



**REGIONAL
AUSTRALIA
INSTITUTE**

Submission
Number: 154
Attachment A

RETHINKING THE FUTURE OF NORTHERN AUSTRALIA'S REGIONS

More than mines, dams and development dreams

FOR THE GOOD OF AUSTRALIA

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Independent and informed by both research and ongoing dialogue with the community, the Regional Australia Institute (RAI) develops policy and advocates for change to build a stronger economy and better quality of life in regional Australia – for the benefit of all Australians. The RAI was established with support from the Australian Government.

Acknowledgements

This report includes an infrastructure analysis and map contributed by Parsons Brinckerhoff.

**PARSONS
BRINCKERHOFF**

The RAI also acknowledges the following people and organisations who have contributed significant feedback and ideas during the development of this report:

- Allan Dale, Cairns Institute, James Cook University
- Department of Agriculture
- Department of Infrastructure and Regional Development
- Department of Prime Minister and Cabinet
- Department of Regional Development, Western Australia
- Department of State Development, Infrastructure and Planning, Queensland Government
- Department of the Chief Minister, Northern Territory Government
- Office of Northern Australia
- Regional Development Australia Far North Queensland and Torres Strait
- Regional Development Australia Fitzroy and Central West
- Regional Development Australia Kimberley
- Regional Development Australia Mackay Isaac Whitsunday
- Regional Development Australia Northern Territory
- Regional Development Australia Pilbara
- Regional Development Australia Townsville and North West

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Executive Summary

Northern Australia remains the topic of fierce debate and renewed policy interest. While discussion often centres on the prospects for particular industries or projects, it is essential that the national debate and resulting policy frameworks take into account the diversity of situation and opportunity in the north.

Part of the Regional Australia Institute's mandate is to work with communities, government and policy makers to help unfold the story, to begin meaningful and productive conversations, and to support regions to achieve development which meets their needs, capacity and goals.

To identify the imperatives for a balanced, regionally responsive development strategy for northern Australia, this paper has reviewed the competitiveness profiles from *[In]Sight: Australia's regional competitiveness index* for seven Regional Development Australia (RDA) regions and 74 Local Government Areas (LGA) north of the Tropic of Capricorn.

Consultation and input on the results and issues highlighted by this work was then sought from leaders in regional development across northern Australia to refine and focus the findings and implications.

The results of this process show very clearly that infrastructure and human capital are the two most serious bottlenecks for growth in northern Australia. Business sophistication is also weaker on average compared to the rest of Australia and is likely to act as a further constraint in many areas.

In contrast, economic fundamentals in northern Australia have been very high, reflecting the extent to which the resources boom has occurred, and continues to occur in northern Australia.

Discussion of the development of northern Australia is usually held at this general level. Yet, the most important insight from the analysis is an understanding of the particular opportunities and challenges that three distinct types of regions offer in northern Australia:

1. **Northern cities** - Northern Australia's large regional cities (Townsville, Cairns, Darwin, Mackay and Rockhampton) do not share the constraints of the north as a whole and are competitive in their own right. Significant growth is most likely to occur in this group over time regardless of the development approach taken by policy makers.
2. **A diverse group of mid-size towns** - Amongst the diverse mid-size towns of the north are a mixture of situations driven by location and industry:
 - For those places close to the northern cities, the barriers to further development are lowered by the existing concentration of people, infrastructure and other economic resources

- Mining centres feature some of the strongest economic fundamentals of any region in Australia. Yet, their wider competitiveness profiles are often poor, emphasising how much of the boom's growth has been driven by outside resources and has not yet translated into broader, sustainable, long term competitive strengths for these regions
 - Intensive agriculture regions (e.g. Queensland, Katherine and the Ord River Irrigation Area) which have opportunities emerging in Asia, and
 - Tourist hubs such as Broome, Alice Springs and Whitsunday.
3. The very remote pastoral areas and remote Indigenous communities which include many of the least economically competitive LGAs in the country.

A strategy for northern development must explicitly recognise these differences in situation and opportunity to be successful.

A detailed assessment is essential across these groups to identify the specific infrastructure, health and education limitations which are creating barriers to growth and development across northern Australia.

Leveraging the export services opportunity - linking with Asia and increasing the value to the regions of tropical expertise, education, mining and agriculture related services - is important for sustained growth, particularly in the northern cities and specialised mid-sized towns.

Mining centres, which have done well in recent years, face a need to find some level of economic diversity. There is awareness of this at the regional level, and perhaps state/territory level, but, as yet, less so in the national debate or policies.

Expanding agriculture will continue to be a central concern in northern development. Despite the work already done, a clearer and more definitive consideration of the opportunities or otherwise for expansion of intensive agriculture into new areas remains needed. For the extensive beef industry, which underpins many remote economies, economic diplomacy in export markets, addition of processing capacity (if feasible) and renewed industry innovation are opportunities to grow the value of this crucial part of the northern economy.

These broad strategies for industry development can then be integrated with knowledge of different regions to more precisely establish the scope of economic opportunity in northern Australia and the practical policy changes needed to unleash the region's potential.

However, conventional regional development policy thinking and approaches are unlikely to be an agent of significant change in the most remote communities. While many communities have specific opportunities in resources, agriculture or tourism, government continues to dominate economic activity in remote Australia.

To facilitate the economic and wider development of these very remote places, policy needs to firstly focus on:

- Resolving the complex impediments to using leasehold and Indigenous land and water as a flexible economic asset, and
- Reforming the governance of public investment to provide these remote communities with more responsibility and say over their future.

Overall, the challenge for the next stage of policy implementation is to bring some new sophistication and ambition to this discussion.

It is important to move away from a structure where the regions' strategic planning is driven by interests outside the region, who may have limited local knowledge and, despite the best of intentions, suffer no personal or organisational risk if outcomes for communities go wrong.

The challenge for policy is to create an approach that devolves genuine responsibility to people in the regions, incentivises their leadership in building a different future and provides the time needed for this seismic shift in approach to occur.

Northern Australia has too often been the recipient of groups of one-off strategies that may be positive in isolation, but add up to little significant change for most of the communities and people in the north.

Amongst all of the issues and opportunities in northern Australia, this is perhaps the core challenge for the development of a White Paper on Northern Australia.

Northern Australia - Beyond the Tropic of Capricorn

Northern Australia is broadly defined as the land north of the latitude of the Tropic of Capricorn, extending from around Carnarvon on the western coast to Rockhampton on the eastern coast (as illustrated in Figure 1). Alice Springs falls just south of the latitude's arc as it extends across the Australian continent.

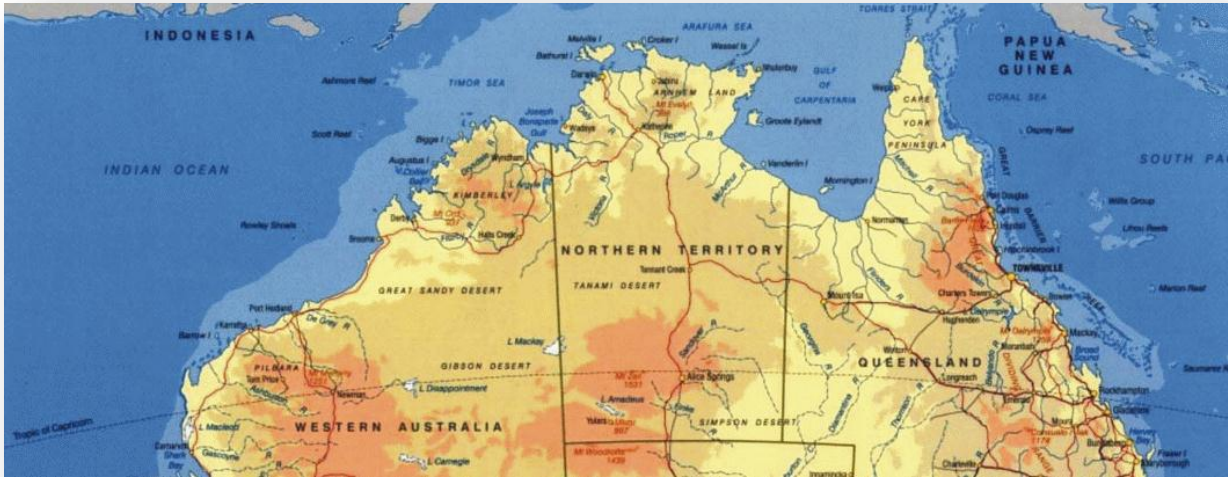


Figure 1: Map of Northern Australia

The region extends across three states/territories, comprising seven Regional Development Australia (RDA) regions. Northern Queensland's four RDAs are Far North Queensland & Torres Strait, Fitzroy & Central West, Mackay Isaac Whitsunday and Townsville & North West. Pilbara and Kimberley RDA represent the north of Western Australia. The Northern Territory is represented by a single RDA region – an issue which does restrict the level of detail possible in economic analysis. Therefore, much of the analysis of this paper focuses on the 74 LGAs within northern Australia, eight in Western Australia, 16 in Northern Territory and 50 in Queensland, to more accurately consider the level of variability evident within and between regions in northern Australia.

For the purposes of this paper, Alice Springs has been included in the analysis of Northern Territory data. Despite being south of the Tropic of Capricorn, Alice Springs is the second largest urban centre in the Northern Territory and services an additional 18,000 people in the surrounding region beyond its population of 28,000 peopleⁱ. This wider economic influence extends its market size boundaries above the tropic line. In contrast, Exmouth in Western Australia is excluded from the analysis despite being north of the Tropic of Capricorn. This is due to its inclusion within the Mid West Gascoyne RDA, which has the majority of its regional boundaries below the tropic line. Advice was sought from the Australian Government's Office of Northern Australia to assist in determining these boundaries for the purposes of analysis.

Strategic Benefits of a Northern Focus

Northern Australia is vital to the rest of Australia. This importance is based on people, industry, resources, climate, natural attractions and geography. It is home to over 1.2 million people; approximately six per cent of the national population. It is a destination of choice for many domestic and international tourists each year due to its areas of outstanding natural beauty and world heritage sites. It has diverse topography and climate zones – from tropical rainforest and tablelands to inland desert and coastal areas. The extraction of mineral and petroleum resources from the north contributes substantially to Australia's economy through royalties, employment and purchase of supports and services. The north has a diverse agricultural industry, from pastoral beef to intensive irrigated agriculture. It is also a world leader in tropical research, particularly in tropical medicine, tropical ecology and pharmaceutical development.

Northern Australia is strategically important too. It is Australia's closest link to the Asia-Pacific region. Many northern centres, such as Broome in Western Australia, already have a long history of international trade, settlement and cultural exchange with Asia and Pacific regions. The north has proximity to growing Asian and Pacific markets. It is a potential gateway for greater trade expansion into Asia and the Pacific, through export of much needed resources, products and services. The similarity in many climate areas offer particular opportunities to expand existing food industries and develop new products which are tailored to the needs and tastes of Asian and Pacific countries.



Regional development in northern Australia requires a range of approaches that address both the variability and the disparity; between the north and the rest of Australia, between and within regions, and between population groups.

Each region, state and territory will have different regional development priorities, and different policies or programs to progress towards these aims. Yet, there is also much common ground.

There is a general consensus that regional growth depends upon broadening the economic base in many regions. Single industry regions are highly vulnerable to external economic shocks. Transport and communications infrastructure are also core common concerns. The impact of the annual wet season and fires in the dry season present an ongoing challenge for infrastructure maintenance across the north.

Remoteness is also a key consideration. Distance from ports, by road and rail, inevitably increases costs of goods and services; putting remote communities at a comparative disadvantage.



The increased cost of living is somewhat compensated by remote area taxation offsets, but this is only available for personal income. The cost of building a business in the north is still potentially more expensive than a comparable business 'down south'.

Regional Development Priorities

While high priorities are broadly similar across the seven RDA regions, there are noticeable differences in the priorities articulated in regional plans for the Western Australian and Northern Territory RDA regions in comparison to the Queensland RDA regions. Infrastructure is the highest priority for each of the northern Australian regions. For the Pilbara and Kimberley in Western Australia, the key requirement is for basic infrastructure, including power, water and waste water management.

In contrast, there is a greater focus on transport upgrade and expansion in northern Queensland, and a focus is on both road and port infrastructure to support increased export potential in the Northern Territory regional plan.

There are also different priorities and drivers for economic development across each of the states or territories in northern Australia. Economic diversification is an imperative in the transition from a resource and energy industry base for many Western Australian regions. A broadened economic base is needed to improve sustainability and to increase employment opportunities in regional and remote areas in the Northern Territory. In contrast, northern Queensland prioritises value-added opportunities in developing a knowledge economy to meet the needs of growing Pacific and Asian markets.

Technological readiness is important to each of the RDAs in northern Australia. Internet and communications technology connectivity and its importance in facilitating export business, mobile coverage and its delivery of increased safety were listed as priorities in every regional plan. Both northern Queensland and Northern Territory regions'

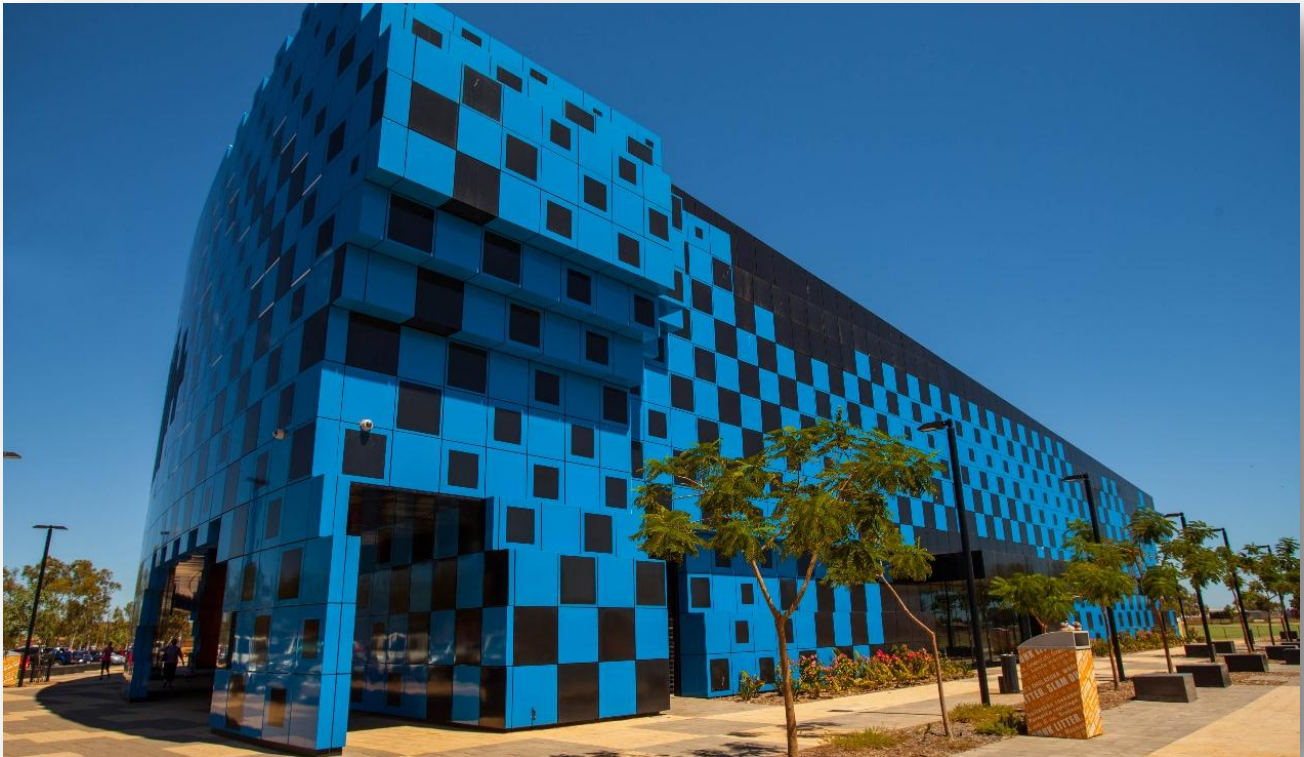


priorities specify the need to leverage opportunities for increased export capacity which could be realised through the delivery of high speed broadband.

