics production multiplier. Agriculture in NSW represents approximately 2.3% of the total State GVP, and agriculture nationally represents approximately 3.2% of total national GVP.³

A recent agricultural workforce survey of 500 farm-sector employers found that 50% had difficulty in sourcing appropriately skilled and trained personnel.⁴ There is a growing recognition that most of the new workers in the industry, particularly young workers) come from towns and cities (ABS data analysed and reported by Westpac Agribusiness Division indicates that only 16% of the younger generation that make up new industry entrants live outside of an urban environment).

Fewer new workers in agriculture ‘growing up on the farm’ requires a greater emphasis on farm-skills training in a controlled and safe environment, and exposure to farms with suitable supervision and training. Farm safety is paramount to protect these students and other farm workers when they venture to work on farms.

The historical underpinnings of the problem

A factor that has contributed to workforce capability issues in the agricultural sector has been technological improvement in the agricultural industry. This has led to a shift away from labour to more capital intensive farming practices and has increased the demand for skilled labour.

However, because of the high cost of delivering agricultural training, owing to capital costs from required machinery and equipment and the inability to replace farm skills development with cheaper online learning,

⁴ National Farmers Federation, 2014
providers have been difficult to attract to this space. This is further compounded by the widely dispersed (prospective) student population, which typically results in low student to staff ratios, limiting economies of scale.

Historically, workforce capability issues were also caused by a lack of training provider and industry collaboration. Where this occurred training was often not fit for purpose. This issue was recently highlighted by the introduction of new Skill Service Organisations, as prominence was given to Industry Reference Committees in directing and initiating work on national training packages to ensure alignment with industry needs and practices.

Negative perceptions of careers in agriculture is an additional factor that has contributed to workforce capability issues in the agricultural sector. The negative perception of agricultural as a career has been in response to industry trends, with the share of agricultural employment in NSW having been falling for the best part of two decades.

In addition, the lack of culturally sensitive providers in agriculture and land management (including indigenous and non-English speaking background growers) industries has contributed to workforce capability issues by deterring a proportion of the workforce from training. Indigenous students make up less than 5% of students participating in Vocational Education and Training (NCVER 2016)\(^5\).

The current market gaps in the delivery of agriculture-related VET courses in NSW can be attributed to several factors, including:

- Lack of available public and private training providers and training opportunities in relevant rural and regional locations. In some parts of the State thin markets may exist where the delivery of agricultural-related VET courses is uneconomic, resulting in a base level of basic services not being available in regional NSW. This is due to the high costs of specialist facilities, capital equipment and residential based facilities required for agricultural VET training, which mean private or even existing TAFE providers cannot cost effectively operate these programs.
- Lag in responsiveness to new training needs in agriculture by private sector VET providers. VET education provision is highly regulated and audited. The cost and timeframes for these establishment requirements limit private providers capacity to quickly respond to specialist industry or government needs with quality accredited courses and facilities in a timely way.
- Low or intermittent demand for some agriculture-related VET courses, which makes it uneconomic to provide these courses as standalone offerings.

### Snapshot of groups likely to benefit most from the program

**Primary beneficiaries**

- Farm businesses and other agricultural-related businesses would have access to skilled workers, improving agricultural productivity and facilitating the adoption of new innovations, and enabling smarter regulation.
- Students who would have access to high-quality agricultural-related education and training at regulated prices.
- Primary and Secondary school students undertaking subjects in agriculture would gain a better understanding of where food and fibre come from and have access to VET units in senior school.
- Students from disadvantaged backgrounds, who would have greater access to agricultural-related education and training.
- Government due to access to capacity to develop and/or deliver courses in a timely manner (delivered to both industry and government staff).
Who else might benefit

- Regional communities and regional economies would benefit from the availability of agriculture-related VET courses in regional NSW, and the resulting continued resilience and stability of local agricultural industries and communities.
- The NSW community from improved levels skills and knowledge, resulting in improved productivity, particularly in agriculture.

Other programs or instruments addressing part of the problem

Table 1. List of other programs or legal instruments that aim to address part of the problem

<table>
<thead>
<tr>
<th>Other Programs</th>
<th>Able to Be Altered?</th>
</tr>
</thead>
<tbody>
<tr>
<td>VET Student Loan Scheme administered by the Australian Government</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>This scheme enables potential VET students to engage in accredited courses, and training, and pay later. However, the scheme still requires quality training providers that can service key industries and provide qualifications in NSW. There has been a low uptake of this scheme in the agricultural sector.</td>
</tr>
<tr>
<td>NSW Smart and Skilled program operated by Training Service NSW</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>This scheme provides funding for strategic skill priorities and qualifications under a student entitlement model for accredited training and assessment by approved Registered Training Organisations. However, the program requires quality training providers that can service key industries and provide both qualifications and part qualifications across regional NSW.</td>
</tr>
<tr>
<td>Generalist training providers (e.g. TAFE)</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Generalist training providers (e.g. TAFE) and private providers (now account for 66% of the training market). However these providers are not specialised nor do they have on-site specialist training facilities, access to training farms incorporating current technology and industry practice. They also provide inconsistent access to training across NSW and have weak links to industry research and development initiatives and industry specialists.</td>
</tr>
<tr>
<td>Universities</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Some universities provide qualifications from AQF 5 and above (Diploma level) where there is significant demand and low costs (i.e. high volume courses). For smaller sectors such as primary industries, universities are more likely to have articulation or partnership arrangements in place with a vocational registered training provider like the one that exists between Tocal College and the University of New England for the Bachelor in AgriFood Systems. However universities largely service a different graduate market and are non-competitive in the vocational space.</td>
</tr>
<tr>
<td>VET in schools program</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Pre-vocational qualifications and entry level qualifications are offered in some high schools for those that have access to suitable farms and employers. However, this is complementary to the Tocal College offering as they don't supply “paddock ready” courses and students or service higher AQF levels (III and above), rather they expand the potential pool of new industry entrants. These VET courses are not offered in the majority of schools, as they don’t have the resources and capacity to provide specialist training in agriculture.</td>
</tr>
</tbody>
</table>
The role for the Department in addressing the problem

**Objective**

Provide high-quality agricultural-related education and training, for both industry and broader economic and community benefit, so as to improve capability and productivity of NSW agricultural industries.

**Policy Alignment – Driving economic growth – jobs and productivity**

The Agricultural Education Program aligns with the NSW Government Premiers Priorities that include driving economic growth and creating 150,000 jobs by 2019 - with 30,000 jobs targeted in regional NSW. An underpinning goal of this is a further target to boost vocational training via:

- 200,000 scholarships are available to skill young people for a job.
- 25,000 scholarships are available to students enrolling in science, technology, engineering, and maths-related vocational qualifications.

