

Centre for People,
Organisation & Work



**Future Jobs and Regional Workforce Development:
Foundations and Analysis**

Report for Regional Australia Institute

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1 Introduction

This project is intended to provide support for regions navigating changes in workforce requirements in the current period. The report lays the foundation for assessing the strengths and weaknesses in existing education and training delivered at the secondary, vocational education and training (VET) and higher education levels. The purpose is to identify and assess how education/training systems can best support regional social actors, including regional governance actors, to develop their local labour force in light of emerging challenges and to maximise the ability of those who live in regions to access meaningful work. In doing so, it addresses changes in industry growth and the structural changes and spatial shifts occurring in labour markets as well as the developing relations involving governments, business, workforce representatives and related advocacy groups.

1.1 The Aims

The aim is to investigate the relationship between education and training *and* changing regional workforce needs. Three objectives inform and guide the report:

1. To assess the consistency and focus of the delivery of education and training in regions.
2. To evaluate the significance of the degree to which regional education provision in relation to labour market requirements is place-based.
3. To question whether current education practice is consistent with new work arrangements and emerging trends and challenges.

1.2 Research Questions

This report and its attendant projects address four key questions:

- What are the future skills/capability needs which the secondary, VET and higher education sectors are now trying to address through their education offerings?
- How do the relationships work between the secondary, VET and higher education sectors in their regions and how well defined and publicised are the pathways for students?
- How strong are the relationships between the employer/industry, education/training providers, and students/jobseekers/workers and how do these relationships play out?
- Are there any innovative interventions, which are being implemented in these regions to improve enrolments/completions/relevance of courses for future skills needs and, if so, which of the above groups have been engaged in identifying and implementing these interventions? Is there anecdotal or quantitative evidence of the impact of these interventions?

1.3 Regions for analysis

The research focuses on six regions, according to the ABS definitions, initially at the SA3 level. As the research progresses, this will be unbundled so that the analysis can be developed and extended in useful ways.

The following regions have been selected for analysis:

Table 1: Study regions

Region	RAI Typology ¹	Note
Central Coast	Regional City (Connected lifestyle area)	City region – active RDA and experimenting with S3; University presence
Geelong	Regional City	City-region – with close proximity to the State capital and university research precinct of international significance
Gippsland	Industry and Service Hub	Rural with university
North West Tasmania	Industry and Service Hub	Regional economic governance – Cradle Coast Authority and university
Northern Territory (Katherine)	Heartland	Remote with university
Toowoomba	Regional City	City region with university

The RAI typologies are:

- **Regional Cities** have populations of over 50,000 persons. They have diverse economies and the chance to use their size and diversity to shape their own future.
- **Connected Lifestyle Regions** do not have city population size but are close to major metropolitan regions. They will be influenced by their connection with these cities.
- **Industry and Service Hubs** are regional centres with between 15,000 – 50,000 residents, located further from major metropolitan areas. Their performance is linked to industry outcomes, but their population size means they could be resilient to change.
- **Heartland Regions** are smaller regional areas that are not close to other major metropolitan or Regional Cities. Industry trends and local ingenuity will shape their future (Regional Australia Institute 2014).

¹ Categorisations from <http://www.regionalaustralia.org.au/home/regional-job-automation-pack/>

However, these typologies are not exclusive. For example, the Central Coast study area is categorised as a Regional City by the RAI, due to the population of the region, however it can also be considered a connected lifestyle region due to its close proximity and interactions with Sydney. The central settlements of the Latrobe Valley, Churchill, Morwell and Traralgon also meet the Regional City criteria as core to the single Latrobe City entity, along with other settlements in the area.

1.4 This Report

The report comprises the following:

1. The Learning Puzzle
2. Summaries of the four workpages that underpin this report:
 - Selected Regions and Australia: A Preliminary Statistical Profile and Analysis from the 2016 Census
 - Lock-in and Learning - North West Coast of Tasmania
 - Regional skills shortage and learning: Big Rivers Region Case Study
 - Innovative practices of Victoria's LLENs activities and their outcomes
3. Conclusion and Recommendations

This report lays the foundation for further work which will take the examination of the research questions in relation to the selected regions to the next stage of analysis. In this way, the 'learning puzzle' will be elaborated in a theoretical and empirically informed way. The intention is to enable evidence-based policy to be formulated and in turn implemented.

2 The Learning Puzzle

The purpose of this project is to investigate how regions navigate big changes in workforce requirements in the current period. This includes guidance to government on how to best respond to the future of jobs in regions, considering where jobs are vulnerable to automation, industry and labour market restructuring and the varied capacities within regions to adapt to future work requirements and the associated jobs. Moreover, the research demonstrates the strengths and weaknesses in existing regional education and training related to employment in available jobs, including secondary, vocational education and training (VET) and higher education levels.

The problem is that the occupational and employment structure and the educational opportunities in regions do not necessarily dovetail with shortages in labour and the specific job requirements of employers in those regions. Hence, there is often a disjunction between the supply and demand for labour at the regional level. This puzzle is addressed in this study, which seeks to analyse how skill supply can be aligned with skill demand in the form of jobs, a challenge, which education and training providers are trying to address. The notion that education and training providers can simply provide skills and qualifications, without considering the demand for and use of these skills in available jobs, is no longer credible (see Buchanan et al. 2010). With increases in the cost of education and training, job outcomes are becoming much more critical for many students.

2.1 Skills

Aligning skill supply with skill demand requires proactive and innovative education and training practices that involve a wide range of actors (e.g. employers, industry associations, unions). It also requires that regional development actors and agencies assist with industry regeneration and job stimulus. This more inclusive, systemic approach to targeted skills requirements in the form of jobs, often for changing work requirements, demands an assessment of labour market trends (particularly the need for replacement workers), the education and training provision as well as how skills are used and sourced in any particular job.