Development of affordable housing and basic health services, especially for the Indigenous communities, feature in the Western Australian and Northern Territory priorities. Education, skills and job creation across all communities are also important in the Northern Territory and Western Australian regions, but do not feature as highly in northern Queensland regional priorities.

For the more remote regions, the following aspects were also highlighted:

- Environment – a need to value the pristine natural environment and incorporate sustainability approaches to development
- Youth – strategies need to address the underlying issues not just the symptoms (e.g. alcohol, boredom, welfare cycle) and also a need for greater opportunities for youth sport and recreational activities, and
- Small market size – there is a limited market for goods and services in areas where economies of scale are not possible. This can be a barrier for business start-ups and expansion of small to medium enterprises.



In many ways, the north is very different to the rest of Australia, but there are also areas of similarity. Some issues, such as the ageing of the population or the availability of water and energy, are national challenges that can have very different impacts at a

regional level. Other issues, such as small market size, low human capital or the limited availability of a skilled workforce are challenges for many remote regions, whether north or south.

Regional strategies, however, need to identify and leverage the many advantages and opportunities that the north offers. These advantages include the proximal advantages of being close to Asian and Pacific markets and the potential value of northern Australia's diverse and unique environments. Areas of as yet under-realised potential need to be highlighted, such as export of tropical research expertise and latent human capital potential already existing in resident populations.

Detailed analysis of the factors contributing to or inhibiting growth in regions is recommended. There are significant learning opportunities to be realised through both macro and micro approaches. A nuanced approach which captures the variability between and within regions is essential for the development of appropriate, effective strategies to meet the identified needs of communities within regional areas. This report represents the beginning of many conversations that are needed to determine the strategies that best suit the needs, capacities and goals of individual communities and their wider regions.

[In]Sight: Australia's Regional Competitiveness Index

The strengths, weaknesses, opportunities and challenges for different regions have often been poorly understood and communicated over time in national policy debates and decision making. In this context, and to provide ready access for regions to information, the RAI developed *[In]Sight: Australia's regional competitiveness index*.

Available as an online index and interactive map, [In]Sight assesses the competitiveness of Australia's 560 LGAs and 55 RDA regions, unlocking insights into regions across Australia. Underpinning the framework are ten themes and a total of 59 indicators drawn from the best, most robust, and consistently available national data. Each indicator is designed to capture a separate aspect of its corresponding theme.

The key consideration for selection of the indicators was the availability of appropriate data, where data was judged as appropriate on the basis of the following criteria:

- **Preference for time series data.** Where comparable, data sources with more frequent update schedules were chosen over more periodic data sources (such as the ABS 2011 Census of Population and Housing)
- **The need for national consistency.** The methodology subjects all regions simultaneously to the same standard evaluation. This approach requires all regions to be assessed without a prior bias imposed by no data or no consistent data, and
- **The need for spatial detail.** In order for a data source to contribute to an indicator, the data had to be available at the LGA level, or, if this was not available, at a spatial level that did not aggregate over regional variances.

Competitiveness measures offer a pathway to bring diverse and complex economic and social factors into an understandable picture within a spatial base. Ranks enable comparison with 'like for like' across different units of measurement – such as dollars, kilometres or people. They are particularly useful for comprehending the similarities or differences between regions, and work well to identify patterns of disparity which are often smoothed out in other forms of aggregated data.

[In]Sight has been designed as an integrated framework for understanding competitiveness, focusing on regions' capacity to innovate, to retain and attract people, promote entrepreneurship and increase the standard of living for those who live and work in the region. Competitiveness involves the advancement and continual development of all aspects within a region, and all types of regions.

The results highlight the relative position of each region in Australia against other regions, showing the extent of difference between the most and least competitive regions. [In]Sight also identifies factors which are driving positive economic outcomes, thereby suggesting areas of strategic focus for new policy and project action.

One of the key strengths of [In]Sight is that low competitiveness on multiple themes can reveal substantial comparative disadvantage. This provides regions with important evidence to make a case to reduce inequity and enables them to make informed choices about their priorities for development. All of the measurements and rankings for themes and indicators in each LGA and RDA in Australia can be accessed, compared and downloaded at insight.regionalaustralia.org.au. A brief methodology on data used within this report is provided at Appendix A.

Applying [In]Sight Results in Policy Analysis

There are a wide range of policy applications for the [In]Sight data, from very specific analysis of discrete policy issues to a broader assessment of regional positioning and relative policy priorities, as presented in this report. Figure 2 provides a simple framework for broader application of the competitiveness results in policy analysis.

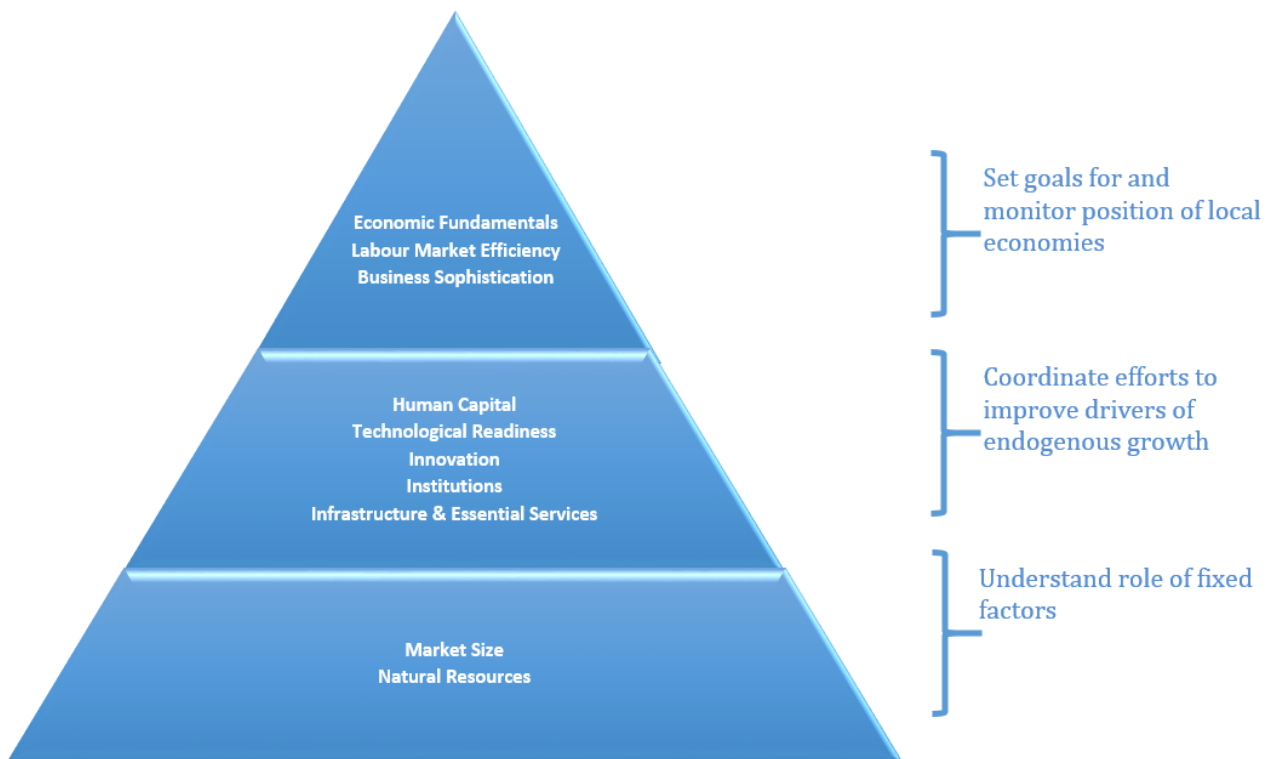


Figure 2: [In]Sight competitiveness pyramid

This framework recommends that the competitiveness themes be assessed in three groups:

- **Themes and indicators of current economic performance** (economic fundamentals, labour market efficiency and business sophistication) which contain a range of indicators aligned to commonly identified outcomes for regional, state and national economic development
- **Themes and indicators that include the drivers of endogenous growth¹** (human capital, technological readiness, innovation, institutions and infrastructure and essential services) which have been identified as common drivers of long-term economic potential and performance, and
- **Themes and indicators for relatively fixed factors** (natural resources, market size) that significantly shape economic performance. Regions with a larger market size are more likely to benefit from agglomeration² economies. Similarly, regions with significant natural resources have a range of options not available in less endowed regions.



The current economic performance group provides an indication of recent relative performance, some of these are enduring but others will fluctuate in response to market

¹ Economic growth where the growth rate is determined by the choices of economic agents. Firms expend resources on research and development to secure profitable innovations. Consumers invest in education to develop human capital and increase lifetime earnings. In endogenous growth higher investment, or the devotion of more resources to research and development, can increase the rate of growth for an indefinite period.

² Agglomeration refers to the economies of scale and shared networks (supply and knowledge) available to businesses or industries as a result of concentration within a spatial location. The resulting benefits of agglomeration tend to attract more businesses and build population over time.

Source: Black, J., Hashimzade, N. & Myles, G. (2012) *A dictionary of economics* 4th ed. Oxford: Oxford University Press

conditions that are beyond the scope of policy action. Similarly, fixed attributes will dictate relative regional potential, but policy changes have limited influence due to the slow or un-changing nature of these factors. From a policy perspective, the most direct influence on regional competitiveness can be made within the drivers of endogenous growth.

Policy Priority: Building Regional Capability for Endogenous Growth

Contemporary regional policy focuses first on building the inherent capacity of regions to grow from within. This is because regions that can grow by utilising their own resources are likely to be more successful in the long run as they build a strong base to meet the needs of existing markets, expand or enter new markets. In contrast, regions which overly rely on external help from governments, through dedicated subsidies, investments or special legislative arrangements to create artificially favourable economic conditions, will remain more vulnerable to changing policy and economic conditions due to their dependence on external support rather than inherent strength.

Under the endogenous growth approach, the growth of a region is built through enhancement of competitive advantage and improving the ability of local firms to apply regional resources effectively in existing, expanding or new markets. Well-designed inputs from state and federal governments in a range of policy areas can enhance or facilitate a region's inherent potential, without creating a system of artificial supports for ultimately unviable industries or markets.



This framework for policy analysis reflects the worldwide experience of many nations and the results of detailed regional analysis undertaken by the Organisation for Economic Co-operation and Development (OECD)ⁱⁱ. This research provides an econometric assessment of the drivers of regional growth across OECD countries and highlights that while agglomeration is an important driver of regional economic performance, it is not the only pathway to success.

Importantly, the OECD analysis finds the endogenous growth drivers of human capital and innovation mitigate the importance of proximal location and agglomeration. This explains why some regions achieve higher levels of competitiveness while others seem to struggle. This finding is crucial for Australia, which has many sparsely populated and economically distinct regions that may not benefit consistently from agglomeration effects. These regions provide alternative centres for economic growth during favourable domestic or international market conditions (e.g. during mining booms) and provide essential diversity for our economy, making it more resilient to fluctuating conditions over time.

The Relative Competitiveness of Northern Australia

Northern Australia is a vast and diverse region, but there are some constants that underpin each region's potential for growth. If unmanaged, these constraints can become bottlenecks preventing the development of the region. The primary constraint of each region in northern Australia is the challenge of distance; within and between regions, and the distance between northern Australia and the rest of the country.

The dominant industries in northern Australia are generally based around access to natural resources – mining, agriculture and tourism. The seasonal dynamic of a wet season and a dry season creates climatic challenges (e.g. cyclones or extreme heat) which can constrain activity in each of these industries. Specific regional issues differ due to the topological diversity, from the rich wet tropics, to tropical savannah country and the desert of central Australia.

While breadth and width of industry development can be limited by fixed factors such as climate and availability of natural resources, there are many factors which are responsive to regional growth and development strategies. The existing competitiveness profile for northern Australia reveals some areas which are currently acting as a constraint on regional development; most particularly in the endogenous growth drivers of human capital, innovation and technological readiness, and in the enabling driver of infrastructure.

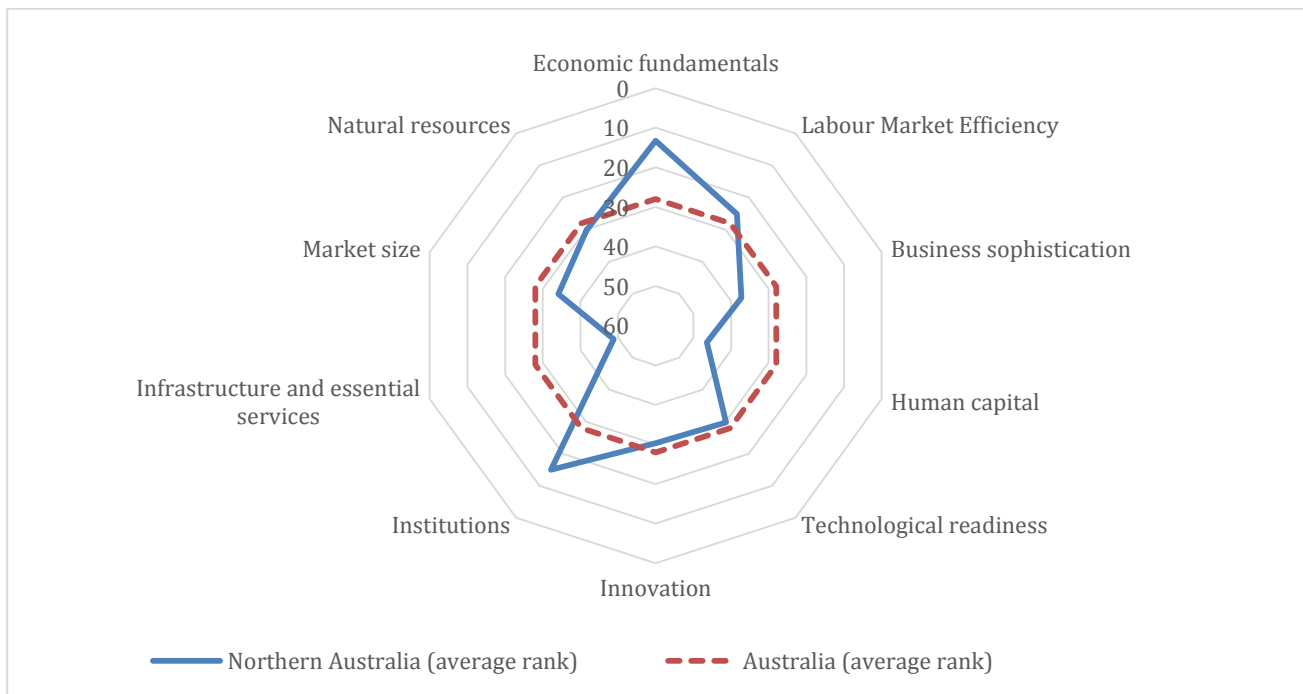


Figure 3: Comparison of northern Australia to the national average for [In]Sight themes

Charting the seven RDA regions as a group reveals a distinctive 'keyhole' profile (Figure 3) driven by very high national average competitiveness in the economic fundamentals theme and institutions, but pinched in by significantly below average competitiveness in human capital and infrastructure and essential services.

Examining these key points of departure from the national average provides a broad insight into some of the fundamental economic challenges that exist in northern Australia.

Regional Competitiveness in Human Capital

Human capital is a measure of the skills and capabilities of a workforce within a region. A literate, numerate and skilled workforce is more attractive to potential employers, which encourages investment in a region. [In]Sight tracks human capital across multiple skills development indicators from early childhood development, through primary and secondary school performance, achievement of post-school qualifications (technical and university level), and in engagement in lifelong learning. Health is also a part of human capital. A healthy workforce is more productive, with fewer costs to employers through lost work days and preventable injuries.