The Agricultural Education Program also aligns with the NSW Department of Primary Industries Strategic Plan 2015- 2019 that identifies its broadest target of a ‘30% growth in value of NSW primary industries by 2020’. This target is supported by aims intended to ‘Increase productivity and innovation in agriculture’ by ‘Optimising research, education and capacity building’.

These linkages are reflected in the Tocal College Strategic Plan:

<table>
<thead>
<tr>
<th>Research and development organisations</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some training for existing industry workers is delivered by research and development organisations and other industry organisations. However, this is largely non-accredited, just-in-time training to deliver a specific and narrow outcome within a seasonal production window (Tocal College is already a delivery partner in some of these).</td>
<td></td>
</tr>
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</table>
Government as the end user

The NSW Government is a consumer of the outputs of the Program, as it requires timely and cost-effective development and/or delivery of training courses. Program outputs (training materials and courses) are direct inputs into other government activities addressing market failures, often associated with government regulation.

Approximately one third of Program effort is involved in activities where government is the end user, including:

- the development of training materials and course curricula, including for schools;
- developing training courses on farm safety and biosecurity; and
- collaborating with industry on training that meets both industry and government needs.

The Program collaborates with industry bodies and the Australian Government to develop and deliver training course materials for industry. This ensures that the training is specific to the NSW context, particularly the NSW regulatory environment. Program costs involved in these collaborative projects are appropriately recovered from project partners.

Established capability to develop and deliver training courses, such as Tocal College, are vital for government to respond to a changing regulatory environment and to rapidly develop and deliver training to Departmental staff and to industry participants on behalf of the government. The alternative of engaging the private sector to provide these services has historically been ineffective due to large time delays (as private providers gear-up to deliver) and not cost-effective (as providers don’t typically hold the necessary expertise on standby).
The necessary flexibility of Tocal College is demonstrated by the recent pressing need to swiftly roll out the ‘Quad Bike Safety Training Course’ following the death of several Quad Bike riders in NSW in March 2017. Quad Bike Safety courses commenced in April 2017 and are now delivered with SafeWork NSW (about 50 courses have been delivered to date with capacity to undertake 100 courses per year).

Similarly, with the impending introduction of the Biosecurity Act 2017, Tocal College will be involved in training approximately 500 Biosecurity authorising and compliance officers in the new regulatory requirements of the Act.

**Social Equity Goal**

The Program may also be seen to deliver on a social equity objective given its activities are aimed at regional students and students from disadvantaged backgrounds. This follows the original bequest of the Tocal property by Charles Alexander with the intention that it be used to provide youth training for agricultural careers. Approximately one third of Program effort is involved in activities where the underlying objective is addressing disadvantage or regional inequity.

It is reasonable to conclude that many of these students would not undertake training without assistance. In some parts of the State thin markets may exist where the delivery of agricultural-related VET courses is uneconomic, even in the absence of any market failures. This is likely to occur where the potential number of learners is too small, relative to the cost of delivery to sustain efficient provision. In these circumstances governments might decide to fund the additional cost of delivery, for equity reasons, to ensure a base level of basic services is provided across the State. The issue of thin markets is most relevant in regional NSW.

For regional students and students from disadvantaged backgrounds, the costs of accessing and undertaking agriculture-related VET courses are also higher (i.e. due to the cost of travel or economically in terms of effort and stress of study), while the social benefits from education may be larger.

For example, the Aboriginal Rural Training subprogram specialises in delivering industry employability skills and part qualifications to indigenous students, their communities and those in juvenile detention. Youth training courses develop wellbeing, resilience and independence for all students, with significant additional focus on students from disadvantaged backgrounds, resulting in these students contributing positively to the broader community and acting as role-models for their local communities.

A discussion of the general rationale for government intervention in vocational education and training is included in Appendix A.

**Market Failure**

The economic efficiency justification for government intervention in the VET market generally, is due to various market failures, including:

- Positive externalities from knowledge spillovers, civic externalities, and poaching externalities; and
- Information asymmetry and the principal-agent problem arise where the incentives of the student (principal) are not aligned to the profit incentive of the educational institution (agent).

The NSW Government program of Smart and Skilled aims to address the market failures in the NSW VET market. Approximately one third of Program effort is involved in providing high-quality competitively neutral agriculture-related VET courses into the VET market, in concert with aims of the Program as outlined above. Courses and

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6 Provides eligible students with an entitlement to government-subsidised training, see: https://smartandskilled.nsw.gov.au
other services are provided on a cost recovery basis with VET course prices regulated by IPART. These services are not directly subsided. Appendix B illustrates the small market share of Tocal College within relatively small markets for agriculture-related VET courses.

To deliver the services to government and for social and regional equity reasons, the Program is required to maintain accreditation of Registered Training Organisation (RTO) status and pass reviews undertaken by Training Services NSW under the Smart and Skilled. The costs of maintaining RTO status training facilities is partly cost recovered by providing services (agriculture-related VET courses) into the competitive market to the extent that this does not compromise the ability of the Program to provide services to government and for social and regional equity reasons.
Step 2 - Program Description

Program Overview

The range of service provided by the Program revolves around the existence of Tocal College as an accredited RTO. This enables the Program to provide services to government and industry (on behalf of government), to school students and young people from disadvantaged backgrounds, and into the VET market where there are recognised market gaps.

Agriculture-related education and training delivered by the program has originates from the bequest of the Tocal property from Charles Alexander to provide youth training for agricultural careers (see Appendix C). An outline of the breadth of services offered by the Program (hinging off the Tocal College RTO status) follows.

Policy Development

The Department of Primary Industries and the Minister of Primary Industries advise on the development of agriculture-related VET policy. The Program provides advice in course design, vocational education and training to industry, government and communities at state and national level to foster productive and sustainable land use. This is done through the various forums, including:

- Primary Industries Ministerial Advisory Council working group
- The national Agriculture Senior Officials Committee working group
- NSW VET Forum
- National Training Providers Network for Agriculture, Horticulture and Conservation and Land Management (leadership role and host of last national conference)
- The national biosecurity emergency response training and assessment committee (representative)
- WorkCover NSW quad bike safety group (member)
- National Centre for Dairy Education (member)

Biosecurity Emergency Response Training

For the past 10 years Tocal College has partnered with Animal Health Australia and Plant Health Australia to support the delivery of training for people who work in emergency disease or plant pest responses. This training is delivered in partnership with the biosecurity agencies in all states and territories with Tocal College overseeing the training and assessment and issuing qualifications.

Training has recently been conducted in three states and territories: Northern Territory, South Australia and Western Australia. The training program in Western Australia will result in almost 200 candidates progressing through Certificate III in Public Safety (Biosecurity Response Operations) and Diploma of Public Safety (Biosecurity Response Management).