Skills are the product of social and material processes involving three principal players: trainees, education and training providers, and employers. One of the difficulties in discussing skills is that there are a number of competing conceptual frameworks that have been used to define them (e.g. Green et al. 1998; Spenner 1990; Stasz 2001; Vallas 1990). These frameworks are rooted in the changes that are taking place in work and employment relations over the last few decades, including: technological change, managerial reorganisation and focus, the reorganisation of work processes, and the internationalisation of product chains and markets (Holmes 2017; Stasz 2001; Tholen 2017; Toner 2005). This interest is associated with recognition that in the context of change it is also necessary to consider the skills profiles of workforces with reference to recruitment, retention, employability and work output.

Analysis, however, must be extended to consider changes that are occurring within the education and training sector, which impacts upon the how skills are developed and training

occurs, and thus provides entry into labour markets. Over the past two decades, the education and training sector has focused not only on those working and employed within the sector but also how skills are delivered, standards are maintained, and qualifications are issued. The changes that are taking place in work and employment have implications for skills deficits and requirements, and the changes occurring within the education and training sector also have implications for skill quality and availability.

The degree of match between skills supply and demand is a spatial question that depends upon scale and mobility of students/employees. The region is a suitable focus for such analysis because it represents a scale at which individuals can remain in place while travelling to some extent to access training and employment, helping retain people in regions in the process and thus contributing to a positive spiral of ongoing regional renewal. In considering training and employment provision within a region, it is therefore important to understand current employer requirements across sectors within a given region.

At the same time, it is important to undertake the investigation in a future-oriented way. It is necessary to review and analyse possible and plausible changes in regional employment profiles, in part due to cross-regional processes such as those mediated by the global economy. A region's vulnerability can be increased if foreign investors decide to move their operations away from the region at some point in the future (see the attachment to this report, *An International Study of Comparator Cases*). International evidence also indicates that addressing regional regeneration via an employer-driven approach can have negative implications, if done at a distance. Research indicates that Foreign Direct Investment (FDI) led regional regeneration has resulted in the underdevelopment of local skills in the past (Evans, C et al. 2013).

This type of analysis is the first step in underlining the importance of understanding not just the needs and aspirations of employers, but the skills and aspirations of workers in a situation where jobs can disappear or are drastically reduced. It is thus relevant to engage workers who are likely to be affected by changes in the regional economy in the process of planning for their future. Such an approach will result in a comprehensive and focused analysis of skills and needs in the industry, thereby making possible informed policy making to support positive regional transitions. This is the end point of this approach to a skills analysis within and about regions.

2.2 Training providers and regional development

Regional vocational education and training institutions are key players in promoting regional development although as noted by some there are barriers to this role (Kearns, Bowman & Garlick 2008; Toner 2005). Such activity includes addressing skills shortages, replacement workforce, developing ways to assist displaced and disadvantaged workers, and seeking to promote the entry of young workers into the labour market. Of note, TAFEs play important roles in regional training. These actors promote investment in regional human capital, by identifying training needs, attempt to improve the supply of appropriate training and provide training services. A range of studies have considered how well VET assist employers dealing with regional skill shortages – deficiencies in suitable skilled and qualified applicants for in-demand occupations - and skill mismatches – deficiencies in particular skills required due to new technology or work processes and so forth (e.g., Fox & Gelade 2008). A more recent

focus has been on improving the response of regional VET institutions for disadvantaged learners in transitioning from school to VET (Lamb et al. 2018).

Skills are often perceived as the key driver of regional prosperity and to address social and economic changes, and often perceived problems. In these circumstances, regions often face significant skill challenges associated with an ageing workforce, displaced workers, youth unemployment, disadvantaged communities, and the need to cater for the job demands (sometimes with work implications) from new and emerging industries. In addressing these matters, it may be necessary to deal with other social and economic development processes, including regional and industrial planning. Indeed, it can be argued that such planning should be carried out in conjunction with targeted skills programs. In this context, some form of partnership approach to skills development and implementation is necessary for successful outcomes. Already there are key bodies in regions, such as LLENs undertaking such steps.

2.3 A political economy framework

This research project proposes a political economy approach to a skills and learning analysis that considers the production and social conditioning of skills acquisition and job placement (see Brown 1999; Buchanan et al. 2001; Lloyd & Payne 2002). The starting point for our analysis is to consider the interrelationship between corporate reorganisation, the changing labour market, the specificities of a sector and its interaction with local and national government institutions, regulations and policies, and the prospects for transition. The task in addressing this theme is to consider 'how skill is socially conditioned and determined?' and then to ask 'what are the changing requirements for skills provision and for whom?' These questions raise further queries about agency, influence and trajectory. The aim is to lay the foundation for the analysis that informs the overall project.

An important point that this form of analysis brings to light is that attention should be given to both supply and demand, present and future. That is, interventions and policy recommendations need to take into account both the aspirations of workers and the potential and actual employment prospects arising in local industry. The focus on demand and the use of skills is of note, as in recent decades the focus has been mainly on employment supply (Buchanan et al. 2010; Payne & Keep 2011). It is also necessary to consider the ways work may be changing and why, as well as reviewing the job profile in the region, sector by sector. The outcome will be a comprehensive understanding of the challenges that regional social actors face.

A feature of this approach is that it extends the analysis beyond the skills gap as determined by business interests, to include an understanding of skill formation and transition challenges as a result of structural change in regional economies. Therefore, the political economy of skills approach addresses both the specific socio-economic contexts in which skills are embedded and the dynamics that underpin them, including the economic, social and regulatory pressures that influence training providers and their delivery of training and skills. Also included are the external factors that impact on skills development, including how providers' relationships with employers, industry associations and policy-makers influence training outcomes. The result of this approach is broader than the outcomes of a skills gap approach, it underpins the development of "an education and training led model of business growth and job creation" (Fairbrother et al. 2013, p. 43).

Focused policies and practices are a critical condition for success. Building on the collaborative relations that are evident between the schools, the TAFE and RTOs and the Higher Education sector it is possible that the basis for an alignment of education and training with skills needs and requirements can be laid. Steps towards skills policies and programs benefit from informed policymaking, in relation to both skills demands and skills supply. Such measures require an understanding of the employment trajectories underway in relation to sectors and sub-sectors, as well as the skills profiles of residents with the region. Perhaps the most difficult step as indicated above is to achieve an alignment between skills requirements and skills profiles and supply.