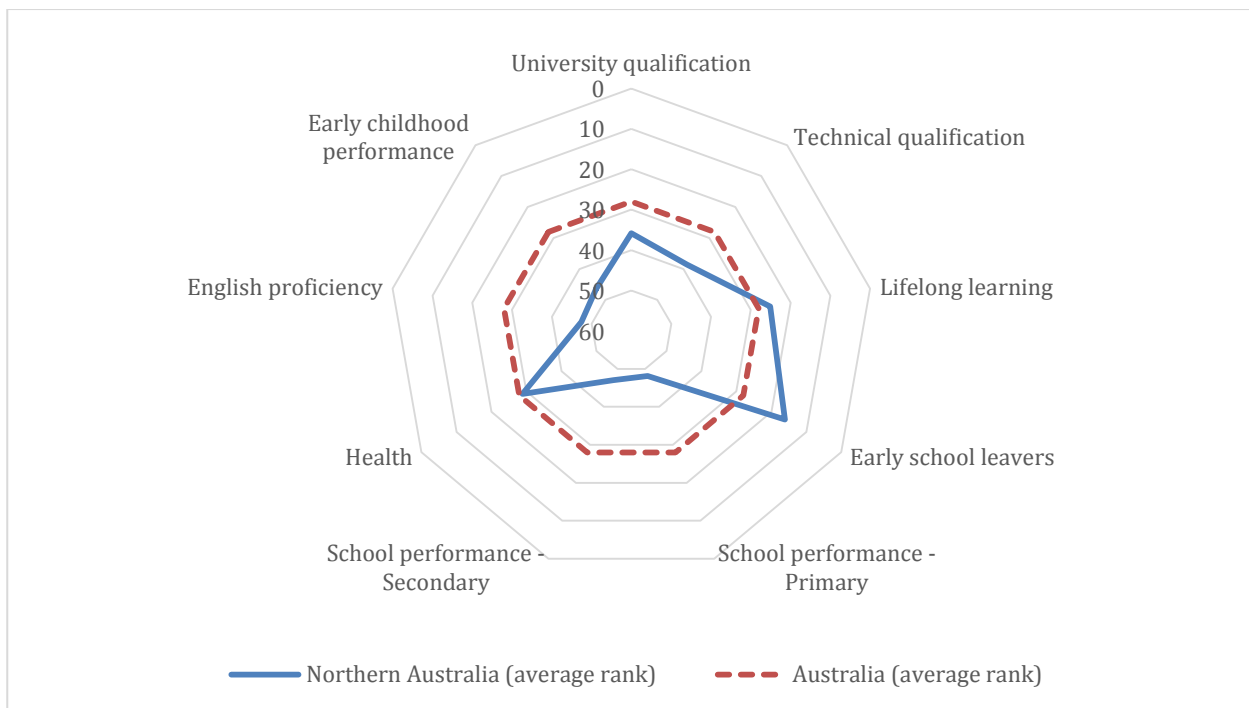


Figure 4: Comparison of northern Australia to the national average for human capital indicators

Overall, northern Australia is well below the national average for six of the nine indicators of competitiveness in the human capital theme (Figure 4). Lower than average competitiveness is evident across all the indicators which assess skills development, especially in early childhood performance and school performance (primary and secondary). English language proficiency averages at a level equivalent to the lowest decile in Australia. Yet, northern Australia is more competitive in preventing early school leavers and engagement in lifelong learning. Encouraging children to complete high school is vital for regional development, but in many cases engagement in education ceases during the immediate post-school years. This may be linked to two issues – lack of access to tertiary education infrastructure and lack of incentive/support to learn.

Post-school education opportunities are much higher in Queensland, which has a number of established regional universities and campuses. The relative lack of regional opportunities, particularly in northern Western Australia and outside of Darwin in the Northern Territory, means it is necessary for many young people to leave home and

community to study. Costs and capacity to relocate can quickly become substantial barriers in these cases. While it is not possible to locate a university campus in every region, innovative local learning supports to facilitate successful engagement in distance learning, especially for students from disadvantaged groups, are possible in any community.

Incentive to learn is about community models which promote the value of education combined with coordinated action to overcome the multiple or complex barriers which often limit access to education. Obtaining a vocational or tertiary education qualification requires a sustained financial, emotional, physical and intellectual commitment. Mentors and role models are vital to promote a culture of recognition and reward for effort in regions with low-skilled populations.

Incentive to learn is also about pathways from post-school learning into employment. It can be hard to rationalise the benefit of engaging in a course of learning when there is no possible chance of a job at the end of the process. In the short-term, it may be cheaper for an employer to import skilled labour into a region rather than invest in up-skilling the local inhabitants, but in the long term this cost-benefit does erode, especially as the transport costs of maintaining a remote workforce increase.

Yet, corporate leaders are starting to recognise the economic and social benefits of investing in communities as part of their business model. A skilled workforce is more



capable and flexible than an unskilled workforce, increasing both corporate and regional capacity to diversify and respond to external economic shocks.

Employers also benefit from access to a healthy workforce. The health indicator within [In]Sight is based on a measure of the percentage of working age adults with at least one of the identified health risk factors of smoking, harmful use of alcohol, physical

inactivity or obesity. Health risk behaviour on average in northern Australia is equivalent to the national average, but this aggregation does mask substantial inequity between regions. For example, Townsville in Queensland and the Pilbara region in Western Australia are highly competitive in health, but regions like the Kimberley region in Western Australia and the Far North Queensland and Torres Strait region in Queensland have ranks at the lowest decile of competitiveness.

Structural issues contributing to long term unemployment and low workforce participation include low literacy and numeracy, and also poor health factors. Northern Australia, as a whole and as individual regions, needs to substantially invest in developing a literate, numerate, skilled and healthy workforce to attract employers, broaden the economic base and create endogenous growth potential within regions.

Regional Competitiveness in Infrastructure and Essential Services

Access to infrastructure, transport and essential services all play a crucial role in determining the location and type of investment activities and business sectors that can develop in a region. Industries depend upon reliable supply and distribution chains to succeed. Communities require access to sufficient power, clean water and reliable waste treatment services to support a high quality of life. A skilled and healthy workforce is only possible with access to education and medical facilities.

Infrastructure and essential services is the second major point of relative weakness for northern Australia. Figure 5 compares the average rank for northern Australian regions compared to the national average. With the exception of police services and access to hospital services, northern Australian levels of infrastructure and essential services are low in competitiveness in comparison to the national average for all of Australia.

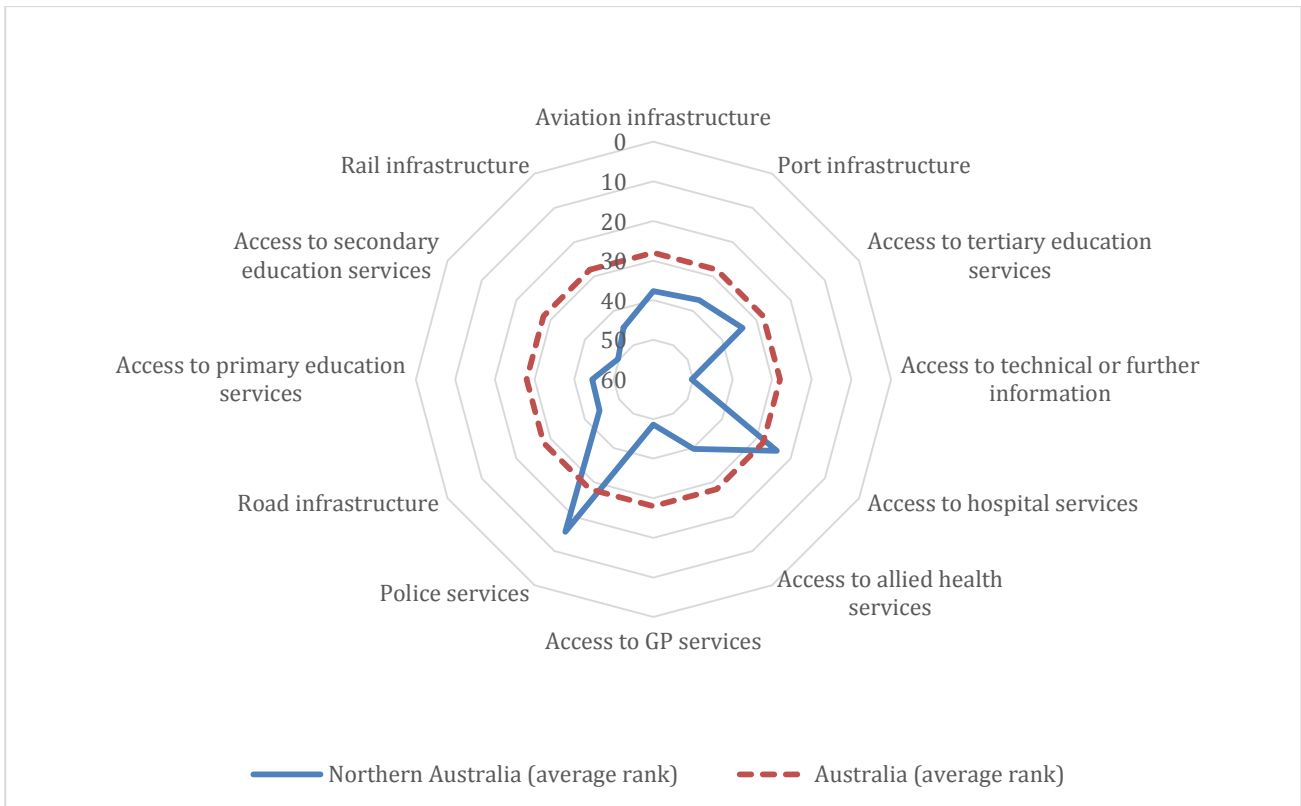
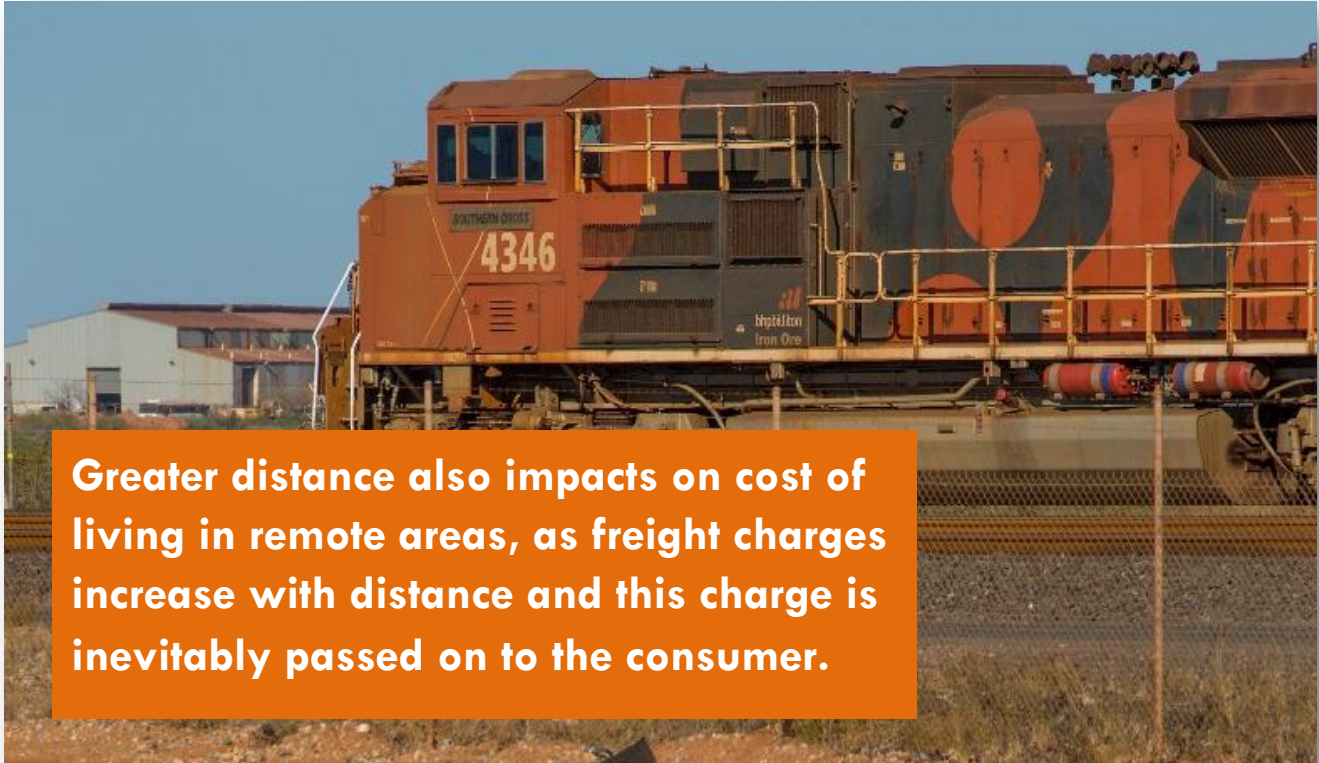


Figure 5: Comparison of northern Australia to the national average for infrastructure and essential services indicators

The distances in the north are important in the results for access to economic infrastructure (aviation, port, rail and road). These indicators are based on a calculation of distance from population centres and the results underpin the relative challenges for northern Australia in connecting efficiently to markets.

Access to ports and rail infrastructure is particularly important for the development of export-related extractive industries; whereas tourism, agriculture and the movement of non-resident workforces into and out of mining operations are generally more dependent upon road and aviation infrastructure.



Access to primary and secondary education is based upon distance to nearest school (it is not a measure of the relative quality of the individual establishment, as school performance is assessed under the preceding human capital indicators.) It is evident that access to both primary and secondary education in northern Australia is lower than the national average in competitiveness. Lack of access is compounded by lower than national average competitiveness in school performance.

Access to technical and tertiary education is based on the relative percentage of the working population engaged in study. As discussed prior, there is significant variability in northern Australia in access to tertiary education services. Several regions in northern Queensland and Darwin in the Northern Territory have university campuses, but there is significant lack of infrastructure in northern Western Australia.

Very low competitiveness in access to technical or further education requires further investigation to reveal the factors creating barriers to participation, as most major regional centres in northern Australia have some kind of technical or vocational training facility. Remote and very remote communities usually have no access to post-school training beyond relocation or distance study.

Access to hospital services in northern Australia is slightly above the national average in competitiveness. Yet, access to allied health (measured by workforce) is low and GP access (visits per capita) is extremely low relative to the national average.



Access to GP services is lower for people in northern Australia.

Low access to allied health sector and general practitioner services risks the occurrence of higher levels of preventable health conditions in northern Australian communities, as both sectors play a vital role in the early detection and treatment of preventable health conditions. Overall, these infrastructure results suggest that northern Australia's lower competitiveness in health and education reinforces the persistence of human capital weaknesses over time and increases the costs to regions for the provision of social services.

It is important to note that both the Western Australia and Queensland state governments have implemented *Royalties for Regions* funding programs to address identified infrastructure needs in regional communities. Many of these projects are expected to have positive impacts which would be expected to change their competitiveness profile in the longer term, but which may not necessarily be reflected in the current findings. An anticipated benefit of [In]Sight will be in the ability to map changes in competitiveness profiles over time, in addition to the existing benefit of helping to identify areas of unmet need.

Regional Competitiveness in Economic Fundamentals

The current economic performance of northern Australia is a real strength, creating high levels of trust in the market for consumers, producers and investors. This is in contrast to the competitive weaknesses in human capital and infrastructure and essential services, which risk creating bottlenecks to growth in the north. Northern Australia's strong economic competitiveness is primarily driven by the mining boom. Many of the major centres of the mining boom (particularly the Pilbara, the Galilee and Bowen Basins) are located in northern Australia. Figure 6 shows that the regional ranks for three indicators of economic fundamentals: business confidence, building approvals and wage/labour costs, are all higher than the national average.