Industry Partnerships

The Program provides a range of industry partners delivering programs to agricultural-based industry and organisations, including:

- Partnership with the Grains Research and Development Corporation and the Department of Economic Development, Jobs, Transport and Resources to deliver the national online extension project called eXtensionAUS.
• The quad bike safety improvement contract with SafeWork NSW to deliver quad bike training courses across NSW.

• Partnering on projects with the Australian Oilseeds Federation; the Feral Animal Aerial Shooting Team (FAAST) within New South Wales National Parks and Wildlife Service (NPWS) and Office of Environment and Heritage (OEH); the Holden Agricultural Management Systems (livestock welfare and handling); NSW Water; and the Victorian Department of Economic Development, Jobs, Transport and Resources.

• Partnering on the preparation and delivery of training materials with Local Land Services (LLS); the Australian Seed Authority; SafeWork NSW; the NSW Office of Environment and Heritage and Environmental Protection Authority (Vertebrate Pest Management and Property Vegetation Planning accreditation program); Aviagen; Newcastle University (undergraduate environmental science program); Vanguard Business Services (farm planning and NRM); Hay Incorporated and AJM Livestock Solutions.

• Partnering to deliver the schools program with Dairy Australia; Australian Wool Producers; Australian Wool Innovation; Horse Safety Australia; Landcare and NSW Catchments; Australian Livestock Markets Association; the Grains Research and Development Corporation; the Department of Agriculture Horticulture Exports Program; and Agrifood Career Access Pathway (AGCAP) through involvement in the foundation of an AGCAP pilot program for school based traineeships leading to rewarding careers in the Agrifood industry.

School Education and Liaison

The program reached 258 schools and 4,010 students in the last 12 months. It develops and delivers educational resources to connect students and teachers with primary industries practices, skills and careers through four core services:

Teaching resources

• The Creamery Interpretation Centre at Belgenny Farm, a two-year project between the DPI Schools team and the Belgenny Farm Trust to showcase the innovations in the dairy industry since the Macarthurs started dairying in the early 1800s, was launched complete with a virtual tour, digital education resources, interactive displays and a new website.

• ‘Investigate’, an annual Science and Technology competition for Year 5 & 6 students using a biosecurity-themed investigation was run in 40 schools. In 2016 the theme was fire ants and for 2017 Investigate: aphids was launched subsequent to the outbreak of Russian Wheat aphid.

• ‘On the Pulse’ resource kits, developed in partnership with Little Brick Pastoral and Pulse Australia, were distributed to New South Wales schools.

• Resources for senior agriculture electives including a study guide for the elective Farming for the 21st century and a professional development course for the elective the Climate Challenge.

Professional development

• The Climate Challenge for NSW teachers online course recently developed and accredited as Board of Studies & Teaching Education Standards (BOSTES) endorsed teacher professional learning to assist teachers of Agriculture and Primary Industries subjects in NSW to deliver up to date information related to weather and climate change.

• AgPatch: Garden Connections online course developed and accredited by BOSTES as endorsed teacher professional development, to guide teachers in the integration of a school garden into classroom practice and for connecting to local primary industries.

Learning experiences

• Assisting the NSW Food Authority at the Sydney Royal Easter Primary School review day, Primary Teachers Professional Development Session and during the show.

• School resources developed and school attendance coordinated at Tocal Field Days.
- During the ‘Investigate’ fire ants competition, eight video conferences were held engaging schools across metropolitan, regional and remote areas. Visits were also made to Bundarra Central School, Inverell Public School and Dungog Public School.
- Secondary school Biosecurity planning program run through The Archibull Prize 2016.

### School Liaison

- Holding Rotary Youth Driver Awareness (RYDA) courses at Tocal for 11 NSW schools. Students take part in six interactive sessions aimed at the road safety issues of speeding, DUI, fatigue, seatbelts and distractions, as well as the importance of driving as a social responsibility.
- Coordinating the Tocal Schools Steer Challenge with 13 local high schools and around 200 students involved in preparing and showing Tocal steers. High Schools from the Hunter and Central Coast prepared and then entered the steers for competition allowing their students to learn how to care for, groom and parade.
- Hosting farm tours by groups of students from various NSW high schools.
- Providing basic safety advice and demonstrations to visiting school students during Future Farmers Day, part of participating schools’ farm safety induction programs.

### Aboriginal Rural Training Program

The Program provides vocational education and training to Aboriginal and Torres Strait Islander learners, including Certificate II and III courses in Conservation & Land Management to groups interested in cultural site assessment and industry skills based training across NSW.

Other training provided to Aboriginal learners included training Leeton High School students in undertaking safe tractor operations and fencing studies, basic firefighting training and the delivery of cultural burn training workshops.

### Traineeships

The Rural Traineeship program allows trainees to gain a national qualification at Certificate III or IV level while employed on farms across NSW. The well-established traineeship program, operating from Tocal’s Paterson campus, is based on a series of 5-6, weeklong, residential blocks delivered throughout the year. They cover a range of topics including soils and pasture production, livestock nutrition and feeding as well as livestock health and reproductive management. Critical WHS elements include first aid, chemical accreditation and emergency response. Recent introductions include vertebrate pest training and precision farming. The block release traineeship also has an emphasis on personal development which includes teambuilding and leadership activities.

The traineeship makes use of the Tocal College’s trainers, farm staff and farms. Activities include the synchronisation of heifers for artificial insemination and the establishment of winter crops and pasture. Trainees are exposed to leading agribusiness professionals and mentors through presentations and tours. Certificate IV Trainees attended an intensive pregnancy diagnosis workshop. Due to the diverse nature of the farms on which trainees work, group-based training allows them to learn much from each other. Their employers also contribute significantly to the development of their wide range of practical skills and knowledge.

Trainees in the Paterson campus, block release program are predominantly employed by the cattle industries and so livestock units tend to focus on beef and dairy practice. While this program is able to accommodate mixed farms it is usual that they have a cattle component. Recently Tocal has expanded its Traineeship Program to more readily accommodate employers and trainees desiring specialist training outside of cattle production. For example, sheep and/or cropping trainees in the south or north-west of the state have options...
to develop flexible traineeship arrangements operating out of either Yanco Campus or Trangie Agricultural Research Centre (TARC). The agriculture traineeship program is seeking to double its current enrolments (29) over the next two years. Conservation and Land Management Traineeships with the Office of Environment and Heritage proved highly successful and included block release alternating between Paterson and Yanco as well as on-the-job training and assessment. In 2017, 47 graduated in this program with a 100% completion rate.

Certificate III and IV in Agriculture fulltime residential training program
The Certificate III and IV course programs provide practical training for students in a wide range of agricultural skills for working safely with livestock, machinery, cropping, pastures and general farm tasks. They also cover WHS, animal welfare and environmental issues. These programs take up to 100 students and have a completion rate that is double the national average. The Establish Pastures unit was modified to involve students in planning, sowing and evaluating their own pasture blocks. As part of Fodder Conservation the pasture grown was cut for use by both the Dairy and Beef sections. Recent additions include precision farming and farm infrastructure maintenance training. The strong emphasis on practical skills training and the development of personal skills and appropriate attitudes ensures graduates are in high demand by industry.