3 Project Overviews

This report provides a summation and an analysis of four foundational projects. They are:

- Regions at work and in employment: A Preliminary Statistical Profile and Analysis Selected Regions and Australia, 2016 (Philip Toner)
- Lock-in and learning – North West Tasmania (Ruth Barton, Todd Denham and Peter Fairbrother)
- Regional skill shortages and learning – Big Rivers, Northern Territory (Alicia Boyle, Todd Denham and Peter Fairbrother)
- Innovative practices: review of Victoria’s LLENs activities and their outcomes (Caitlin Vincent, Karen Douglas, Peter Fairbrother and Todd Denham)

3.1 Regions at work and in employment: A Preliminary Statistical Profile and Analysis Selected Regions and Australia, 2016

Phillip Toner

This project presents data from the 2016 Census which is a unique data source providing important insights into key dynamics influencing supply and demand for skills in six selected Australian regions across three states and a Territory, NSW, Victoria, Tasmania and the Northern Territory. In addition, for comparative purposes data is also provided for the relevant state and for Australia as a whole. The data variables include:

- demography;
- employment status;
- educational attainment;
- occupation of employment;
- industry of employment;
- journey to work and commuting patterns;
- household income; and,
- indices of socio-economic advantage and disadvantage.

The total population of the regions represents approximately one in twenty Australians.

The level of analysis adopted for the regions is at the ABS SA3 and SA4 geographic level. SA4 level data is presented in this report with more detailed SA3 data furnished as an addendum.

Some of the key findings of the report include the following.

The starting point for the analysis is the demographic structure of each region’s population. Here the main variables examined include the absolute size of the population, important in determining local effective demand for goods and services, the scale of local employment and scale of local education and training, labour demand and supply. Further, the distribution of the total population into distinct age groups is also important in influencing all of the above. As noted, it is necessary to examine differences within and between regions, as well

as in relation to the benchmark profile of the state and total Australian data. As an example, West and North West Tasmania has disproportionately fewer young people and more older people, than for Australia overall. This profile may appear to pose challenges and imply a process of 'demographic determinacy' in relation to labour supply and the content and focus of skills education and training across the region. Other data however, in particular for journey to work, shows there is considerable labour mobility across the Tasmanian regions, offsetting to an extent the trends implied by examining demographic data in isolation. This is one small example of the larger principle that the analysis of regional growth needs to encompass many variables and be dynamic in recognition of the rapidity of change that is being visited upon societies and economies in relation for example to the changing service sector and changing gendered patterns of employment participation and remuneration. The outcome is a complex and dynamic regional profile, which over time can either counter or reinforce the processes and impact of what initially present as path dependent trajectories (see Project 2: Lock-in and Learning - North West Coast of Tasmania).

The principle regarding dynamic processes is also evident in the data on regions' employment status. Thus, we find a remarkable degree of similarity across the regions' unemployment rates all of which, with the exception of the NT Outback, are close to the Australian figure. This is despite some of the regions experiencing large scale industry and employment declines in recent years. The key factor here is that labour force participation rates, which measures the proportion of the working age population in work or looking for work, varies considerably from region to region. Generally, regions experiencing a fall in employment will also experience a fall in persons looking for work as they become discouraged and leave the labour force for a period. These patterns were found in North West Tasmania, whereby Project 1 reported on structural economic changes such as the decline of traditional forms of mass employment resulting in fewer rather than more job opportunities, at least in the short term. Such patterns often result in harsh employment experiences and reflect the absence of growth industries in any given region and may result in an increased proportion of older non-employed persons. In turn this raises challenges for regional decision-makers about the types of innovations and initiatives that may benefit the prosperity of the region as a whole as well as particular individual residents.

Regional industry and occupational structures are reciprocally impacted by educational attainment of the workforce, wages and future job prospects since the growth potential of occupations and industries differs markedly. In addition, some occupations, and industries are highly gendered, as illustrated in the great contrast between mining and energy (male) and health care (female). The persistence of strong sex segmentation across industries and occupations is a key feature in the data. Nonetheless, while there are broad patterns in evidence it is also the case that these arrangements can be and are being challenged, so that the patterns are not always as fixed as often assumed.

Such features not only mark patterns of restructuring but also matter in relation to government intervention and expenditure. One challenge, often unremarked, is that changing household working patterns can provide the opportunity for a rethink on the education and training provisions that should be made available when such changes occur. The implications for innovative innovation and the provision of associated education/training measures can be marked.

Regional labour markets also display varied patterns in part associated with the tertiary educational opportunities. The simplest case is when students have to move from regions for tertiary opportunities. As a corollary there is a significantly lower proportion of regional people with tertiary and related professional qualifications. The implication is that these features of a regional workforce are a reflection of the pathways to employment and regional industry and occupational structures in regional areas, as well as the geography of tertiary education provision in Australia.

A further complication in assessing the relationship between education/training *and* changing workforce needs arises from inter-regional labour mobility for work. In all but the most remote regions there is strong evidence of a net outflow of workers from regions, related in part to employment opportunities in neighbouring regions, such as large cities and urban settlements. While most regions export low-skilled occupations such as Technicians and Trades Workers, Machinery Operators and Drivers and Labourers, it is notable that the peri-urban and coastal regions of Central Coast and Geelong also export greater proportions of Managers and Professionals. This indicates the enduring 'sea-change' phenomena and the influence of coastal amenity as a driver of regional population growth (Gurran, Norman & Hamin 2016) particularly as there is not a similar propensity for out-commuting from Toowoomba, located at a similar commuting time from Brisbane as the Central Coast is from Sydney. These two out-commuting trends from peri-urban regions also reflect trends identified in the Melbourne hinterlands, based on analysis of data from the 2016 census (Denham 2017) as well as the extensive research indicating the correlation between commuting distance and income (Carra et al. 2016; Johansson, Klaesson & Olsson 2003; Manning 2003; Ruppert, Stancanelli & Wasmer 2009; Shen 2000; Wang & Hu 2017). While there is a relationship between out-commuting to major cities and regional employment based on the higher incomes resulting from metropolitan employment (Lavesson 2015; Parr 2014; Partridge, Ali & Olfert 2010), the benefits of the introduction of out-commuting residents to regional communities has been questioned due to broader economic and social effects, such as conflict over how towns should develop and gentrification (Denham 2017, 2018). These patterns raise questions about the profile and content of embedded regional industries, such as food, retail, health care and education. It may be the case that the focus of policy should be on these foundational and embedded sectors, as a mark of the strength of the regional economy and its associated labour market (Bowman *et al.* 2014).