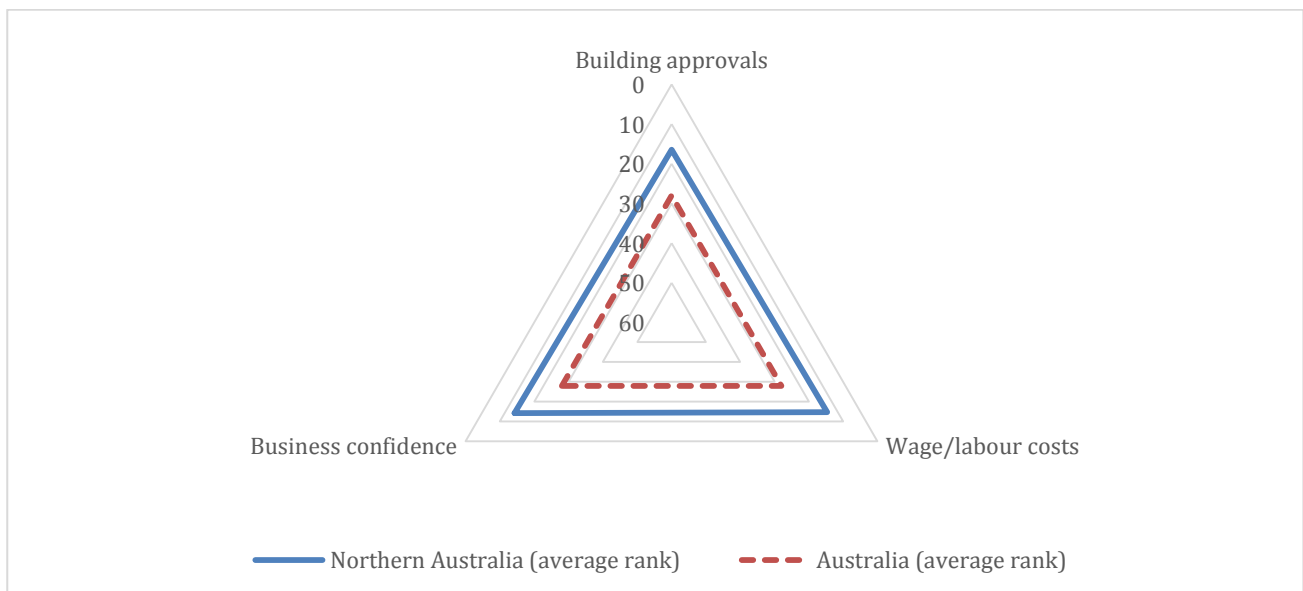


Figure 6: Comparison of northern Australia to the national average for economic fundamentals indicators

Regions doing less well in northern Australia tend to have narrow base economies (in industries other than mining), be more remote and have small populations. Specific initiatives to support the development of economic diversity and opportunities in such regions is critical to their future growth. One such example is the Cape York Regional Plan in Queensland which seeks to balance environmental needs while also facilitating economic growthⁱⁱⁱ. These regional strategies, implemented alongside state and federal growth policies, are vital to meet the variability across northern Australia, to capitalise on the inherent strengths and address specific weaknesses within each region.

Regional Competitiveness in Institutions

The other source of competitive strength for northern Australia is in the institutions theme³. Figure 7 compares the northern Australian average to the nation. This strength is most significant in local government expenditure which is on average much higher than the national average. The percentage of public servants in the workforce is also higher. Businesses in the north see the levels of assistance and transparency of local government as being somewhat better on average. This result suggests that governments play a relatively more important role in regional economies within northern Australia than for Australia as a whole.

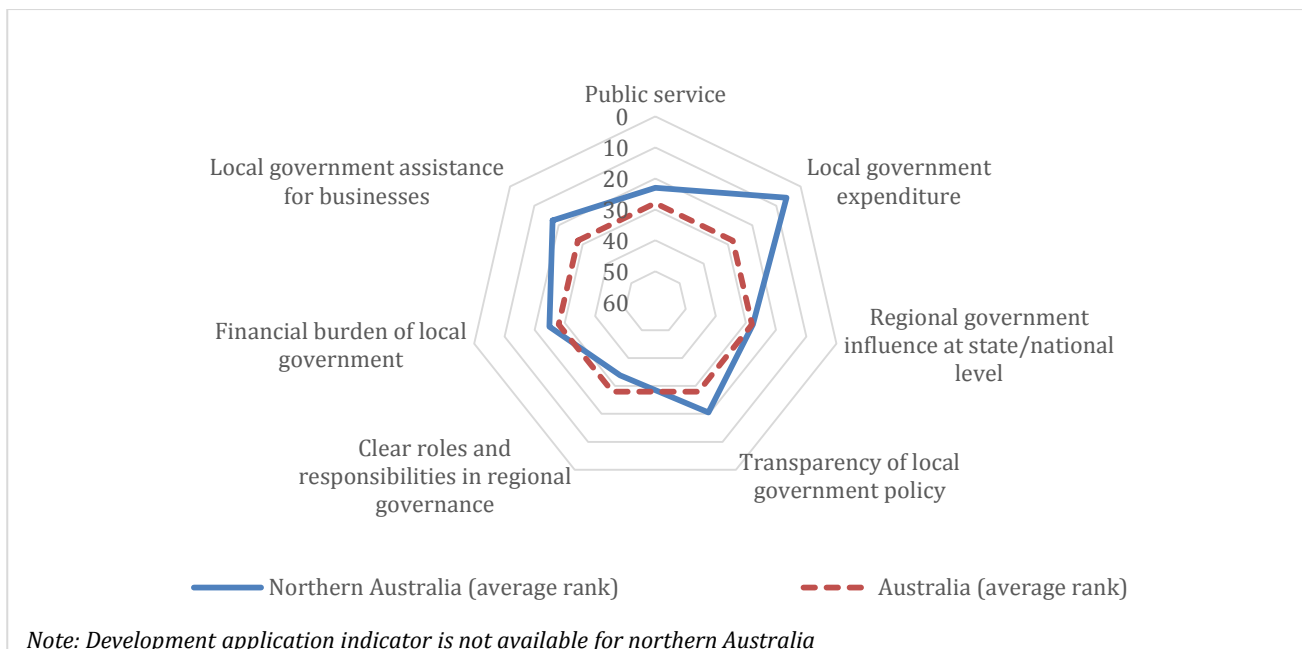


Figure 7: Comparison of northern Australia to the national average for institutions indicators

Overall, these results emphasise that while the northern Australian economy has benefited from demand for its resources in the mining boom and has a stronger than average engagement of governments in its regions, it faces serious challenges in mobilising its people in the economy and in connecting with markets.

³ It is important to note that the institutions theme is negatively correlated with overall competitiveness i.e. regions that are less competitive across the other nine [In]Sight themes tend to have higher rankings for institutions

Beyond the Average: Patterns of Competitiveness at the Local Level

The high-level analysis of the competitiveness of northern Australia is useful in confirming the significant common challenges faced in the north, but relying on these results alone is not sufficient for understanding the detailed picture of competitiveness challenges and opportunities in northern Australia.

Within these overall trends, the competitiveness of the north is diverse at the LGA level, with different regions having different strengths and opportunities. In general, the regions toward the centre of Australia possess less socio-economic competitiveness than the areas generally toward the coastlines.

This is illustrated in the overall competitiveness heat-map of northern Australia (Figure 8). Least competitive regions are shaded in red and orange. More competitive regions are shaded blue and green.

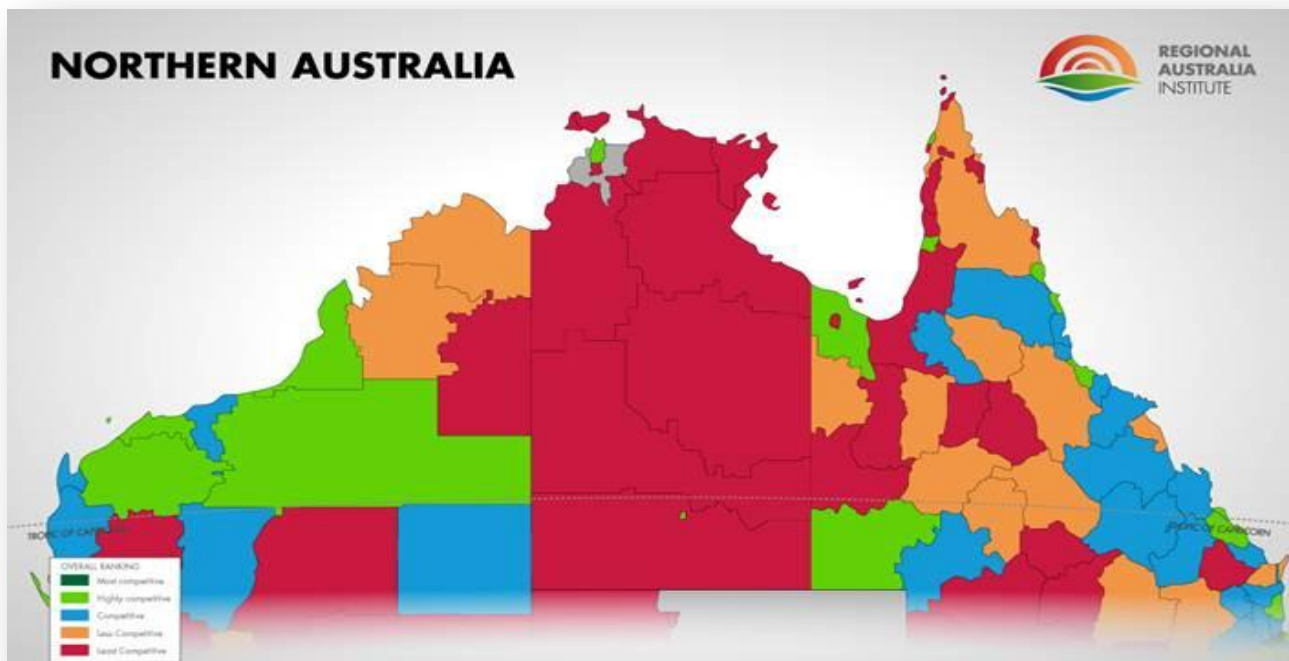


Figure 8: Overall competitiveness of northern Australian LGAs

While no northern Australian regions are in the nationally most competitive band of regions, there are 13 which are highly competitive. These highly competitive LGAs include East Pilbara, Ashburton, Roebourne, and Broome in Western Australia; Alice Springs and Darwin in the Northern Territory; and Burke, Diamantina⁴, Kowanyama, Cook, Cairns and Townsville in Queensland. In understanding the patterns of

⁴ Diamantina's 'most competitive' status is driven by 2nd decile competitiveness in labour force efficiency and 1st decile competitiveness in institutions. High competitiveness in institutions reflects local government expenditure relative to a very small population (\$119,771 per capita) and 24% of workforce employed in public service.

competitiveness and relative strengths and weaknesses, it is useful to look firstly at a hierarchy of local areas based on population. The key settlements in northern Australia can be considered as falling into three groups:

- Large centres of more than 70,000 people
- Medium sized centres, and
- Smaller remote communities.

Figure 9 (page 28) shows the larger population centres in northern Australia. It emphasises the presence of greater population and larger centres in Queensland and very small population spread across Western Australia and the Northern Territory, with the notable exception of Darwin.



There is a substantial natural break in population size in northern Australia, only five regions had a population larger than 70,000, 13 had between 15,000 and 70,000 people, and 55 regions had populations of less than 15,000 in 2011. Of these 55 regions, 25 had populations of under 2,000 in 2011. Yet, ABS 2011 Census populations only count the usual residents. Many northern Australian centres experience large population fluctuations due to different events and seasonal variations. Infrastructure and social capacity to adapt to population fluctuations is important for ensuring wellbeing and quality of life within northern Australia.

Understanding the concept of transience, both within the resident and temporary populations, is a vital consideration for interpreting population data on northern Australia. This is a dynamic which substantially differentiates life in the north from life in southern parts of Australia. There are different levels of transience both within the overall region and between different regions within the north. These different transience

levels include short-term and longer-term residential migration, work related temporary relocation from fly-in/fly-out (FIFO), drive-in/drive-out (DIDO) or construction teams, seasonal residents (e.g. grey nomads - the retired and semi-retired travellers on the road in caravans and campervans rotating between the southern summer and the northern dry season) and seasonal workers (e.g. fruit pickers), as well as long-term tourists (e.g. international backpackers).

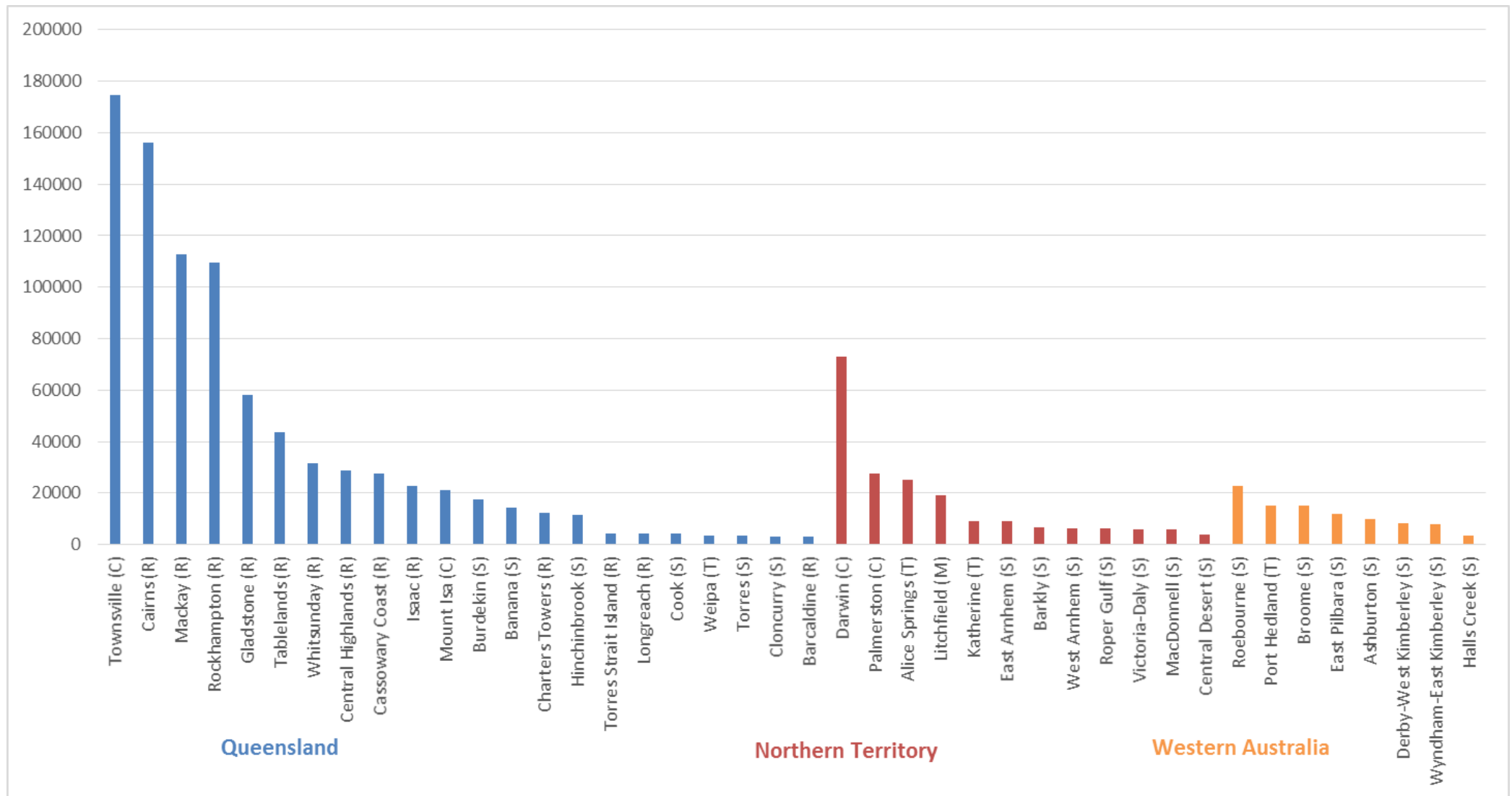


Figure 9: Major population centres in northern Australia

Many regions in northern Australia also experience substantial periodic population movements by Aboriginal and Torres Strait Islander peoples; who may reside in different areas at different times to enable their continuation of traditional law, ceremonial and cultural practices.