Adult Education
The adult education program is a significant component of the Tocal College service offering. This includes making up a significant portion of the 499 graduates in 2017 and the delivery of skills training (short courses) to 3,199 participants across 83 locations in NSW. The majority of short courses delivered are trained and assessed to nationally accredited units of competency. Short course training and assessment in specific skills areas can provide participants the opportunity to complete full qualifications as their skills and knowledge develop further.

Tocal Short Course staff were heavily involved in supporting the delivery of the Certificate III in Conservation and Land Management Traineeship for Office of Environment and Heritage (OEH). This program was delivered through a series of residential workshops and workplace assessments comprising a number of short courses.

The NSW DPI Vertebrate Pest Course is delivered to LLS staff and National Parks rangers. This one-week course is aligned to Certificate III and IV units of competency and builds capacity within these agencies to better manage vertebrate pests.

Training programs and partnerships with Local Land Services (LLS) deliver short courses targeted at land management and LLS capacity to deliver services to landholders. This training and shared delivery provides LLS staff the framework and structure to deliver strategic courses across NSW focusing on land management and biosecurity. The courses also provide professional development opportunities to project officers.

Diploma and Advanced Diploma Programs
The Diploma of Conservation and Land Management is experiencing strong demand with increased enrolments from people seeking to improve their skills in land management to further their careers or to better manage their own property. This includes seven Aboriginal students sponsored by the Hunter Local Land Services who are specialising in Aboriginal Land Management.

Tocal College offers the Diploma of Pest Management as an online course designed for people working in weed management and vertebrate pest management.
Resourcing requirements

In 2016 the total expenditure for the program, covering the provision of training across NSW, was $11.35 million with total revenues of $6.79 million. This resulted in a net cost of service of $4.56 million.

In 2016 the employee program complement included 70 full time equivalent staff plus 27 casual staff. Staff are deployed across eight locations including Menangle, Orange, Ourimbah, Paterson (Tocal), Tamworth, Trangie, Wagga Wagga and Yanco.

Governance arrangements

Tocal College is a Registered Training Provider which is operated by the NSW Department of Primary Industries (DPI) with support of the CB Alexander Foundation.

The Foundation established an education centre in the 1960s prior to DPI involvement and owns the majority of the Tocal site. The main Tocal College complex is heritage controlled and has obligations and restrictions on development. The Foundation owns a variety of supporting “training farms” for Tocal College on the surrounding property as well as the original Tocal Homestead which runs as a heritage tourism site.

The current ‘Tocal College’ was formed on 1 January 2006 by consolidation of the former Murrumbidgee College of Agriculture, Yanco and CB Alexander Agricultural College and Paterson into one Registered Training Organisation, NSW Department of Primary Industries Trading as Tocal College, RTO No. 91166.

Accredited Registered Training Organisations are independently and externally audited by the Australian Skills Quality Authority. Tocal College also has NSW Smart and Skilled accreditation (see Appendix D).

Tocal College's southern campus, Yanco campus, is part of the Yanco Agricultural Institute while the CB Alexander Campus is Tocal College’s northern campus. Tocal College provides State-wide delivery of vocational education and training courses for the rural industry and community from the two campuses as well as from Tamworth, Gosford (Ourimbah), Camden and Wagga Wagga.

The reporting structure of the Tocal Agricultural Centre includes the ‘Deputy Principal, the ‘Centre Manager’, the ‘Manager of Education Delivery’ and the ‘College Registrar/Business Manager’, who are all subject to ‘Director of Education (Tocal College). They, in turn, are subject to the ‘Group Director, Education & Regional Services’, who is subject to the ‘Deputy Director General, DPI Agriculture’.

Consultation strategy

There are various consultation and communication channels established for Tocal College and DPI Agricultural Education Program that inform the program’s design and delivery. These include:

Legislated bodies

- The CB Alexander Foundation was established under an Act of the NSW Parliament in 1969. The objects of the Foundation are to promote, advise, assist and improve Tocal College, to grant scholarships and financial assistance to students attending Tocal College and to support the advancement of agricultural education in NSW. The Foundation is the custodian of the Tocal College property at Paterson and the Tocal Homestead heritage precinct dating back to the 1820s. It meets at least three times a year and provides input into the operation of Tocal College.

Institutional bodies

- The Tocal College Advisory Council meet up to three times a year and provide advice on: the education policy and strategic direction of Tocal College; the scope and relevance of Tocal College’s education programs; developments in industry and the community with implications for Tocal College’s activities
and services; employment opportunities for Tocal College graduates; the development of Tocal College sites and buildings to facilitate the achievement of Tocal College’s functions.

- The Principal of Tocal College is the Executive Officer of Rural Affairs and Workforce Capabilities working group the Primary Industries Ministerial Advisory Council (PIMAC). This provides industry input and intelligence that can be applied to the design and delivery of Tocal College programs so they remain relevant and address emerging industry needs.
- An Annual Quality Indicators Survey provides direct feedback from students (clients) and employers that allows Tocal College to continuously improve programs. This data is submitted annually to Australian Skills Authority as part of a total VET Activity Submission on the 30th June each year.

Industry bodies

- Tocal College consults several times each year with key industry stakeholders through its Advisory Council and industry reference committees, including with Cotton Australia, the Grains Research and Development Corporation, Dairy Australia, the Royal Agricultural Society NSW, the Primary Industries Education Foundation Australia, Animal Health Australia, Plant Health Australia, NSW Local Land Services, the Country Women’s Association, Citrus Australia, the Commonwealth Government, NSW Farmers Association, and SafeWork NSW.

Student and Alumni bodies

- The Tocal College Students Association provides direct feedback on Tocal College programs, facilities and resources from a client/customer perspective. The Association meets monthly and is well organised and supported by Tocal College.
- Tocal College undertakes annual surveys of its new graduates to assess employment outcomes, study pathways and relevance of courses to their first job roles. This information is reported to the Tocal Advisory Council, discussed and used to continually improve our fulltime training programs.
- Tocal Alumni is a community of Tocal College that includes ex-students, former staff, cooperating farmers and those with a close interest in Tocal College. This network exchanges information, industry intelligence and allows tracking of career pathways post study.

Community and affiliates

- The Friends of Tocal was established in 1993 as an organisation dedicated to the support of all activities associated with Tocal College and Tocal Homestead. This association meets quarterly and provides input, support and scholarships directly to Tocal College.
- Tocal Field Days Association is made up of community and industry representatives that operate one of Australia’s leading agricultural field days at Tocal College each May. This Association provides another forum for industry and community input and meets quarterly.