The net in-flow of workers to the Outback Northern Territory region in all occupations also indicates that there may be benefits from developing the foundational and embedded sectors of the economy. Parr (2014, p. 1935) notes that "(f)or each of these flows of labour there is a reverse flow of wages and salaries, which may be an important part of the economic base for many urban centres in the city-region". Therefore, improving the quality of the embedded goods and services in the region may result in a greater propensity for the region's workforce to also reside there, and result in a greater local capture of regional incomes. This may also be beneficial in providing examples of regional residents of what careers may be and engender aspiration and the demand for training.

A further question for training providers that this analysis of net in- and out-flows of workers raises is that labour markets are increasing their geographic spread and the boundaries of regions are dissolving (Collits & Rowe 2015). While the statistical geography used by the ABS has been redrawn to reflect commuting patterns and functional economic regions (ABS

2011a; Mitchell & Stimson 2010), the place of work and place of residence data indicates that regional training providers need to consider that the labour markets and employment opportunities that are available to locals may be located well out of their jurisdictions.

This work programme highlighted the number of variables that can influence regional economic and employment patterns and the complexity of their interaction in that they may either act to reinforce or counter-act the tendencies to either regional growth or decline.

3.2 Regions in Training and at Work

Three projects address aspects of the overall study through regionally-focused studies. The intent is to identify distinctive areas of study in particular regions which matter to the objectives of the overall program.

3.2.1 Lock-in and learning – North West Tasmania (*Ruth Barton, Todd Denham and Peter Fairbrother*)

The lock-in and learning project focuses on North West Tasmania. Industrial lock-in is a result of regional concentrations of industry, which provide opportunity in the growth and development phase, but can lead to concentrated unemployment and out-migration as the central industry enters decline (Beer & Clower 2009). The role of education and skills development in transitioning the workforce that remains in the declining phase of the industrial cycle to new industries is the central concern of this project.

The idea of lock-in underwrites the challenges facing regions where relatively prosperous traditional industries are currently in decline or have ceased operating in a region. Often there appears to be an intractability in securing sustainable and inclusive transitions in regional workforces, educational provision, and the structure and organization of regional labour markets. As argued elsewhere (Martin 2010), the very strength of the past can become part of the barriers and impediments to achieving the transition to prosperous futures (Hassink 2010).

In Tasmania (the focus of Project 2), as in many isolated regions, the direction of economic development has been fraught. There are long standing debates over the State's economic direction, between the traditional dominance of mining, forestry and agricultural processing, or one dominated by clean green industries such as eco-tourism. This has been particularly so on the North West coast, where the traditional, male dominated industries have closed and been replaced to at least some extent by female dominated service industries. While parts of the state have experienced a rise in industries such as tourism, particularly the south where the so-called MONA (Museum of Old and New Art - <https://mona.net.au/>) effect comes into play, the North West has been largely by-passed.

Tasmania, and particularly the North West coast, has traditionally experienced low levels of school retention rates, year 12 completion rates and tertiary education participation. The region has high levels of unemployment, low levels of labour market participation and is experiencing population decline, particularly amongst young men. When taken in conjunction with the changes in the labour market, they pose significant challenges for the region. The North West coast can be seen as experiencing a form of regional lock-in, where the relationships and patterns of behavior from the past hinder a region's ability to regenerate.

Educational and training provision in North West Tasmania has undergone a transformation in the last few years, with promising outcomes. There is evidence that despite major social and economic disadvantage and low levels of educational attainment, that schools in the region are performing as well or better in reading and numeracy than comparable schools across Australia. In addition, school completion rates are improving, although the translation of these changes into VET and higher education participation are often opaque, partial and targeted. These patterns of improvement suggest that there is a complex inter-relationship between educational opportunity, household trajectories of employment and past educational experiences, and regional jobs and employment opportunities. There is evidence that locally and place-based intervention, involving educational and training pathways to employment, are beginning to have a positive impact.

Of note, North West Tasmania has benefited from public authority promotion of working relationships between secondary, VET and higher education sectors in the region. These possibilities can be illustrated in a number of ways. First, the *de facto* regional development agency, the Cradle Coast Authority (CCA - <https://www.facebook.com/cradlecoastauthority/>), for example, with the Regional Australia Institute has initiated a 'Pathfinder' project, focusing on education and employment pathways. One focus is to identify skills groups and needs; another is to address levels of educational attainment. Second, the latter objective is being addressed by state policies to extend opportunities to complete Years 11 and 12 in secondary schools, a complement to the established community colleges. Third, a further step has been taken by the University of Tasmania with its inauguration of Associate Degrees, in effect pathways into the university. TasTAFE and the university increasingly are working together to promote entry into further education.

While it would appear that relationships between the secondary, VET and higher education sectors have a fluidity and flexibility that is leading to opportunities for work and employment, the relationship between employers, education provider and job seekers is less encouraging. Employers, for example, lament the gap between educational levels, individual skill capacities and industry skill demands, they do not give company and industrial training a high priority, reflected in the limited industrial training provisions on offer across the region. This feature stands in contrast to the range of experiments under way in the region to improve educational attainment in relevant ways to regional labour market needs.

Overall, this analysis draws attention to the complex relationship, both conceptually and in its application of the relationships between educational provision and labour market engagement. It may be the case that public authorities involved in educational and training provision take positive steps to promote educational and training levels, but these steps also require like initiatives from employers and a sharp engagement with the ways in which labour markets are being restructured and focused at a regional level. Further, the process of change in this region does suggest that benefits of targeted and place-based initiatives involving employer/industry, education/training providers and students/job seekers/workers. The task is to develop approaches that focus on the processes that may mitigate against lock-in. There are strengths in the past and these may need to be recalibrated in the context of changing work, the emerging profile of jobs and the shifting employment terrain. In this context, the capacities thus enabled by targeted education and skills programs may provide the impetus for change by firms and services in a region, with benefits flowing on to the community. These aspects will be explored in further research.