Perspectives, priorities and needs are often very different according to anticipated tenure and depth of connection within a community or region. They also change over time. Transience can bring a vibrancy that can be harvested to benefit the wider community, but populations also need a longer term view and commitment to create lasting change.

Attracting and retaining more than one generation of a family may be essential for the longer term growth and development of regions. Growth in the percentage of multiple generation families (grandparents, parents and children) within a region may be a vital indicator differentiating the communities experiencing sustainable growth from those in a short-term cycle of population inflation or contraction due to industry cycles of boom and bust. This is identified as an area of future research need.

A final factor affecting population in northern Australia is the concentration of settlement in coastal areas and adjacent hinterlands. This is mostly due to availability of water, as rainfall is highly concentrated in these regions. Issues such as poor soil quality, high variability in annual rainfall (both between the wet and the dry, and between individual years) creates cycles of fire and flood in many regions which have challenged settlers over the past two centuries. The variation between concentrated and sparse settlement is realised in the often vast distances between regional towns in northern Australia. All of these factors create unique challenges for economic and social development.

The Competitiveness of Northern Australia's Large Regional Cities

Larger population centres, with over 70,000 people, experience the benefits of agglomeration economies. Industry expansion is driven by the benefits of economies of scale in supply and demand, improved pools of specialised and skilled labour, and enhanced business networks. Four of the five large population centres in northern Australia are located in Queensland, and the other is Darwin. There are no population centres of 70,000 or more in the north of Western Australia.

Figure 10 compares the average competitiveness results of larger population centres within the north to the average for the whole of northern Australia and also to Australia as whole. It shows the large northern cities as a group are highly competitive in their own rights; stronger in all points than the national average LGA.

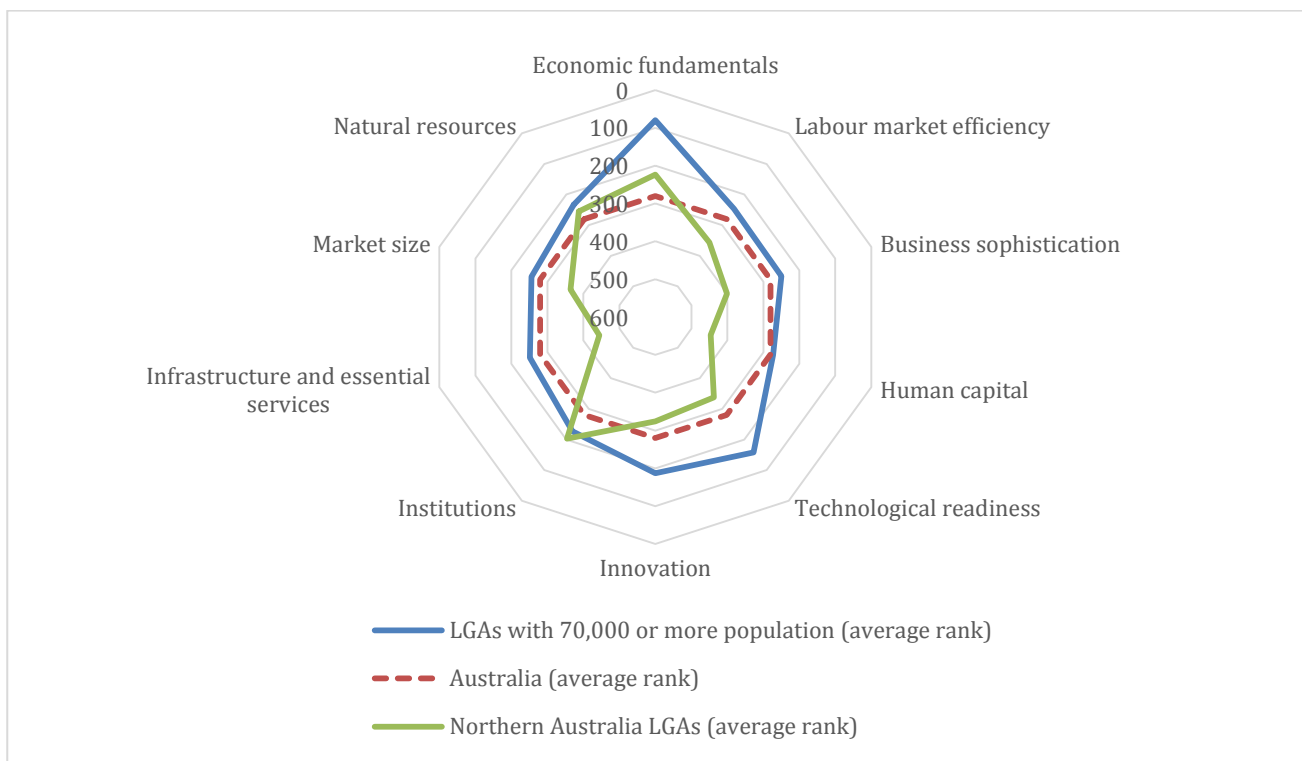


Figure 10: Comparison of the average competitiveness of regional cities in northern Australia

The results are also markedly different from the average of all northern Australian LGAs, which points to significant disparity between large population centres and regions with smaller populations.

The large northern Australian cities have particular strengths in the economic fundamentals⁵, technological readiness, innovation and institutions themes⁶. Two

⁵ Measurement at LGA level restricted to indicators on value of building approvals per capita and average wage and salary income, due to data constraints (see appendix for further detail)

⁶ Measurement at LGA level restricted to percentage of workforce employed in public service and local government expenditure per capita, due to data constraints (see appendix for further detail)

strengths, in economic fundamentals and institutions, reflect the strengths of the north as a whole, but crucially four of the five endogenous growth themes (infrastructure, human capital, innovation, and technological readiness) in contrast to other northern LGAs are strong, suggesting that it is these LGAs that are the centres for endogenous growth.

Looking at the variation within this group, Figure 11 shows some areas of convergent competitiveness and some divergence within the group. The population centres over 70,000 all have a high degree of technological readiness. All except Cairns have highly competitive economic fundamentals and labour market efficiency.

This indicates that Townsville, Rockhampton, Mackay and Darwin all have a lower proportion of the population who are unemployed or welfare dependent and/or a high percentage of the workforce who are employed as managers and professionals.

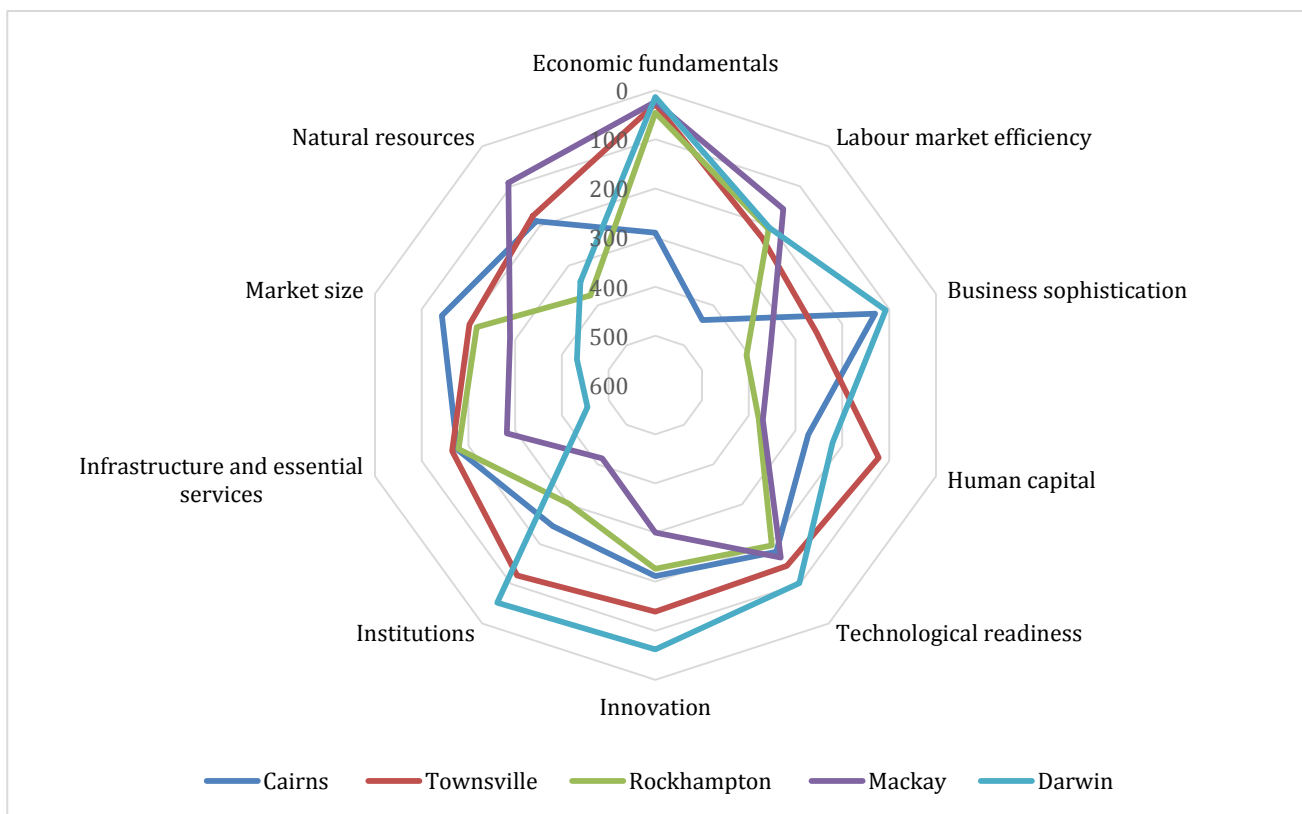


Figure 11: Competitiveness profiles for large northern Australian centres

Mackay and Rockhampton have lower than average competitiveness in business sophistication. Low competitiveness in this theme is driven by low proportions of employment in exporters, importers and wholesalers and by a dominance of large employers in Mackay and Rockhampton. Additionally, Rockhampton has low competitiveness in average of own unincorporated business income. Low business sophistication can limit productivity reducing the flexibility of the local economy to respond to external economic pressures.

Across the key endogenous growth drivers of human capital, technological readiness, infrastructure, institutions and innovation, Townsville – the largest city in northern Australia, has the most consistent profile. Darwin is less consistent, being slightly stronger

in institutions, innovation and technological readiness than Townsville, but less competitive in infrastructure and human capital. Cairns and Rockhampton are similarly competitive to Townsville in infrastructure and technological readiness but are less competitive in other themes.

Mackay has the least consistent endogenous strengths of this group of regions, suggesting that it may be the most challenged to maintain or grow its current strong economic performance from internal resources alone.

While there are different strengths and competitive weaknesses, it is clear from this analysis that these larger centres are well positioned to be successful in the future.



Case Study: Townsville, a Leader in Infrastructure and Human Capital

Often called the 'capital of the north', Townsville is the largest population centre in northern Australia, with an LGA population of over 174,000 in ABS 2011 Census. It is the most competitive LGA for both infrastructure and essential services and human capital of all LGAs in northern Australia. Townsville has a highly diverse industry base, including tertiary education, tourism, defence and manufacturing. It also benefits from residents' high levels of employment in mining (both DIDO and FIFO).

Analysis of [In]Sight data reveals that Townsville is in the top decile in Australia for economic fundamentals, with a rank of 28th out of 560 LGAs. This high competitiveness is driven by building approvals of \$519,224 per capita in 2012 and an average wage and salary income of \$46,655 per capita in 2011. The economic opportunities and potential bottlenecks for growth can be explored through analysis of the indicators driving the strong performance in infrastructure and human capital themes.

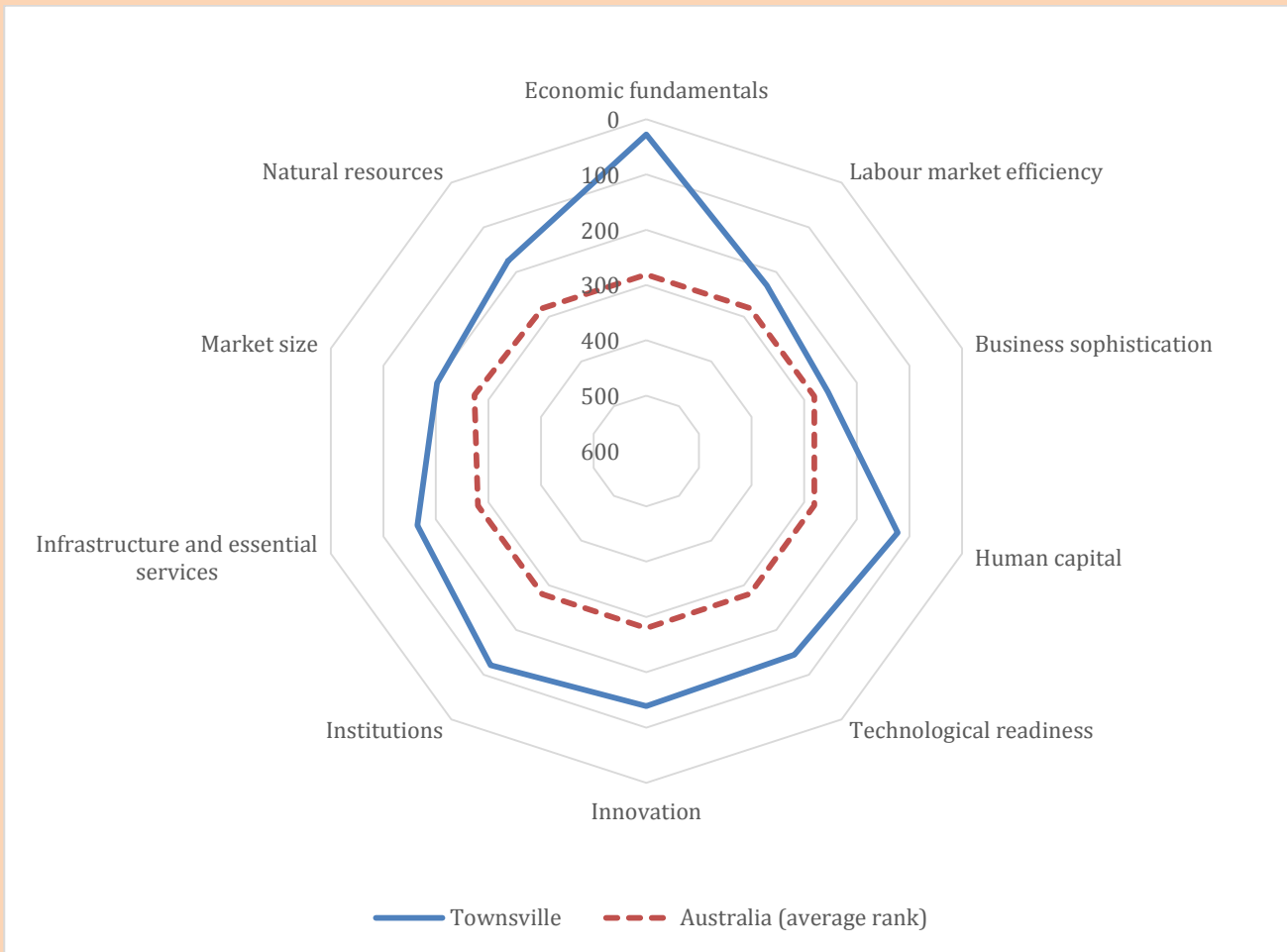


Figure 12: Competitiveness profile for Townsville LGA

Townsville benefits from good access to infrastructure and essential services. It is one of the few towns in northern Australia to have above national average competitiveness in access to aviation, port, road and rail infrastructure. It is in the second highest decile for access to hospitals and is above average for access to allied health services. Townsville’s biggest challenge – like much of northern Australia – is in access to general practitioner services, where it ranks in the lowest decile for competitiveness.