Pricing and cost recovery

Application of the Productivity Commission’s cost recovery principles to the delivery of agriculture-related VET courses indicates that the cost of these services should be cost recovered at the commercial cost of provision. The pathway through the cost recovery decision framework (see Appendix E) of commercial cost is represented as 1, 2, 3, 4, 9a, 10a, 11, 12, 13a, 14.

The concept of commercial cost is somewhat academic in the regulated NSW VET market. Prices of VET courses are set by IPART, and Smart and Skilled government-subsidised training (vouchers) mean that the Tocal College prices are identical to those of other RTOs providing the same course. Concessions available to students from disadvantaged backgrounds apply equally regardless of the RTO.

7 A list of prices for services offered by Tocal College is available at: http://www.tocal.nsw.edu.au/
Scholarships are also available to students from a range of sources including private donors, non-government organisation Scholarship providers include Big Brother Movement (BBM) Youth Support, industry associations and bodies (including research and development corporations) and the CB Alexander Foundation.

Other pricing considerations include:

- Accommodation provided to students staying at Tocal is cost recovered at commercial rates.
- Short course pricing is based on a costing model that assesses market contestability and spillovers to the public on a user pays model.
- Tocal College (as an entity of NSW DPI) enters into open and competitively assessed contracts for education and training services and industry development activities. For example, the delivery of the safe quad bike training program for SafeWork NSW and delivery of the eXtensionAUS project for the Grains Research and Development Corporation (GRDC). Costs are assessed using the standard NSW DPI R&D costing model.
- Publications are priced at between four and five times print cost and sold commercially.

Pricing for other Program activities include:

- Training for Government – this has multiple pricing regimes depending on the nature of the training and includes fee free training and training at cost recovery.
- Schools subprogram – assisting in the teaching of agriculture-related content in Primary and Secondary schools in NSW is not cost recovered, with the exception of teacher professional development.

Key performance measures:

The key performance measures listed below follow NSW Treasury guidelines that refer to ‘result indicators’ which are aimed at gauging whether services are making a positive impact on society. These measures are consistent with the program logic for the Agricultural Education Program (see Appendix F).

Output measures:

- Government and industry training: Continued leadership of workforce development programs, coordination of biosecurity emergency response training, and the successful delivery of BERTA project.
- Schools program: Annually, 5 teacher professional development activities delivered with >80% satisfaction, 5 school-based programs developed, and 15 school-based resources developed.
- Residential education and traineeships for youth: 85% course completion rate, participation rate at capacity, and quality indicator surveys demonstrate continued relevance and satisfaction.
- Adult education and skills training: Continued compliance with RTO standards, 3,000 participants in skills training each year, and satisfaction rating from annual industry surveys.
- Publications and online training: 17,500 publications and 1,750 ebooks distributed annually, and the successful delivery of the eXtensionAUS project.

Outcome measures:

- Schools program: The engagement of schools and teachers is measured by the number of schools and students using Program resources or engaged in Program activities – currently 258 schools and 4,010 students.
• Residential education and traineeship for youth: Reduced disadvantage is estimated via the social return on investment, with the current estimate of 1.42; i.e. for every $1 invested, approximately $1.42 of social and economic value was created by the residential program.\(^8\)

• Enrolment and completion rates for all Tocal College VET courses are measured using administration data and benchmarked against industry averages (excluding Tocal College) for either the course or the qualification (as relevant).

• Beneficial employment outcomes for students completing Tocal College VET courses, including students from disadvantaged backgrounds, are measured and compared with industry averages (excluding Tocal College) via:
  o Post-graduation surveys of full time students, with the current metric of 89% of graduates either employed in industry or engaged in related further study 3 months after completing their course.
  o Surveying and direct representation from employers, with the current metric of 96% of employers are either satisfied or very satisfied with how Tocal College graduates contribute to their business or organisation.

• Improved farm safety; Tocal College support the NSW Government’s safety action plan for rural industries including the delivery of quad bike safety training. These new programs will ultimately be measured through lowering reported injuries and fatalities on farms. In the interim the measure used is the number of farmers and land managers deemed competent against the national standards in the safe use of farm machinery.

• Improved capability in NSW agricultural industries through the provision of trained and skilled new industry entrants and the upskilling of existing industry workers. Tocal produced 499 graduates in the previous 12 months and had 3,199 participants in its skills training program (mostly upskilling of existing industry workers) across 83 locations in NSW.

• More bio-secure NSW agricultural industries through the biosecurity emergency response training program, upskilling of authorised officers and agency staff (600) in the new NSW Biosecurity Act, and through the development of a single national set of training and assessment materials for biosecurity emergency response qualifications under contract with Animal Health Australia (a Commonwealth priority).

\(^8\) As documented by an independent report completed in 2017 by Social Ventures Australia.
Step 3 - Outcome Evaluation

The aim of the program evaluation process is to show the success of a program (efficiency, effectiveness and appropriateness) by highlighting the causal links between program activities and program objectives. The NSW Department of Industry program evaluation framework recommends evaluation methodologies through which to achieve this aim.

The Program seeks to demonstrate the causal links of program effectiveness through existing performance measurements for several key result areas, as outlined below.