Recommendations

The study addresses the puzzle of the apparent intractability of securing sustainable and inclusive transition in regions characterised by a past with dominant traditional industries. Rather than affirm stability and continuity, the analysis seeks to identify ways of promoting change at a regional level, via education and learning strategies. In this way it promotes steps to overcome the barriers to change as captured in analyses of lock-in. The task is to promote education and learning as an impetus to change by firms and services in the region. It requires targeted education and skills programs.

The recommendations that arise from the analysis are fourfold:

1. **Continue the assessments of the areas of regional employment strength and growth – health care, education and retail and manufacturing.** This type of analysis is already undertaken by the Cradle Coast Authority, and it is important to continue evaluating the outcomes of the training programs in place within the region.
2. **Promote and support an on-going analysis of the regional labour market and the skills requirements, focusing on the place-based features of the regional labour market.** Build on the steps taken to re-evaluate the provision and processes of learning in the region. The means of doing this would be best served by supporting the Cradle Coast Authority.
3. **Promote and extend the on-going interactions between secondary schools, VET and higher education.** This may require state sponsorship and active support over the long-term.
4. **Promote learning experimentation and resource use.** The example of the Children's University is one example.

3.2.2 Regional skill shortages and learning – Big Rivers, Northern Territory (*Alicia Boyle, Todd Denham and Peter Fairbrother*)

Project two focuses on learning pathways into emerging employment opportunities. The aim is to provide an insight on the complex relationship already addressed for the North West Tasmania region (Industry and Service Hub) between learning and skills strategies, although in this case the focus is on the Northern Territory (Remote and University). The report identifies a range of experiments that are underway.

The regional skills shortages and learning project focuses on Katherine and the Big Rivers. The Northern Territory Economic Development Framework (Deloitte 2017) informs the Northern Territory's long-term decision making and delivers policy and regulatory certainty for investors. It identifies four growth pillars being driven by demand from Asia: agribusiness, tourism, energy and minerals, and international education and training. Big River's assets align with three of the four key growth pillars – agribusiness, tourism and mining. Similarly, the Katherine and Big Rivers Region Regional Economic Development Committee Strategic Plan 2015-2017 focuses on the key industry sectors of defence, tourism, horticulture/agriculture, mining and transport and freight (Katherine and Big Rivers Region Regional Economic Development Committee 2014).

The region is comprised of the Victoria Daly, Katherine and Roper Gulf LGAs. Katherine is home to the RAAF Base Tindal and is the region's service centre, while the Roper Gulf and Victoria Daly Region are largely rural and remote. The region is home to 21,158 people or nine per cent of the Territory's population, with approximately half Indigenous. Its main industries are pastoral, tourism, defence, horticulture, mining and oil and gas exploration. Just over six per cent of the Territory's businesses are located in this region. The challenge with the Big Rivers Region is to establish pathways for residents into the emerging employment opportunities in these sectors.

The region is the focus of government strategies, plans and interventions. The Northern Territory Economic Development Framework (2017) informs long-term decision-making and policy implementation. This framework rests on an assessment of employment demand from Asia – agribusiness, tourism, energy and minerals and international education and training. Complementing the framework is the Katherine and Big Rivers Regional Economic Development Committee Strategic Plan 2015-17, a focus of the project. In addition, to the above sectors, the Plan also identifies defence, transport and freight as growth areas.

As part of the overall pattern of public authority intervention, the region has been the target of government policies and programs to address both shocking degrees of Indigenous disadvantage and inequality, as well as physical and mental abuse. While the evidence of progress in relation to these targets is limited, employment and training/education programs have been initiated and developed. The report explores the focus and impact of these programs.

A feature of the programs across the region is the ways that public authorities have developed and driven them. These initiatives involve schools, VET providers and tertiary education institutions. Two related strategies have been pursued, one on developing pathways into labour markets and the other addressing the circumstances and conditions of Indigenous communities in relation to education/training and employment. While often presented distinctly, consideration of pathway programs between education/training and industry/employer must take into account the complex relationships between education opportunity, household employment and educational experiences, and jobs and employment. Of note, these relationships play out in complicated and diverse ways, depending on the region examined.

Experiments in relation to pathway procedures and process involve the Commonwealth and State governments (Council of Australian Governments, 2018), the Northern Territory Department of Education, and a range of education/training providers, particularly at the secondary school level. Of import in the Katherine and Big Rivers Region, there is evidence of involvement in training plans and apprenticeships/traineeships of major external employers, such as the ANZ Bank and Lend Lease, as well as locally-based government and public authority department and local employers. Additionally, it should be noted that particular secondary schools have been the focus of these initiatives, suggesting that targeted approaches to the establishment of these arrangements are important if stable and working processes are to be put in place.

One notable achievement in the region has been to make VET programs more accessible and to promote the facilitation and development of working relationships with industry/employers. These steps have had the active support of the Northern Territory

government agencies. The other side of these developments has been the limited success with the VET Demand to Secondary School Students Program. The reasons for this outcome are complex and involve funding limitations, procedural barriers, course relevance and attractiveness, as well as negative personal and related experiences.

The presence of a university, in this case Charles Darwin University, in the region with adequate resource has been a distinct advantage. Not only has the university been involved as a provider of VET Delivered for Secondary Students, it has supported Indigenous traineeships for the Real Jobs Program. This program was initiated and supported by a partnership between the Northern Territory Cattlemen's Association and the Indigenous Land Corporation. The university also offers an Early Childhood Educators and Carers Program. Nonetheless, while this record of commitment has opened up educational opportunities with the university, it is also the case that costs for regional and remote VET and higher education delivery has become a funding issue for the university.