Competitiveness in human capital is led by one of the lowest scores in Australia for the percentage of population with one of four health risk factors (smoking, harmful use of alcohol, physical inactivity or obesity in adults aged 18 or more). Townsville is also highly competitive in numbers of Year 12 graduates, university graduates and proportion of the population participating in education and training. Townsville also has some areas where its competitiveness in human capital could be improved. It is lower than the national average for competitiveness in both early childhood and primary school performance. English proficiency is also lower than the national average.

The Competitiveness of Mid-sized and Small Regional Centres

Surrounding these large regional cities of the north and distributed across the wider region is a diverse group of small towns and districts. These LGAs have between 15,000 and 69,999 people.

As a group, mid-sized centres have a profile that mirrors the northern Australian 'keyhole' profile, but generally at a slightly higher level of competitiveness (Figure 13). These local areas, perhaps more than any others, are where the common challenges for the north (infrastructure and human capital) are most likely to inhibit growth potential.

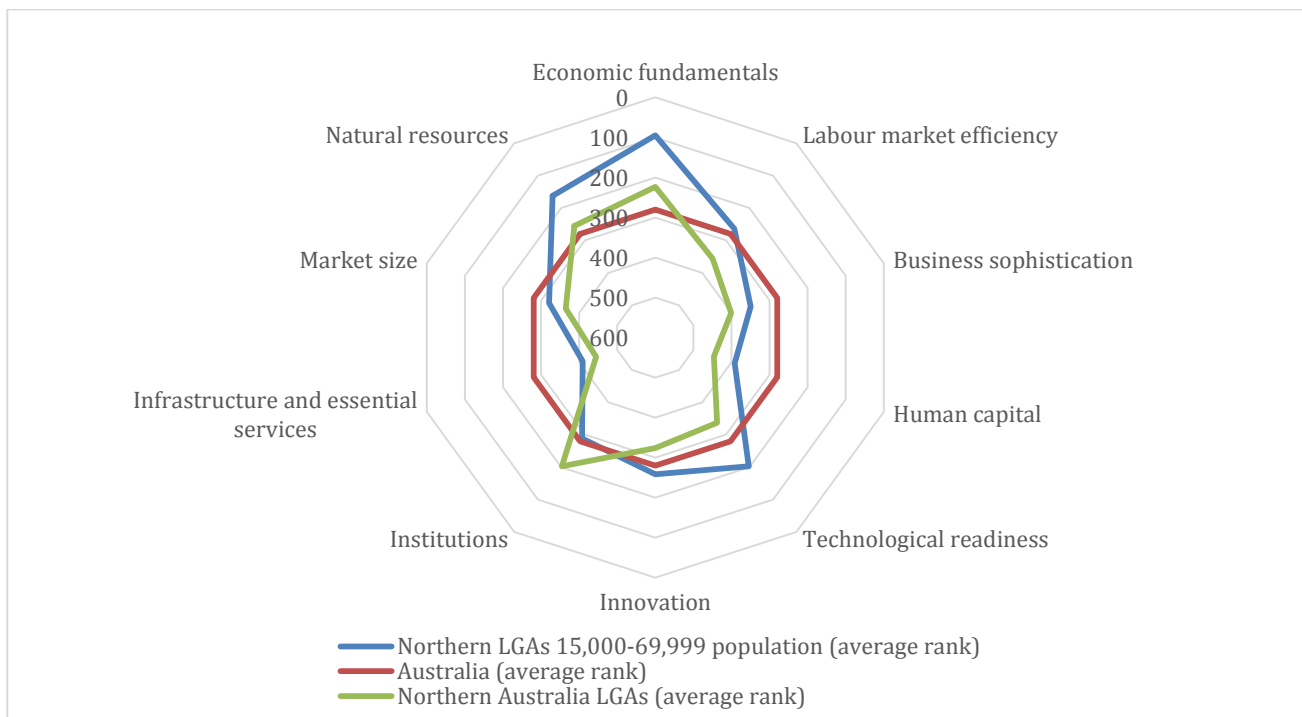


Figure 13: Competitiveness profiles for mid-sized northern Australian centres (15,000-69,999 population)

Smaller LGA competitiveness profiles are on average less competitive across the themes than the average for northern Australia (Figure 14). Natural resources, business sophistication and technological readiness are significantly below the averages for northern Australia as a whole, emphasising the extent to which these capabilities are concentrated in larger and more densely populated regions.

For these smaller regional centres of northern Australia, there are a number of locational and industry factors which are important in considering their development opportunities and competitiveness profiles.

Smaller regions which are more competitive tend to be located in proximity to one of the large regional population centres of the north and/or are reaping the benefits of the mining boom. Close connection to these larger centres provides important opportunities that are not available to people in more remote regions. Local areas where these opportunities most readily exist include:

- Wagait, Palmerston and Litchfield surrounding Darwin
- Mossman, Tablelands and the Cassowary Coast surrounding Cairns
- Burdekin and Hinchinbrook near Townsville
- Whitsunday and Isaac near Mackay, and
- Areas near Rockhampton.

This emphasises the differing development opportunities of towns along the Queensland coast compared to the remainder of the north. More closely settled with a good climate, these areas have fundamentally different opportunities than more remote places and the development strategies that work in such regions are likely to be different as a result.

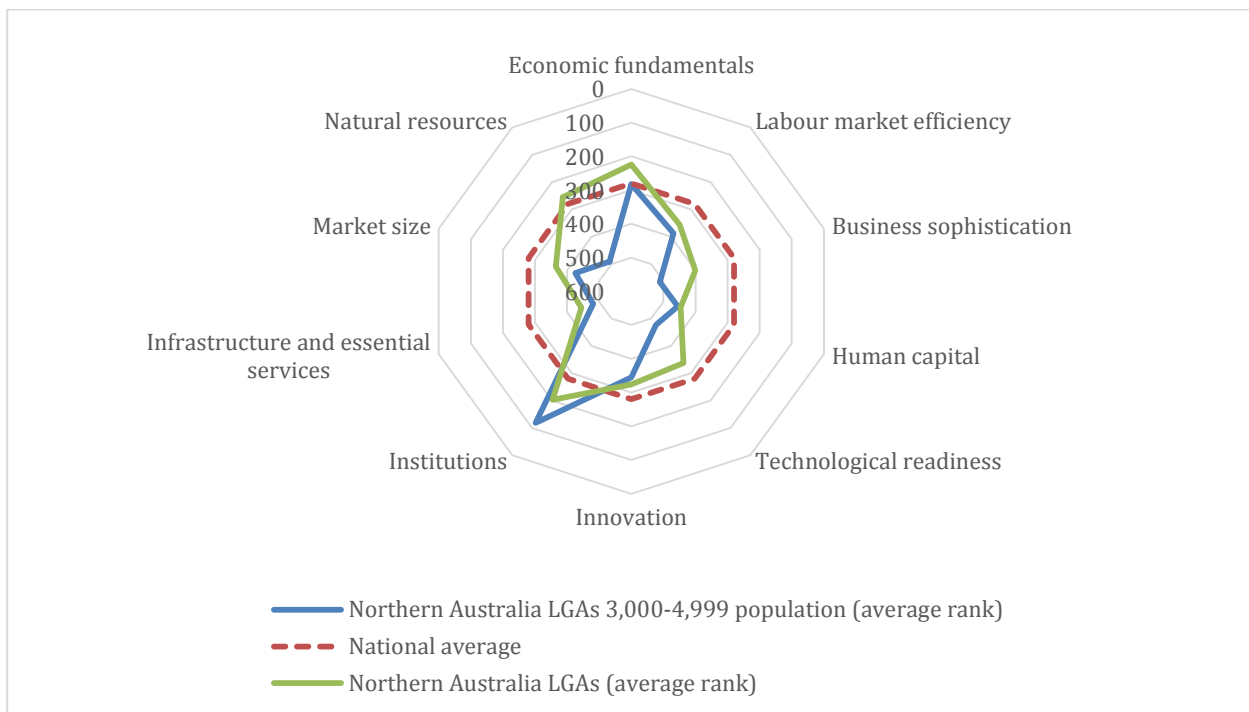


Figure 14: Competitiveness profiles for smaller northern Australian centres

The other important frame of reference for these mid-size and smaller LGAs in northern Australia is the presence of key industries which, more so than in larger centres, define the development strategies needed for growth. The main centres with a strong industry employment profile are considered below.

The Competitiveness of Regions with an Extensive Mining Linked Economy

Northern Australia has substantial mining and extractive industries and includes most of the key developments of the current boom. Main activities in northern Western Australia include iron ore and base metals in the Pilbara region, diamonds and precious metals in the Kimberley and substantial natural gas deposits off the north-west coast. The Northern Territory has uranium mining at Ranger, mineral sands on the Tiwi Islands, light metals at Gove peninsula, as well as numerous base and precious metals mines. Northern Queensland has major mining activities producing copper, lead, silver, gold, zinc, coal and bauxite/mineral sands. Activities are focused in the Mount Isa/Cloncurry region, Cape York and the Tablelands. The Central Queensland coal and gas fields are also part of the north, concentrated in Isaac and Central Highlands, and serviced by nearby communities.

Northern Australia's overall highly competitive performance in the economic fundamentals theme is linked directly to the current strength of the resources industry. Figure 14 demonstrates the strong positive correlation (0.71) between the percentage of people employed in mining and competitiveness in economic fundamentals in northern Australia.

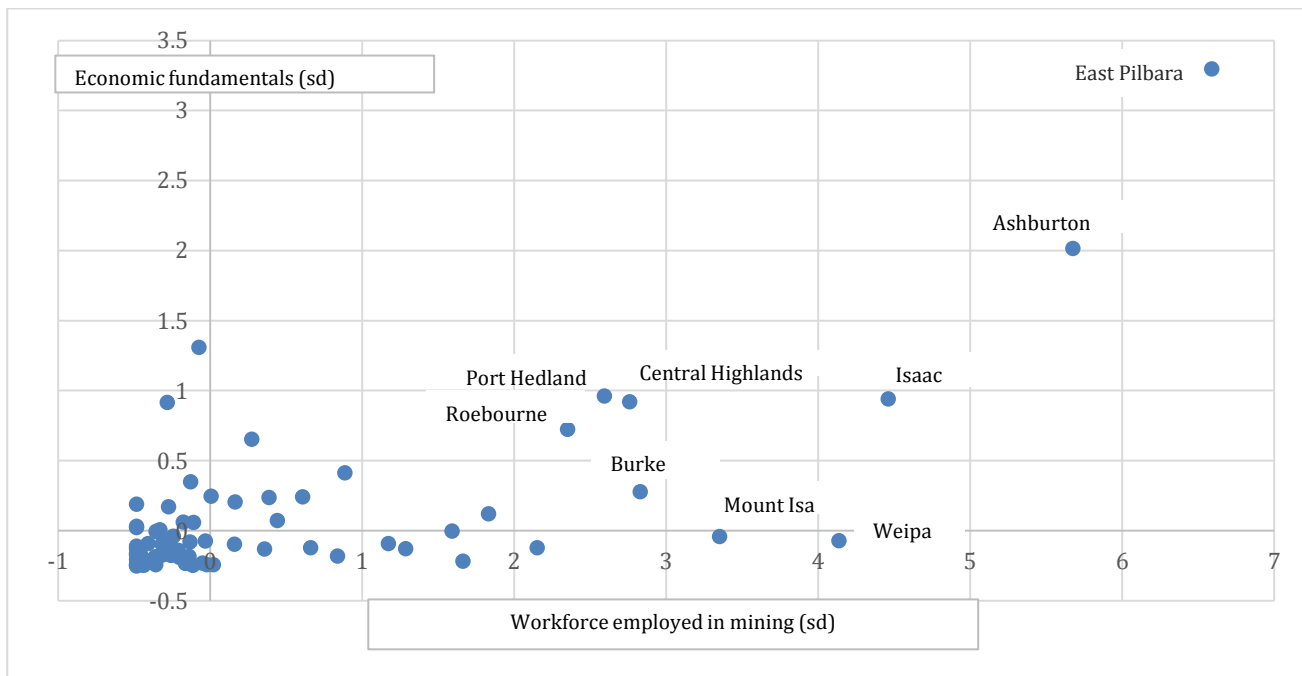


Figure 15: Mining employment by economic fundamentals in northern Australia (LGA level)

This strength however does not flow-through to create local labour market efficiency. There is a negligible correlation (0.15) between mining employment and labour market efficiency (employment, participation and skills) in northern Australia, reflecting the extent to which temporary workforces from nearby or distant regions have driven the boom. There is also a negligible correlation (0.01) between mining employment and

innovation in northern Australia which indicates that research and development activities related to mining are being undertaken outside of northern Australia.

The competitiveness profiles of mid-size and smaller LGAs which are dominated by the resources industry emphasises the extent to which resources-driven competitiveness in economic fundamentals masks broader challenges for these regions (Figure 15). These challenges will become evident when conditions in resources markets inevitably change and must be one of the key strategies foci of future regional development efforts in northern mining regions.

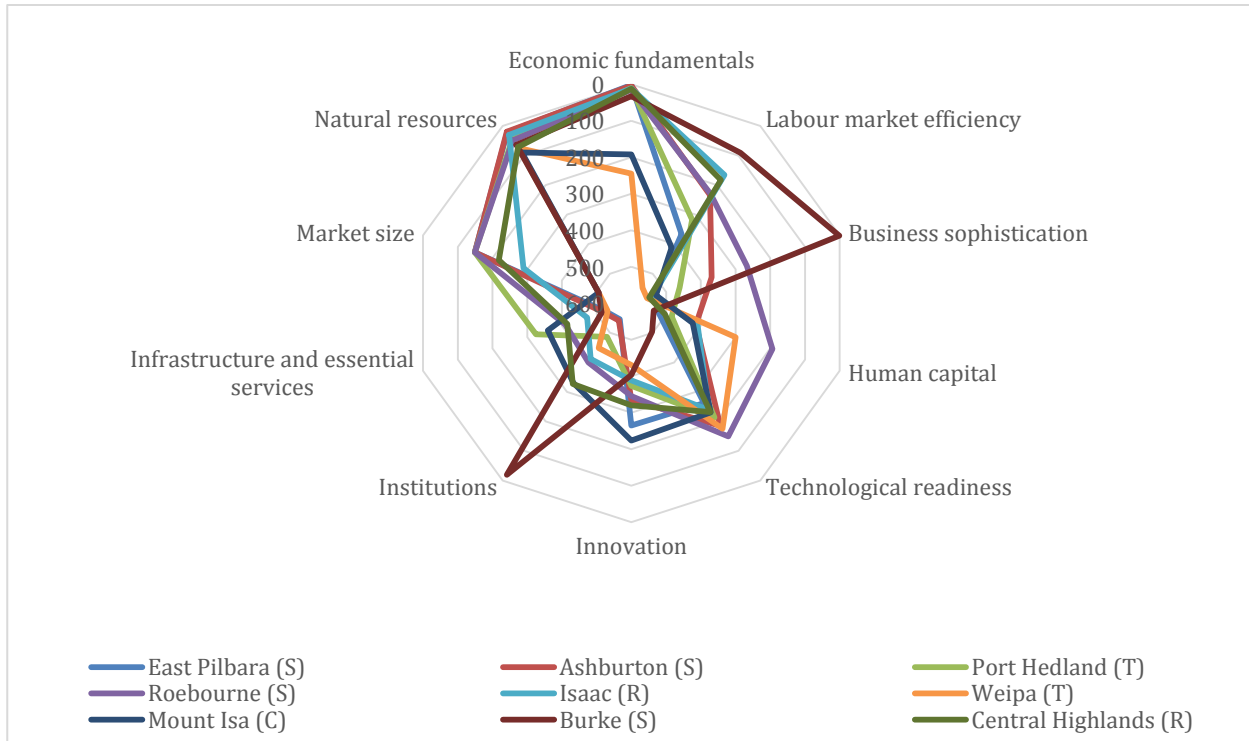


Figure 16: Competitiveness profiles for LGAs with highest % workforce employed in mining

There is a ‘hollow core’ of low competitiveness evident in areas such as human capital, innovation, business sophistication and infrastructure. The exception to this pattern is Burke in Queensland (Figure 16) which has very high competitiveness in business sophistication driven by very competitive access to local finance and above average competitiveness in dominance of large employers (a result partially skewed by small population factors and high proportional employment in the public services).