<table>
<thead>
<tr>
<th>Key Result Area</th>
<th>Result</th>
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<tr>
<td>Registration and Compliance</td>
<td>As a Registered Training Organisation (RTO), Tocal College is subject to compliance requirements imposed by the national regulatory body - the Australian Skills Quality Authority (ASQA). ASQA accredits both the education organisation as a whole and each course offered. In doing so, ASQA verifies and benchmarks the standard and relevance of courses. At a state level, a similar annual course review and verification process is undertaken by Training Services NSW as part of its validation process for Smart and Skilled funded courses. Tocal College has at no stage had any conditions or limitations placed on its registration. Tocal College is a recognised specialist high quality training provider in agriculture and land management and has a current contract under the NSW Smart and Skilled program. A rigorous performance monitoring review undertaken by Training Services NSW in October 2016 demonstrated that Tocal College was meeting all its contractual obligations and is meeting its quality and evidence requirements under 14 categories. The next scheduled audit by the national authority - ASQA will be in the first half of 2018.</td>
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<tr>
<td>Responsiveness</td>
<td>Tocal College is a provider of biosecurity emergency response training as well as the provision of certain public courses (such as the ‘Quad Bike Safety Training Course’) that are both required to be developed and delivered in a timely manner. A measure of success for the Agricultural Education Program then becomes whether this training is able to be delivered on-time (for maximum effectiveness), be fit-for-purpose and at reasonable cost. Program effectiveness can be demonstrated by way of expert opinion and the engagement by repeat customers (the Department has determined that private sector VET providers responses have in the past been too slow to be effective and/or are too expensive to be efficient, as these providers have to assemble or develop the necessary skills and expertise each time they are engaged).</td>
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<tr>
<td>Social Return on Investment</td>
<td>In 2016 a social return on investment evaluation was undertaken on the youth residential program. The focus of this analysis was to identify and value the youth program specifically. The initial findings of the analysis suggested a return on investment of 1.42 (that is for every $1 investment approximately $1.42 of social and economic value is created).</td>
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<tr>
<td>Completion Rates</td>
<td>The completion rates for Tocal full time courses averages around 80% in comparison to national average VET completion rate of 43%. Tocal has achieved a completion rate of about double the national average for the last three years. In some cases Tocal courses have a 100% completion rate.</td>
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<tr>
<td>Employment Outcomes</td>
<td>Surveys and direct engagement have identified that Tocal College provides increased access to a work-ready labour pool and workers with safe practices. 96% of current employers are either satisfied or very satisfied with how Tocal College graduates contribute to their business or organisation. Most existing industry workers who are seeking to upgrade and advance their skills and who make up a large proportion of the Tocal skills training program rate the courses as good or excellent (98%). Tocal College have a large group of cooperating farmers, scholarship donors and participants in employer panels. There is strong industry feedback on the quality of Tocal graduates with a significant number offered employment before the completion of their course.</td>
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Method:
The NSW Department of Industry program evaluation framework recommends evaluation methodologies through which to assess effectiveness of a Program in achieving its objective. The most rigorous of these methodologies involve ‘experimental design’, with ‘quasi-experimental design’ and ‘non-experimental design’ being progressively less rigorous. However, the Agriculture Education Program consists of a broad suite of activities that are not easily assessable because the case of ‘what would have happened in the absence of the Program’, is difficult to observe.

Furthermore, a primary objective of the Program is to allow the Department to retain the capacity to develop and/or deliver courses in a timely manner (that the private sector would be unable to provide). The assertion is the private sector is unable to take the role on because it lacks (in a commercial sense) the incentive to respond in a timely fashion, except where the cost of training is prohibitively high. Such an assertion then becomes difficult to verify in an outcomes evaluation because it would require the Program to cease operation which may result in the private sector being unable to respond in time, leading to potentially large and unacceptable losses to the NSW community (e.g. from a bio-security outbreak that is not rapidly responded to).

Existing analysis and evidence:
With positive completion rates; employment outcomes; social return on investment; responsiveness; and registration and compliance (as noted above) – there is evidence partly indicating that the Program is achieving its stated objective. Evidence demonstrating the improved capability and productivity of NSW agricultural industries as a result of the Program would improve confidence that the Program is achieving its stated objective.

Future evaluations
A future evaluation may avail the appropriate opportunity to implement a ‘matched comparison group’ evaluation methodology. This would involve the careful measurement of both the Program participants (students / Government staff) and a ‘control group’ that did not participate in the services of the Program. However, even this methodology would be difficult to reveal the effectiveness of the Program in achieving its outcome, due to the potential competition created by the existence of private VET providers in some aspects (such as course enrolments) and the lack of competition by these providers in other aspects (such as the ability to provide timely training to Departmental staff).

Rather, future evaluations may profit from concentrating on the key intermediate outcomes which are relatively evaluable. That is:

- Does the Program ensure timely and cost effective delivery of training to government and industry? This would seek to track the timeliness in response to requests and compare these to a sample of other instances in other industries where Tocal College was not a collaborator.
- Does the Program increase (or maintain at a high level) enrolment/completion of agriculture-related VET courses provided by Tocal College, particularly for students from disadvantaged backgrounds? Here the methodology of ‘contribution analysis’ could be adopted.
- Does the Program generate beneficial employment outcomes for students over and above that achieved by TAFE / private providers? Here the methodology of ‘matched comparison group’ or similar could be adopted.
- Does the Program generate beneficial outcomes for employers, particularly with respect to improved capability and productivity, over and above that achieved by TAFE / private providers? Here again the methodology of ‘matched comparison group’ or similar could be adopted.
Program scale:

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Timing for Economic Evaluation

An economic evaluation is usually prioritised for programs assessed as being either at a scale of four or three, as per the NSW Government Program Evaluation Guidelines (2016). As the Agricultural Education Program is assessed as being a scale two program an economic evaluation is not deemed necessary at this time. This may change if the Program is expanded or becomes a strategic priority in the future.
Evaluation Findings

Completed program evaluations are reviewed by the Department of Industry Program Evaluation Review Group to ensure that evaluations are consistent with the Department’s approach to evaluation and of a sufficient quality. With respect to this program evaluation, the Program Evaluation Review Group reached the following evaluation findings.

Step 1: Program appropriateness

The stated program objective is to provide high-quality agricultural-related education and training, for both industry and broader economic and community benefit, so as to improve capability and productivity of NSW agricultural industries.

The activities of the Program were indicated to be appropriate for the NSW Government to undertake as the Program integrates providing services where government is the end user or where there is a social equity objective with providing VET courses to improve capability and productivity of NSW agricultural industries.

Step 2: Program cost recovery and KPIs

The cost recovery principles have been applied to the current program, with the conclusion that current cost recovery instruments are appropriate.

Output performance measures appear to be appropriate and some outcome measures provide evidence of effectiveness using the Key Result Area approach. Outcome measures on improved capability in NSW agricultural industries and more bio-secure NSW agricultural industries could be improved to focus more on actual changes resulting from Program activities.

Step 3: Program effectiveness

Evidence partly indicates that the Program is achieving its stated objective based on the Key Result Area approach to performance measurement. The future evaluation methods described in the report would improve confidence that the Program is achieving its stated objective, particularly in relation to improving capability and productivity of NSW agricultural industries.

Overall evaluation conclusions

It is recommended that the Program Evaluation Review Group recommend that the relevant Deputy Secretary:

1. approves this completed program evaluation; and
2. approves the publication of this evaluation.
Appendix A  Rationale for government intervention in vocational education and training

Economic efficiency grounds

I. Positive externalities

A positive externality is caused by an action (or market transaction) that affects an unrelated third party in a positive way. When the provision of a good or service has a positive externality, and private benefits are not greater than the costs, then the good or service is generally under-provided relative to what an efficient market would provide.

In the case of vocational education and training (VET), positive externalities can manifest in the following three ways:

- Externalities generated by knowledge spillovers. This occurs where benefits are captured by third parties arising from investments in education that accelerate rates of innovation, the development of basic knowledge capabilities, and the diffusion of new ideas (Productivity Commission, 2011). Knowledge spillovers increase the rate of productivity growth and benefit the entire community.

- Civic externalities. Although typically associated with primary and secondary education, to the extent VET is able to remedy the foundational skill deficit of some learners, ‘civic’ benefits from education and training are likely to spillover to the broader community. This provides the benefits of social cohesion and unity, improved community health and lower levels of criminal activity.