The other side of the relationship presented is the emerging employment opportunities across the region involving a range of occupations as well as industries. The public services are a major regional employer, with the proportion of employment in the sector significantly higher than the national average. A challenge is staff retention, as there is indications that employment areas such as education and health have difficulty in attracting and retaining staff, even with financial concessions and incentives.

These features of the regional labour market must be assessed in the context of increased employment demand in other areas of the economy in conjunction with the underdevelopment of the educational and training provision to meet these demands. The sectors where this is evident include horticulture, farming, tourism and accommodation and energy and mining. Thus, the texture and content of the relationship between education/training providers and these industries/employers requires urgent attention.

While North West Tasmania is a different type of region, education and employment in the Big Rivers region has similarly benefited from an active state and public services sector. Success depended upon addressing the complex inter-relationship between skills, training and employment, often in the context of complicated and challenging household experiences, as evident elsewhere although not as stark and divisive as here. What remains unclear is how to integrate employment requirements into education/training provision.

The lessons from the project are fourfold:

- State and public service/authority intervention is critical
- Different populations must be targeted and provided for in distinct ways, underwriting the importance of understanding the needs of embedded parts of the economy when compared with externally based corporations and employers.
- There is a process of experimentation underway that provides significant value, especially if monitored and evaluated in rigorous and ongoing ways.
- The inability to provide comprehensive and targeted education/training within the region is likely to have a major and ongoing impact on educational attainment and employment retention.

Recommendations

This study identifies a complex array of learning pathways that have been established in this remote region over the last decades. These pathways are integral to the emerging employment opportunities in this currently disadvantaged and remote part of Australia, the Big Rivers Region in Northern Territory. Implicitly, the policies and practices are aimed at addressing the complex and often contested relationships between learning, skills shortages and emerging demands. Via a political economy of skills, learning and employment the case is presented for identifying the drivers and conditions for success. The challenge is to evaluate the experiments that are underway and to review the conditions for success and failure. In this way foundations are laid for a sustainable and efficacious future.

Four recommendations are made:

First, processes of policy evaluation and assessment should be put in place, with a mandate to identify and develop further integration and engagement in the region in relation to education, skills and employment. When experiments of the magnitude illustrated here are undertaken, especially when different sets of actors are involved, the assessments of success and failure can be relatively mechanistic, influenced by short-term concerns and superficial judgments.

Second, a critical step forward will be to develop the processes for community deliberation and decision about the next steps with the regional social and economic experiments underway. The danger in all remote regions is that the temptation to decide from outside will become predominant; rather than engaged and participative decision-making and involvement.

Third, research efforts that aim to resolve the conflicts in need for regional training, the sustainability of regional delivery or the costs of out-of-region relocations for training purposes are essential. Developing and experimenting with new models of distance delivery or support packages that enable training while remaining predominantly within the region is central to developing meaningful pathways and skilled workforces in remote locations.

Fourth, given the mix of programs, skills requirements and employment outcomes within the region, mapping the pathways would provide a better understanding of gaps. While complex, this mapping would provide the basis for understanding what is missing within the region's training offer, as well as opportunities for more effective delivery through consolidation of effort. A further benefit would be to provide a method for the analysis of training and employment opportunities in other regions.

3.2.3 Innovative practices: review of Victoria's LLENs activities and their outcomes (Caitlin Vincent, Karen Douglas, Peter Fairbrother and Todd Denham)

Aligning skill supply with skill demand is a challenge. The notion that education and training providers can simply provide skills and qualifications, without considering the demand for and use of these skills, is no longer credible (Buchanan et al. 2010). When promoting pathways and similar arrangements for young people (and others), it is important to centre stage the relationships between education/training providers, employer/industry and those

seeking employment. This requires proactivity and the Victorian Local Learning and Employment Networks (LLENs) has pursued initiatives designed to connect people to training and employment from a position embedded within regional communities, as discussed in Project 3.

In 2018, there are 31 Local Learning and Employment Networks (LLENs) in Victoria. These organisations seek to support people aged from 10 to 19 years to engage or re-engage with education and training. At LLEN events, such as Job Skills Expos, organisations and networks exhibit and inform workers, young people, those looking for a change of career and unemployed workers to make choices about employment and training opportunities. The LLENs have two primary objectives:

- a) To engage in community building through cooperative approaches to community renewal and coordinating of service delivery;
- b) To support and build shared responsibility and ownership for post-compulsory education and training for 15-19 year of age (www.llen.org.au).

The Department of Education and Early Childhood Development (DEECD) further clarifies the fundamental goals of the LLEN in terms of improving 'participation, engagement, attainment and transition outcomes' for 'young people, 10-19 years old, within their geographic boundaries' (www.education.vic.gov.au).

To achieve these goals, LLENs essentially serve as facilitators, brokering partnerships with key stakeholders in their local communities. These stakeholders include education and training providers, businesses, community agencies, and parent and family organisations. LLENs provide strategic guidance for their partners and their initiatives, as well as developing their own targeted activities to address the needs of the young people in their communities.

Funding matters to the relationships between education and training providers, and industry and employers. The LLENs primarily seeks to facilitate young people in this process, in supportive and enabling ways. Until 2015, the focus of the LLENs was on educational re-engagement, retention and attainment of young people. After 2015, following a government directed reform of the contract, the focus was on industry and business initiatives in relation to job opportunities and requirements. In 2016, there was a further shift of focus toward Structured Workforce Learning.

The Structured Workforce Learning program is aimed at providing young people with workplace experiences in anticipation of the roles they may take up after leaving school. Significantly, these programs are accredited and thus can be used on a number of educational/training schemes. As part of this program, assistance is provided to students who find it difficult to secure work placements. Of importance, the success of these schemes relies on the productive relationships between LLENs and secondary schools, TAFEs, employers and community organisations.

LLENs activities cover:

- Network and community group support. This focus means that LLENs seek to establish and promote relationships between schools, teachers, parents and others, including employers.

- Capacity building for teachers and career professionals. These initiatives may include professional development, upskilling in career advice and specialised teach training in relation to employment.
- Professional development for young people. This set of activities is the principal focus of the LLENs and involves targeted work experience programs and work readiness programs.
- Personal development for young people. Complementing and indeed part of the professional development strategies, LLENs promote life skills on the assumption that this attribute will enhance success in securing a placement and eventually a job.