As the mining boom progresses from construction to operational phase, especially if accompanied by falling commodity prices, economic fundamentals would be expected to drop because of the vulnerability of economies dependent upon narrow bases. This research supports the widely held view that the level of infrastructure is extremely low in the national context. Regions with low levels of infrastructure coupled with low levels of human capital, northern Australian communities, particularly those based on resources industries, may be particularly vulnerable as the economy transitions away from the mining boom. They will need to strengthen their economies through other growth strategies in advance of any anticipated downturn.

The Competitiveness of Regions with an Extensive Agriculture Linked Economy

While the main agricultural industry across all of northern Australia is extensive grazing (total hectares) this is most prevalent in less populated and more remote parts of the north. Irrigated and intensive agriculture is also an important producer of income in regions where climate and infrastructure permit and support closer settlement. The coastal districts of the northern regions produce sugar cane and tropical fruit. The Atherton Tableland in Queensland is a diverse agricultural district based on irrigation and rain-fed sugar cane, grain, fruit, dairy and beef cattle production.

The CSIRO has estimated that there is currently approximately 104,000 ha of irrigated agriculture in northern Australia. The Ord River Irrigation Area supports about 14,000 ha, the Mareeba-Dimbulah Irrigation Area about 9,000 ha, the Katherine-Douglas-Daly a little over 2,000 ha and the Burdekin Irrigation Area about 80,000 ha. The rest occurs mainly as small scale (<100 ha) enterprises or sometimes a small part within larger pastoral leases^{iv}.

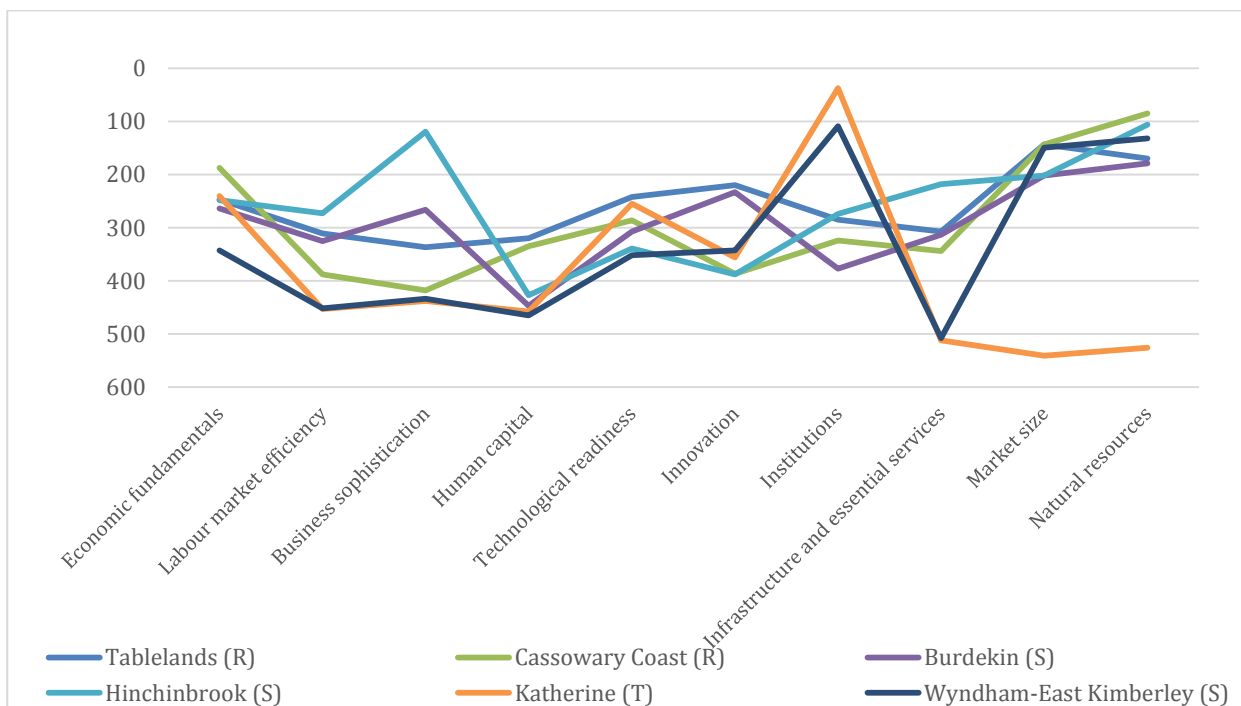


Figure 17: LGAs with a significant intensive agriculture industry

Figure 17 shows the profiles for local areas with a strong intensive agricultural industry. These are centred on the Queensland Coast, Katherine in the Northern Territory, and the Ord (Wyndham-East Kimberley) in Western Australia.

These regions exhibit mid-range competitiveness across most themes, with variation in the levels of business sophistication. The remote areas in Western Australia and the Northern Territory exhibit much stronger institutional scores (due to high public service employment and per capita local government expenditure) and are less competitive in infrastructure than regions in Queensland.



The use of [In]Sight data can help regions and policy makers to identify strengths and challenges in regions, when planning for development. It will also provide a useful measure for charting the impacts from these schemes over time.

These infrastructure results are indicative of some of the challenges facing intensive agricultural development in remote areas. The expansion of irrigated agriculture infrastructure, such as the Ord River expansion in Western Australia and the Flinders and Gilbert rivers in Queensland, may offer opportunities to expand the intensive agricultural industry in northern Australia.

Remote Agricultural Regions

Extensive agriculture in northern Australia is predominantly for the beef industry. The ten Queensland LGAs where agriculture is the most important employer have a remarkably similar competitiveness profile, dominated by the competitiveness of institutions and labour market efficiency indicators. This emphasises that in these mostly remote, sparsely populated regions there is limited unused labour and beyond agriculture, government is likely to be the most important player in the regional economy.

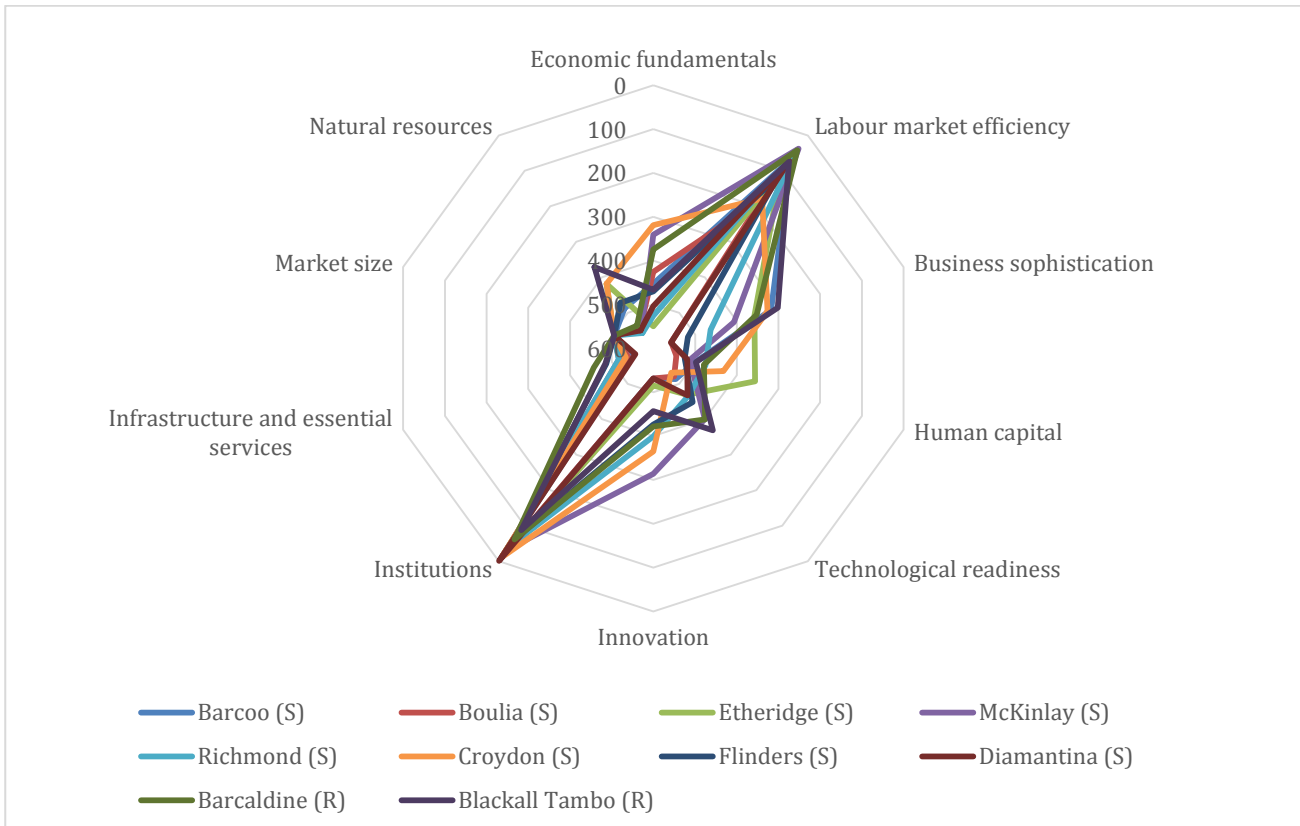


Figure 18: Competitiveness profile for northern Australia LGAs by % of workforce employed in agriculture (Queensland)

Alongside shifts in markets, changes in climate are expected to impact on agricultural practices in northern Australia. Long-term changes in rainfall patterns are expected to broaden opportunities in some regions and narrow them in others. There is an identified knowledge gap on anticipated impacts on industry and potential adaptive strategies.

Regions will need to plan ahead, informed by dedicated research to plan for anticipated changes or impacts on industry within their climate zone and to realise potential economic opportunities created by changing global markets.



Case Study: Kununurra, Building a New Future

A green oasis on a rocky northern shore, Kununurra in Western Australia is busy building a broad economic base to secure the economic future of its residents. Recent RAI conversations with Kununurra business and community leaders indicates that their development strategies are heavily focused on diversifying the local economy, but also in building endogenous growth capacity through housing and social cohesion strategies.

A key priority is to encourage families and generations to settle for the long term. This approach builds on the base of existing infrastructure, such as the Ord River Irrigated Area (ORIA) and the Argyle Diamond mine, but also aims to realise wider benefits from infrastructure expansion including ORIA stage 2 and the Regional Mobile Communications Project (RMCP).

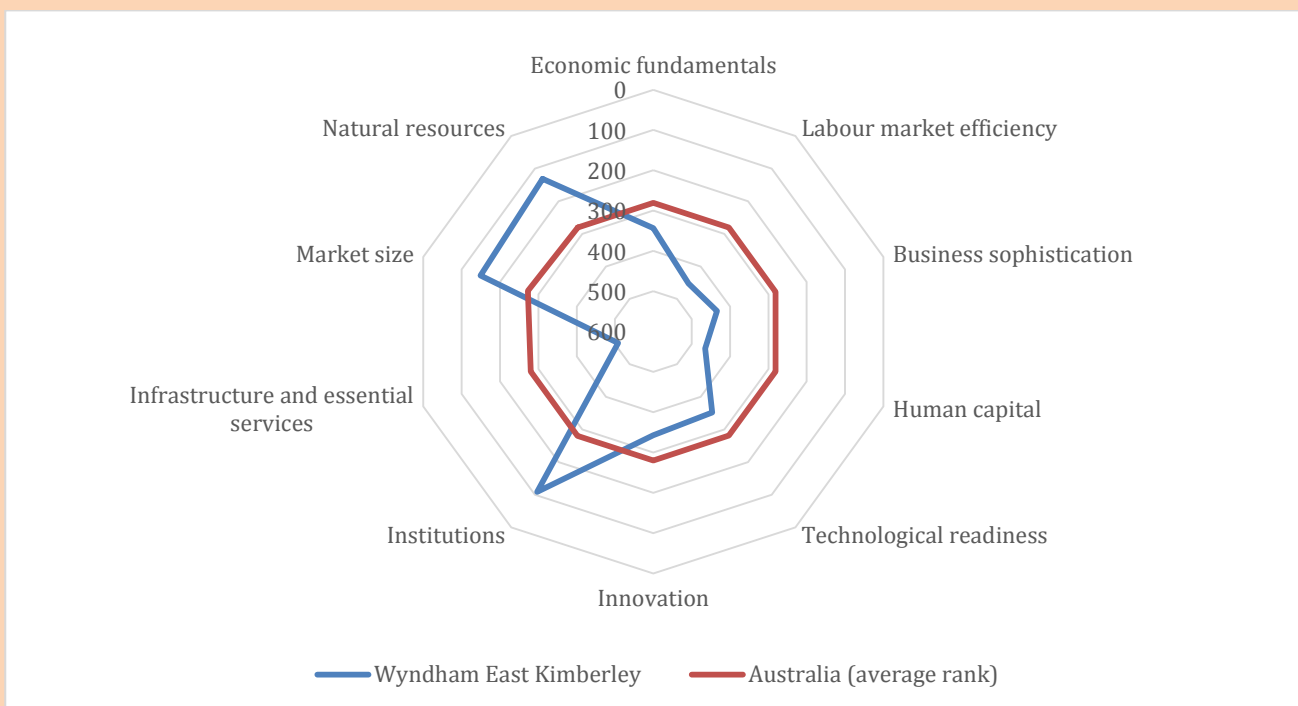


Figure 19: Competitiveness profile for Wyndham East LGA (including Kununurra)

Analysis of [In]Sight data reveals that Wyndham East Kimberley LGA (where Kununurra is the largest population centre) is highly competitive in natural resources and market size. Kununurra may be able to realise benefits through the bigger market for goods and services available in the wider Kimberley region, driven by both access to a larger working population and high value in business turnover.

Exploitation of this larger market could offer pathways to growth of the local economy through servicing the demand created by other industries and communities. For example, establishing Kununurra as a FIFO service base for mines in the north-west through providing attractive, affordable housing and recreation facilities for families at a shorter distance than Perth or the south-west regions of Western Australia.

Current economic performance theme ranks (economic fundamentals, labour market efficiency and business sophistication) lie below national average, which suggests that Kununurra is not yet maximising its economic potential. Higher than average wage and labour costs and business confidence are offset by a lower value of building approvals per capita.

A strength in the local economy is the high competitiveness in income from micro business and above average competitiveness in economic diversity. Business sophistication undermined by a dominance of large employers, limited access to local finance, and few exporters, importers or wholesalers.

The economic challenge for Kununurra is to invest in endogenous growth drivers of human capital, innovation and technological readiness, supported by the development of essential services and non-industrial infrastructure.

Building access to education services at every level is a critical issue – from primary through to tertiary, but particularly in technical or vocational education. For example, building a local workforce with vocational qualifications agriculture and horticulture will help the region to capture benefits of the ORIA expansion. Similarly, skills development in ICT may support new business opportunities made possible by better connectivity from the RMCP.

In other infrastructure, access to hospital and allied health services are competitive, but access to GP services is very low. Wyndham East Kimberley LGA is doing better than many other northern Australia LGAs, but there is still much to do to close the gap in child development and primary/secondary education performance.

Innovation is lower than the national average in competitiveness. Encouraging investment in research and development is also essential for driving future growth. Kununurra is well situated to develop research facilities specialising in tropical irrigated agriculture. Export of this knowledge, particularly to Asia and the Pacific, would further diversify the local economy.



Investing in vocational skills development offers particular opportunities for the Kununurra community to make best use of current expansion in industry and growing technological connectivity.

The Competitiveness of Regions with an Extensive Tourism Linked Economy

Tourism is one of the main industry sectors within northern Australia. The north features natural environments and world heritage sites which are particularly attractive to international visitors. In 2009, it was the destination of choice for 36 per cent of international overnight stays compared to only 5 per cent of domestic overnight stays. Of this, northern Queensland attracted the largest proportion of tourists across the north (68 per cent of international overnight stays and 59% of domestic overnight stays for northern Australia in 2009). The Northern Territory attracted approximately 25 per cent of overnight stays in each tourist category, and Western Australia's north regions had 8 per cent international and 16 per cent domestic in the same period.