- Poaching externalities. Where labour market distortions mean that employees underspend on their own training, there is scope for employers to provide generic skills training. However, the risk that a worker would switch employers after completing the training makes employers’ reluctant to provide the training. This is because the benefits from the training would then be captured by another employer, i.e. a third party.

Where no private solution is available the government can address these positive externalities through the following actions: public provision; subsidised provision; or defining and enforcing property rights.

II. Information asymmetry - principal agent problem

Information asymmetry is a phenomenon where some parties in a market have possession of more (or better) information than others and they use this information to their own advantage. This imbalance distorts the actions of both the informed and uninformed parties, resulting in inefficient market outcomes.

The principal-agent problem occurs when a hiring or paying party (called a ‘principal’) wishes the hired or payed party (called an ‘agent’) to perform a task, but cannot observe some aspect of the agents’ performance. If the interests of the principal and the agent diverge, there is an incentive for the agent to pursue their own interests at the expense of the principal. This can lead to inefficient outcomes that can be referred to as a form of market failure.

In the case of VET the principal-agent problem arises where the incentives of the student, in this case the principal, are not aligned to the profit incentive of the educational institution (agent) and the student is at an informational disadvantage in assessing the quality of the training offered. This imbalance of information, coupled with the nature of the principal-agent relationship creates an incentive for some providers of VET to deliver low cost training that is likely to be of poor quality or industry relevance. In
addition, providers would have an incentive to actively market services that may be inappropriate to student’s needs.

Where no private solution is available the government can address this information imbalance by increasing oversight within the market. The government can also endeavour to create incentive structures which discourage the principal agent problem through product certification or provider accreditation.

**Social equity grounds**

Governments may consider that access to VET would be inequitable in a free market. Affordability issues facing poorer students can entrench inequality, where credit constraints and thin markets might result in little or no access to VET for some groups of students within society.

**I. Capital markets**

The nature of education, which represents an investment in human capital, means it is not an asset that can be used as collateral for a loan, unlike physical capital\(^9\). In addition, students typically do not have established credit histories. These facts may combine to ‘lock out’ potential students with good future employment prospects but limited existing financial resources to pay for education and training. In effect, though the market may be functioning economically efficiently, it may also be providing potentially undesired social equity outcomes.

Typically governments respond by implementing loan schemes and/or providing direct VET subsidies or student assistance.

**II. Thin markets** \(^10\)

In some parts of the State thin markets may lead to delivery of education services being uneconomic, even in the absence of any market failure. This is likely to occur where the potential number of learners is too small, relative to the cost of delivery to sustain efficient provision. In these circumstances governments might decide to fund the additional cost of delivery, for equity reasons to ensure a base level of basic services is provided across the State.

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\(^10\) A thin market is a market with a low number of buyers and sellers. Since few transactions take place in a thin market, prices and availability are often more volatile.
Appendix B  Tocal College market share

To deliver the services to government and for social and regional equity reasons, the Program is required to maintain accreditation of Registered Training Organisation (RTO) status and pass reviews undertaken by Training Services NSW under the Smart and Skilled. The costs of maintaining RTO status training facilities is partly cost recovered by providing services (agriculture-related VET courses) into the competitive market to the extent that this does not compromise the ability of the Program to provide services to government and for social and regional equity reasons.

The below chart illustrates Tocal College’s share of enrolments in agriculture-related VET courses in 2015 (Tocal College is represented by the ‘enterprise – government’ provider category).

Chart B1: Training provider share of enrolments in agriculture-related VET courses in 2015


Notes:

1. Total enrolment numbers are as follow: Certificate III in Agriculture, 578; Certificate IV in Agriculture, 141; and Diploma / Advanced Diploma of Agriculture, 596.

2. Tocal College enrolments include enrolments under the Aboriginal Rural Training program and enrolled students from disadvantaged backgrounds receiving a scholarship from, for example, the CB Alexander Foundation.

3. The enrolments recorded by Tocal College in 2015 are expected to be represented by the ‘Enterprise - Government’ category. This category may include enrolments for training providers other than Tocal College. It is unclear the precise share Tocal College represents of this category.
Appendix C  Tocal College

Agricultural education commenced at Tocal in 1965 following a bequest of the Tocal property and estate of owner Charles Alexander who died in 1947. The estate was to be used to provide youth training for agricultural careers. In 1963 the Presbyterian Church was awarded Alexanders Estate and commenced the development of an educational facility.

In 1965, the first fifteen students were enrolled, and Sir Robert Menzies opened the C B Alexander Presbyterian Agricultural College. The Presbyterian Church managed the College until 1970 when it was transferred to the State as the CB Alexander Agricultural College, Tocal. This coincided with the passing of the C B Alexander Foundation Act, 1969.

Land purchases since the College commenced mean that the Tocal property is now 2,200 hectares. The CB Alexander Agricultural College consolidated with Murrumbidgee College of Agriculture to become one Registered Training Organisation in 2006, known as Tocal College.

Figure C1: Tocal Campus
Appendix D  Tocal College RTO accreditation

RTO Accreditation

Tocal College (RTO Number 91166) operates under the Standards for Registered Training Organisations (RTOs) which are independently and externally audited by the Australian Skills Quality Authority (ASQA).

The purpose of these Standards is to:

1. set out the requirements that an organisation must meet in order to be an RTO;
2. ensure that training products delivered by RTOs meet the requirements of training packages or VET accredited courses, and have integrity for employment and further study; and
3. ensure RTOs operate ethically with due consideration of learners’ and enterprises’ needs.

There are eight standards that Tocal College must comply with:

**Standard 1**: The RTO’s training and assessment strategies and practices are responsive to industry and learner needs and meet the requirements of training packages and VET accredited courses

**Standard 2**: The operations of the RTO are quality assured

**Standard 3**: The RTO issues, maintains and accepts AQF certification documentation in accordance with these Standards and provides access to learner records

**Standard 4**: Accurate and accessible information about an RTO, its services and performance is available to inform prospective and current learners and clients

**Standard 5**: Each learner is properly informed and protected

**Standard 6**: Complaints and appeals are recorded, acknowledged and dealt with fairly, efficiently and effectively

**Standard 7**: The RTO has effective governance and administration arrangements in place

**Standard 8**: The RTO cooperates with the VET Regulator and is legally compliant at all times.

RTO re-accreditation occurs every 5 years with spot audits in between. The next Tocal College RTO re-accreditation will commence in 2018.

Australian Skills Quality Authority

Tocal College is a Registered Training Organisation (RTO 91166) with the Australian Skills Quality Authority (ASQA). Tocal College delivers nationally accredited quality training and assessment within the Australian Quality Framework (AQF) for students across a range of agricultural industries. Tocal College must comply with the VET Quality Framework (VQF) which specifies the legislated ‘Standards for RTOs 2015’.