While there is unanimity of purpose, there is an unevenness of provision and effectiveness in promoting access to workforce experience and opportunities between the LLENs. The organisational capacities vary between LLENs, and not in ways that are explained by the different ecosystems that make up each LLENs region. It is not clear how effective LLENs are in relation to the socio-demographic complexity of regions, although the composition of the organisation suggests inadequacies at least in relation to gender and socio-cultural understandings. It may be that one important initiative that would both reinforce and extend LLENs capacities is to promote collaboration between LLENs, although this may require a degree of support and encouragement that may not be forthcoming.

Recommendations

This project has provided an introduction to the LLENs network, in place in Victoria since the early 2000s. The structure and purposes of the network were, and continue to be innovative in their regional nature, whereby the programs, services and communication channels are designed to meet the needs of the community and local industry. That the networks continue to operate after almost two decades is a testament to their efficacy and ability to develop relationships with government, industry, training providers and most importantly the youth that are the central focus of their activities.

Based on the review of activities outlined in this report, the following recommendations are made:

First, there is a need to understand how similar organisations can be instituted in other regions where the focus on developing youth pathways through building relationships with industry and training providers may prove beneficial. As the LLENs provide a template for negotiating the political economy of skills, including building aspiration through communicating the connections between training, education and employment how, or whether, these structures can be replicated without overarching State Government support is an important question. Consideration of the variation in budgets, populations and area covered is important in developing sustainable models for implementation, as well as the importance of drawing on a broadly representative cross-section of the community in governance bodies.

Second, the LLENs illustrate the importance of being local in approaches to innovations in regional skills and employment. At the core of the LLENs innovation is that they are responding to the unique conditions within their community and labour markets. While there are programs that have been applied by all LLENs,

such as Structured Workplace Learning and School Based Apprenticeships and Traineeships, others directly respond to local conditions and issues, presenting innovative approaches to ameliorate engagement and unemployment issues.

Third, there is a greater need for program review. While the LLENs annual reports provide some insight into program uptake and outcomes, there is lack of formal review to determine which activities develop successful pathways to employment. Given the extended period of time that LLENs have been in operation and the scant research interest in recent years, a detailed qualitative and quantitative investigation into key programs would provide useful material for the development of youth-focused employment programs in other regions. Of note also is how successful LLEN programs are at engaging with specific community groups and the key factors that determine program uptake and outcomes. The data and findings from this program review should also encourage greater collaboration between LLENs, as the publication will provide the impetus for greater sharing of experiences and program materials between organisations.

4 Conclusions

Four key points can be made.

4.1 A Political Economy of Skills and Learning

At the centre of the political economy approach to skills and learning is how training mediates and responds to the interplay between labour and skill supply and demand within regions. The intention of analysing the three sectors and their relationships to inform regional workforce development is to provide insights into how the training sector can work to align the ambitions of workforces (actual and potential) with the perceived job requirements of industry. It is important to note that this should be a dynamic analysis, given the rapid changes to employment and skill demands in contemporary Australia. Moreover, it takes time to develop and provide new training programs and then present the first graduates.

The multi-faceted political economy approach also reflects that the issues underlying the importance of a comprehensive understanding of the role of skills and training in regional development. In this respect, there is need for both geographic and social understanding, as:

Different humans, based on their individual capacities, can experience the same geographic context in profoundly different ways, generating considerable variation in socioeconomic outcomes. If individual capacities are the significant drivers of individual outcomes (i.e. geography is less important), then the appropriate policy response may be to focus on improving individual capacities or assets. Alternatively, individual capacities may be less important compared with the geographic context in determining socioeconomic outcomes. Here, a different set of policies would be indicated that focus on improving opportunities and outcomes based on where people live and their spatial interactions. A third, more likely, alternative focuses on both individual capacities and the impact of the geographic context, and on the ways in which a combination of people- and place- based policies can aid in mitigating the negative impacts of social disadvantages (Baum, Bill & Mitchell 2008, p. 195).

From a practical, policy view the implication is that positive regional employment outcomes will result from training initiatives that build individual skills and capacities, in conjunction with interventions that address the strengths and weaknesses within regional labour markets and industry.

The North West Tasmania project, in particular, highlights the connections between people and place, where the connections between aspirations and changing social norms, training and emergent opportunities offer the prospect of improved outcomes for the regions' young.

In the Big Rivers region, emerging industries as well as the Indigenous Participation on Construction Projects Policy, the Commonwealth's Indigenous Procurement Policy and the Aboriginal Contracting Framework to be implemented in 2019 indicate that employment opportunities are likely to be available. Nonetheless, a comprehensive and engaged

program requires the development and connection between aspirations and appropriate training provision and job location so as to complete the circle (Guenther et al 2015; McRae-Williams & Guenther 2016; Wilson et al. 2018). In this respect, the Indigenous Pastoral Program, which provides Certificate level training in agricultural fields, mentorship and pathways into employment may provide insights into how such connections can generate successful outcomes.

The development of aspirations is also apparent in innovative programs provided by the LLENs, such as *Passions and Pathways* delivered by the Goldfields LLEN, and the NE Tracks LLENs' *Hands on Career Expo*. These programs introduce students to local trades to develop interest in career paths as well as provide information on training requirements and access. These students are then likely to be in a position to apply for available jobs.

4.2 Small markets, specialisations and sustainable delivery

The most prominent puzzle in regional skills development is the difficulty in providing training to small cohorts, particularly as work is becoming increasingly specialized (Dicken 2011; Grabher 2002). In Australia these moves are associated with the drift in employment from distributed amongst settlements to concentrated in the metropolitan and regional cities (Bureau of Infrastructure Transport and Regional Economics 2014). There is also more demand for specialized training to meet employment demands in Australia (Billett et al. 2015). The outcome is that 'a non- geographic response in training initiatives may mean that training "solutions" are less likely to succeed in regional areas because of the geographic realities of low population density and distances to be travelled' (McKenzie 2004, p. 347). As the study of the Big Rivers region of the Northern Territory indicates, providing training to small communities is financially difficult to sustain. The difficulty in providing in-region training for specialized employment is also apparent in the North West Tasmania research.