Tocal College demonstrates its ongoing compliance with the VQF through a range of activities that include extensive industry engagement; review of training and assessment strategies; staff training; validation of training products; development of new teaching resources; rigorous record keeping; data

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After an ASQA Strategic Review Audit of Tocal College equine programs in 2015, Tocal College engaged independent consultants in May 2016 to conduct the annual audit, focussing on three programs: the Traineeship program for National Parks, Certificate III in Conservation and Land Management, and both online delivery programs for Diploma of Agriculture and Diploma of Conservation and Land Management.

The recommendations from this audit are being implemented in stages as part of the continuous improvement cycle to advance and maintain the quality of all our training delivery and assessment programs. The auditors commended Tocal College on areas such as the outstanding skills, knowledge and professionalism of staff, our access to industry, best practice, innovation, emerging technologies, high quality resources, commitment to continuous improvement, specialist RPL staff and outstanding quality for all students.

Smart and Skilled Accreditation

Tocal College also has a contract under the NSW Smart and Skilled Program. Under the terms and conditions of this contract, Tocal must meet performance monitoring requirements. Training Services NSW may at any time carry out monitoring of the Provider’s operation and compliance with the contract. This includes monitoring and auditing of all records, attending the Provider’s sites, interviewing staff, subcontractors, enrolled students who have received subsidised training and Employers. This includes giving access to correspondence and reports from the VET Regulator.

Tocal College took part in a scheduled performance monitoring visit in the last quarter of 2016 and was found compliant. This review included interviews with enrolled students (including those that had participated in part qualifications), analysis of student records and training and assessment materials.

WHS Audits

Tocal College completed a successful audit of its safety systems and procedures by an independent company commissioned by NSW DPI in April of 2017. This audit included a site audit of the campus, plant and farms, and interviews with staff, management and the executive. The company found that Tocal College had an excellent safety culture. Some minor improvements were put forward which will be closed out over the next six weeks.

College Audits

Tocal College has maintained ongoing registration and compliance as a training organisation under the Australian Skills Quality Authority (ASQA) and its forerunners. It has at no stage had any conditions or limitations placed on its registration. Tocal College is a recognised specialist high quality training provider in agriculture and land management and has a current contract under the NSW Smart and Skilled program. A rigorous performance monitoring review undertaken by Training Services NSW in October 2016 demonstrated that Tocal College was meeting all its contractual obligations and is meeting its quality and evidence requirements under 14 categories.

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Appendix E  Cost Recovery Decision Framework

1. ACTION: Identify the nature of the issue that may potentially involve government intervention
   Then conduct a ‘market failure’/‘welfare’ test as below:

   2 (a) Market Power: Are there participants in the market that have sufficient market power so as to artificially influence trade or price? (See Notes)
   2 (b) Externalities: are participants in the market imposing an unwarranted cost on others not involved in the market transaction? (See Notes)
   2 (c) Public Goods: If left unassisted, would the market fail to provide an adequate level of investment to address the issue identified above? (See Notes)
   2 (d) Asymmetric Information: Does one party to a transaction have more or better information than the other party, thus creating an imbalance of power? (See Notes)

   If Yes to any of the above, then proceed to next stage.

   If No to all of the above, go to 5.

3. ACTION: Devise a Proposed Government Program or Activity (if one does not already exist)
   The proposed intervention should be designed to overcome the specific market failure identified above (see notes) (the component parts of each activity/program should be considered separately through the remaining part of this diagram)

4. Is it (or would it be) necessary to regulate for the provision of this activity/program?
   (eg. to pursue impactors, establish industry levies, enforce compliance certification, etc)

5. Do not provide
   Unless Industry requests government involvement and agrees to pay for the provision (may also require a regulatory basis) (fees preferred over levies)

6. Does the activity/program involve ‘Registration / Approvals’ or ‘Compliance / Enforcement’?

7. Is it appropriate to recover costs from the individual risk creator ie individuals/firms’ (through a fee or fine, as opposed to recovering costs from an entire industry through a levy)?

8. Are other individuals/firms be able to free ride on the approval of the first applicant?

9. Are the major beneficiaries be a narrow identifiable group (eg. individuals or industries)

10. Is there a group based cost recovery be both efficient and cost effective? i.e. are the affected parties identifiable, is there (or could there be) a fee collection mechanism in place and would the amount of money collected be likely to significantly outweigh the administrative costs of doing so?

11. ACTION: Conduct a Benefit Cost Analysis
    Only proceed with options in which benefits are greater than costs

12. If the impacts of the issue in question lie solely within one sector or industry, the responsible funding party (government/levied industry) may decide for the proposed activity/program not to be provided. Otherwise...

13(a) cost recovery via FEE on individuals/firms

13(b) cost recovery via LEVY on industry

Provision with No Cost Recovery (Taxpayer Funding)

Provision with Cost Recovery @ Commercial Cost (A+B+C+D+E)

Provision with Cost Recovery @ Fully Distributed Cost (A+B+C+D)

Provision with Cost Recovery @ Avoidable Cost (A+B+C)

Provision with Cost Recovery @ Marginal Cost (A+B)

14. Would there be actual or potential competition for the provision of this activity/program?

15. Cost recovery fee or levy set to achieve fully distributed cost recovery

16. Would the provision of this activity/program involve additional data collection, analysis or research beyond what is already taxpayer funded?

17. Provision of this activity/program involves the further dissemination of a basic product.

*Cost Recovery Components
A – Salaries & On Costs
B – Operating Expenses
C – Overheads
D – Return on Assets
E – Profit Margin
Appendix F  Program Logic

**Inputs**
- $11 million
- 70 FTE (plus 27 seasonal causals)
- Use of farmland, Tocal homestead and Yanco

**Activities**
- Delivery of training to, and/or for, *industry and government*, including training for students from disadvantaged backgrounds
- Development of training materials & course curricula, including for schools
- Delivery of high-quality competitively neutral agriculture-related VET courses

**Outputs**
- Industry-provided training that meets both industry and government needs
- Training courses available on farm safety and biosecurity
- Agriculture-related content available for primary & secondary schools
- Training young people from disadvantaged backgrounds
- Students undertaking high quality agriculture-related VET courses

**Intermediate outcomes**
- Helping improve farm safety & biosecurity in NSW agricultural industries
- Improved employment prospects of disadvantaged of young persons by skilling them for agricultural careers
- High enrolment and completion rates in agriculture-related VET courses
- Beneficial employment outcomes for students (and employers) of the high quality VET courses provided by the program

**Ultimate Outcomes**
- Improved capability of government and NSW agriculture industries
- Fewer farm fatalities and safer farm workplaces
- Reduced disadvantage, particularly for Aboriginal young persons
- Improved productivity of NSW agricultural industries