This issue is at the crux of regional training delivery issues, as regions are competing for training resources, and those areas with greater populations and training demand, as well as in close proximity to existing campuses, can deliver more training – in terms of student numbers and course variety – within the same budget. For new employment opportunities within regions, training providers would require a continuous supply of students requiring dedicated training to warrant establishing in-region facilities. Under these circumstances, it is likely that new businesses will import trained staff from elsewhere or regional residents would need to relocate, travel to training providers, or find a distance education provider. The costs to the regional resident indicate the need for both employment aspirations and the likelihood of employment in jobs within the region as an outcome of the training.

The way forward may be to investigate innovative distance and distributed education practices. The development of shared and co-working spaces and multi-purpose facilities may provide better support mechanisms for regional students undertaking distance education. It is also key that accurate assessments are gained of jobs available in a region at any given time.

4.3 Train to leave or train to stay

While this study concerns the provision of regional training to connect regional residents to emerging employment opportunities, it raises questions about the intent and outcomes of regional training delivery. As indicated by the interviews carried out for the Big Rivers case

study, some who leave the region for training do not return for employment, and in-region training providers are finding in-region training difficult to sustain.

The notion that people should be provided training opportunities to enable them to continue living and working in their region of residence is inherently a place-based regional development intervention. Such an approach stands in contrast to the tacit policy positions of Australian Governments over recent decades that regional labour supply and demand issues can be resolved through mobility. This feature is illustrated in the current Jobactive relocation support program, as well as the pilot from last decade that offered up to \$5,000 for people to relocate from areas with high unemployment. As the OECD (2005, p. 17) observed:

... although promoting geographic mobility is not an end in itself, removing obstacles to internal migration may be an important policy issue especially in countries where regional disparities are pronounced.

Such steps often requires the use of financial incentives to facilitate relocations. Still, research on labour mobility and unemployment in Australia found that once selection characteristics were accounted for, there was little evidence that relocating improved people's employment outcomes (Bill & Mitchell 2006).

The Productivity Commission (2014, pp. 4,5) also consider geographic labour mobility as part of a well-functioning labour market, with the caveat that:

Geographic labour mobility can interact with population ageing to exacerbate population decline in certain regions, for example, through an increase in the proportion of older residents as younger people move away for work or education opportunities. This can pose substantial risks to the ongoing viability of communities, as can be seen in parts of Tasmania. It can also affect the provision of essential services.

An associated issue for future research is that in Australia place-based employment initiatives are largely used for regions that have large employers shut down, for example Caterpillar in Burnie and the automotive industry in Geelong (Department of Jobs and Small Business 2016). Regions such as the Victorian wheat-belt towns that have experienced steady population and employment decline do not receive structural adjustment funds. This absence implies that the answer to employment deficits in these areas is through labour mobility, resulting in cumulative depopulation and decline as indicated by the Productivity Commission quote above. Based on analysis of regional labour markets and mobility, Forbes and Barker (2017, p. 250) conclude that structural adjustment packages designed to support local business initiatives "may crowd out labour mobility as an alternative way of improving re-employment prospects".

Drawing on the distinct social and geographic aspects of regional employment markets (Baum, Bill & Mitchell 2008), the implication is that training programs that do not connect with existing or emerging employment opportunities can be interpreted as training people to leave. These issues are apparent across the study regions, with the data analysis indicating a skew towards older populations in the study regions implying out-migration as well as the relationships between employment and qualifications. Further analysis of mobility patterns

and employment could draw out these trends. In this regard, the LLENs' embeddedness within regional communities and labour markets provides an important, place-based pathway to local employment opportunities.

The North West Tasmania and the Big Rivers projects also indicate the tensions between training to leave and training to stay. This feature raises questions as to how training provision should respond to the preferences of the communities that are being served. While regional training is in the foreground of this research, looming in the background is the larger question of the balance between place-based interventions to support communities to remain in place. It is important to move beyond the spatially blind policies of resolving geographic labour market problems of supply and demand through residential mobility. This question is beyond the remit of this research but is central to regional training strategies, particularly given the political economy proposition that the interaction of training with labour supply and demand initiatives that will provide the best results.

4.4 Program evaluation and effectiveness

It is of note that this research has identified a range of training initiatives in the study regions. Surprisingly, there is little in the way of program evaluations to ascertain effectiveness or transferability to other locations. While this may be a reflection of the recent implementation of many of these programs, there is a need for more formal program evaluation to understand which programs are of the most benefit and why. More broadly, program evaluation is seen as requiring greater attention in Australia and is an emerging topic in public sector discourse (Gruen 2018; Jakobsen et al. 2017; Leigh 2018).

The review of programs in North West Tasmania and the Big Rivers regions also raise questions regarding the effectiveness of the provision given the number of different programs on offer. While the research undertaken here does not enable reflection on whether alternative or consolidated programs and delivery may provide better outcomes, given the number of programs on offer it may be a subject for further investigations.

4.5 Coordinated approaches

Closely associated with the political economy and program evaluation and effectiveness conclusions is the need for coordinated approaches from Government, community, NGOs, industry and training providers. Such coordination is important for developing and providing sustainable and relevant pathways to employment in regional contexts. The need for stakeholders to communicate and interact was an outcome from a consultation and skills audit process undertaken by RDA Tasmania in the state's north west:

In order for any constructive initiatives to be developed to address the issues of lower job participation, poor skill development and employability of job seekers, all relevant key stakeholders need to understand their respective roles and how they can help each other through information and idea sharing (Perkins & Brindley 2014, p. 17).

Coordination is also apparent in other study regions, as a key function of the LLENS and in the Northern Territory, Local Decision Making and the Industry Engagement and Employment Pathways unit within Government are providing this role.

For regions such as the Big Rivers, the variety of program offerings operating within the large geographic area indicates that the mapping of programs and pathways may provide the foundation for improving the coordination of training delivery. This is likely to be a complex undertaking, given the specific nature of the programs on offer, and the geography of the region.

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