The top tourism regions in northern Australia (based on revenue) include each of the major regional cities of the north - Cairns, Townsville, Darwin, Rockhampton and Mackay.

Northern Australia attracts both short-term and long-term visitors. It is popular with international backpackers because of the diverse work and recreation opportunities available.

It is also very popular with many grey nomads, who rotate between the northern dry season and the southern summer. A defining characteristic of the grey nomads is that their destination of choice is northern Australia – for travelling through, stopping in and spending money in. The grey nomad tourism market is expected to continue expanding in coming decades as more baby boomers reach retirement age.

Tourism in Australia directly and indirectly employed an estimated 908,434 persons in 2011–12 (7.9 per cent of total employment in Australia)^{vi}. Tourism drives economic

growth at local, regional and jurisdiction-wide levels through the creation of income, employment and investment opportunities.

In Queensland, tourism is considered to be one of the four pillars of the state economy, representing 9.5 per cent of Queensland's workforce. Tourism is the Northern Territory's largest employing industry, directly and indirectly providing jobs for 13 per cent of the workforce. Broome is a long established tourism centre in the north-west of Western Australia, with substantial resort infrastructure and direct air connections to Indonesia as well as most capital cities within Australia.

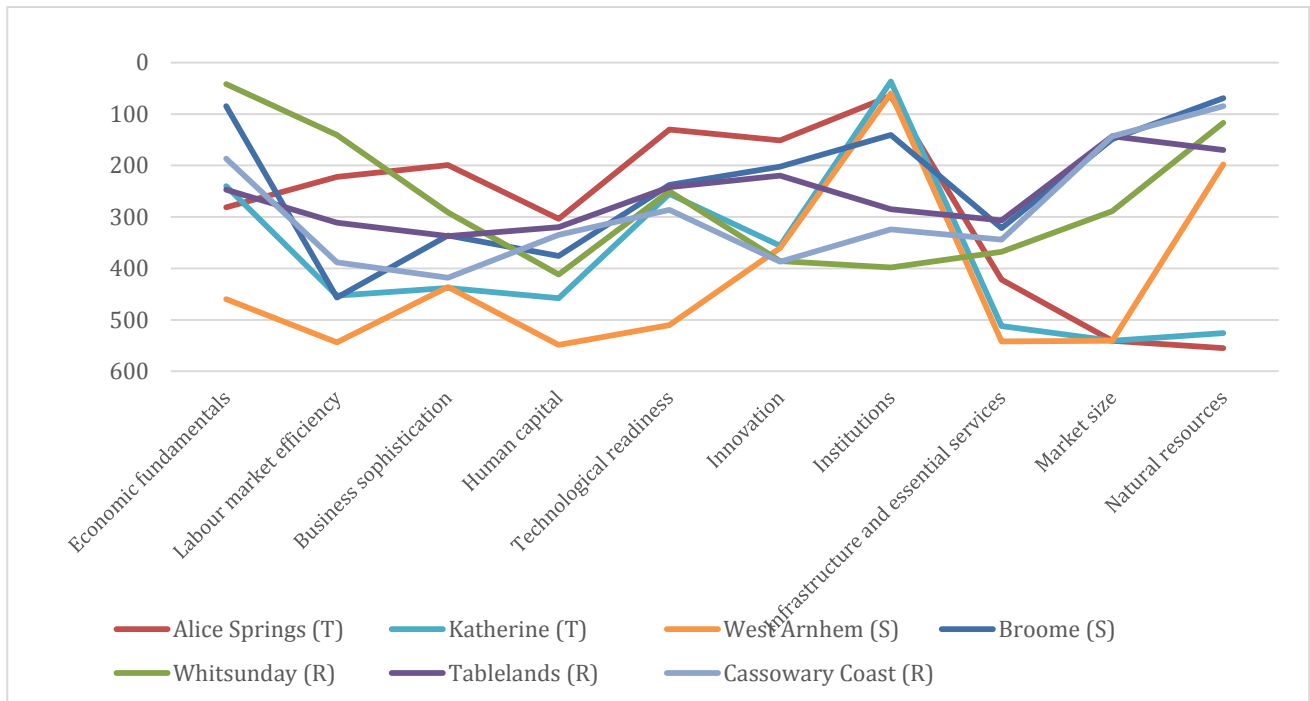


Figure 20: LGAs with a significant tourism industry

These existing tourism areas are centred on proximity to natural resources, particularly coastal areas and national parks, such as Kakadu, or areas of historical and cultural significance, e.g. Uluru. Yet, proximity alone is not enough for development of tourism markets. It requires sufficient infrastructure to enable access, business investment in accommodation and facilities, and access to a skilled labour force. Labour is particularly important for expanding markets to meet potential demand from Asian countries. People with appropriate language skills and cultural awareness will be essential for developing these opportunities.

For mid-size centres, tourism occurs alongside other important industries such as government administration in Alice Springs, resources opportunities in Whitsunday and intensive agriculture in Tablelands and Cassowary Coast. This creates diversity within the local economy which helps off-set the inherent fragility of single-industry dependent towns. Further development of these smaller tourism centres will depend upon creating local economic conditions which are attractive to investors, particularly access to infrastructure, greater capacity in human capital and sufficient levels of technological readiness.

The Competitiveness of Indigenous Communities in Northern Australia

Many small and remote population centres within northern Australia also have high population percentages of Aboriginal and Torres Strait Islander peoples. The socio-economic disadvantage experienced by many Aboriginal and Torres Strait Islander people is well documented in other dedicated work. This is a complex area requiring appropriate depth of analysis which is largely beyond the scope of this paper. Yet, it is important to confirm and compare where these important communities of northern Australia sit in terms of their relative economic competitiveness and economic growth potential.

Analysis of the [In]Sight human capital theme and economic fundamentals indicators (average wage and salary income, value of building approvals per capita) does show consistent trends of disadvantage associated with high population percentages of Aboriginal and Torres Strait Islander people. These trends contrast starkly to trends evident for the whole population at the LGA level in northern Australia – where positive trends are observed for the whole population there will be a negative trend for Indigenous groups and vice versa. It is important to note that these trends are from cross-sectional data so no causative relationship is implied. Some trends may also reflect skewing due to small population factors, as many of the LGAs with high percentages of Aboriginal and Torres Strait Islander people in the population are also very small population centres.



A trend of disadvantage is evident in Figure 21, where an increased population percentage of Aboriginal and Torres Strait Islander people has a moderate negative correlation (-0.68) with competitiveness for human capital. Involving Aboriginal and Torres Strait Islander people in future economic development in northern Australia is amongst the most fundamental of challenges. The degree to which they can lead

development as entrepreneurs, employees and community leaders will define to a great extent whether the future development of northern Australia is a success.

Mornington Island and East Arnhem, two Indigenous communities with contrasting human capital results in Figure 21, provide an informative picture of the community specific issues that drive much of this general trend. Mornington LGA is a group of islands in the Gulf of Carpentaria in Queensland. It is renowned for a strong arts and traditional dance culture, has a secondary state school, and a small tourism industry. In ABS Census 2011 it had a population of 1,142 at LGA level, with 88 per cent identifying as being Aboriginal or Torres Strait Islander.

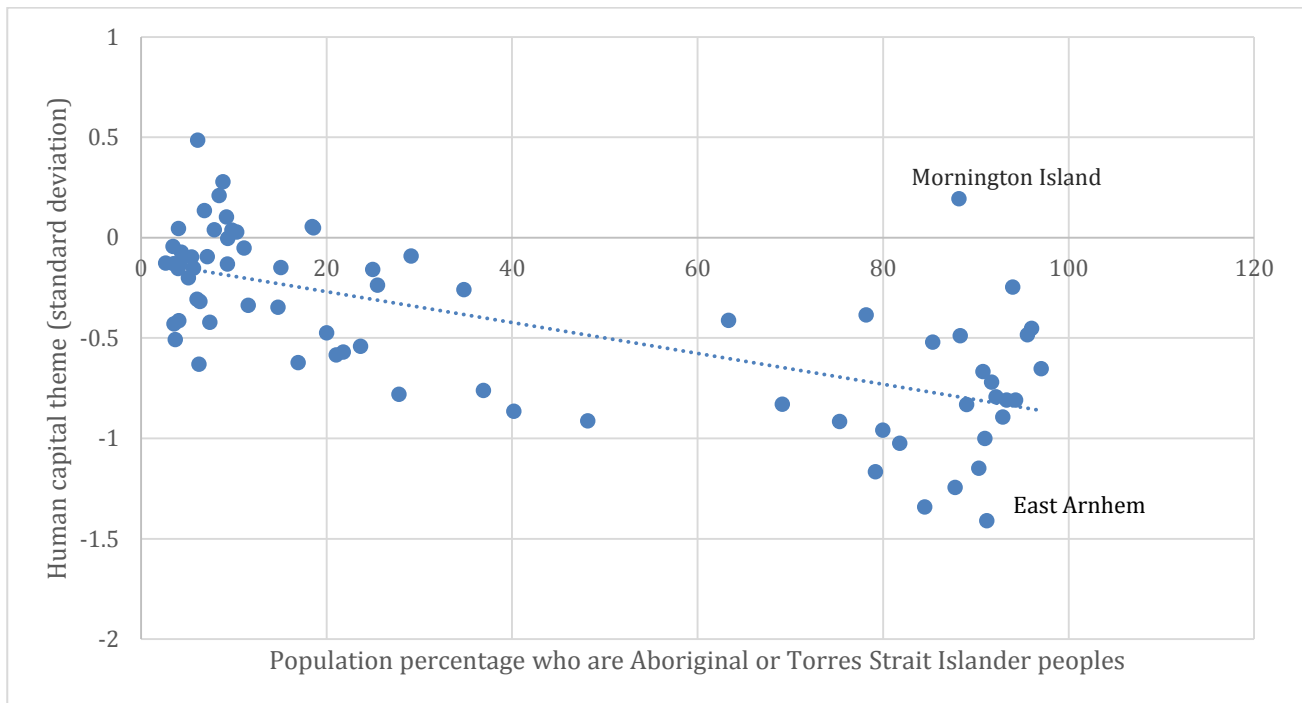


Figure 21: LGAs in northern Australia: Population percentage of Aboriginal and Torres Strait Islander people by human capital theme

East Arnhem LGA covers over 33,000 km² of north-eastern Northern Territory. It is home for nine major remote communities in addition to many remote homelands and outstations. In ABS Census 2011, the population was 9,098 at LGA level, with 91 per cent identifying as being Aboriginal or Torres Strait Islander. The main industry centres on the bauxite mine and aluminum refinery at Gove which operates mostly on a FIFO basis for workforce^{vii}. There are also numerous large pastoral leases and a small tourism industry in the region. East Arnhem also has a strong traditional and contemporary arts culture.

Theme analysis, in Figure 22, reveals that East Arnhem is highly competitive for business sophistication and institutions, but has very low competitiveness in all other themes. Mornington has high competitiveness in economic fundamentals and above average human capital, but has very low competitiveness in all other themes.

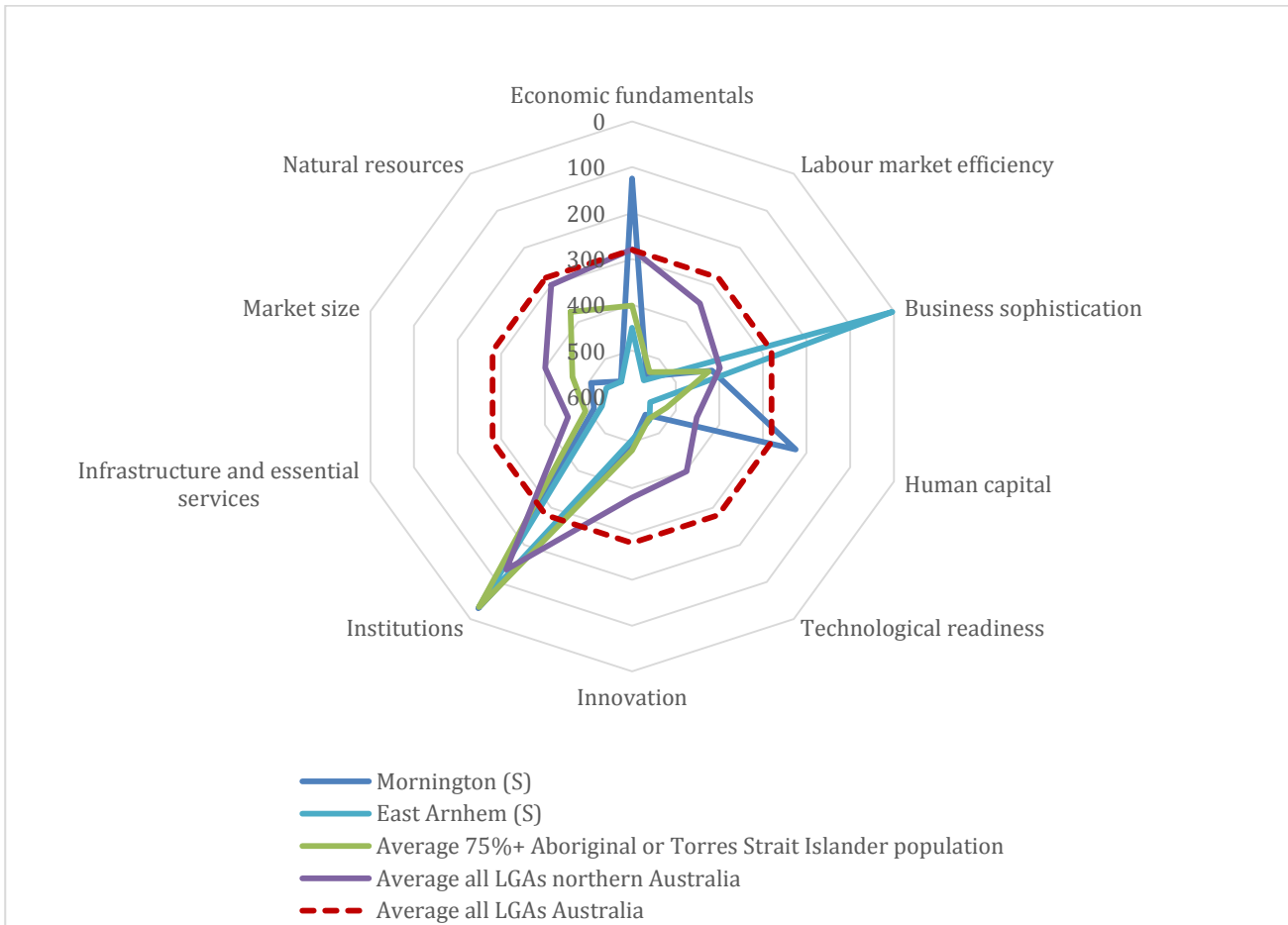


Figure 22: Mornington and East Arnhem LGAs compared to average for LGAs with high Aboriginal and Torres Strait Islander populations and national average for all LGAs

The average of all LGAs with a population of 75 per cent or more Aboriginal or Torres Strait Islander people has a striking profile, reflecting many of the challenges faced by communities (Figure 22). Market size is typically very small. Natural resources is below average, but driven up by mining in some areas. Economic fundamentals and labour market efficiency are both low in competitiveness. There is little diversity in industry, few employers or small businesses. Economic activities relating to tourism and cultural exports (arts, crafts, music and dance) are associated with peaks in business sophistication, but these are not yet enough to increase competitiveness above the national average.

Less competitive infrastructure is apparent across much of northern Australia. Very low levels of innovation, technological readiness and human capital are also characteristic of the profile of communities with a population of 75 per cent or more Aboriginal or Torres Strait Islander people. This is of significant concern as these drivers are critical for endogenous growth. Future development of communities in northern Australia will depend upon improvements in human capital, particularly education and health. The high score in institutions reflects the public service as a dominant employer in local employment markets.

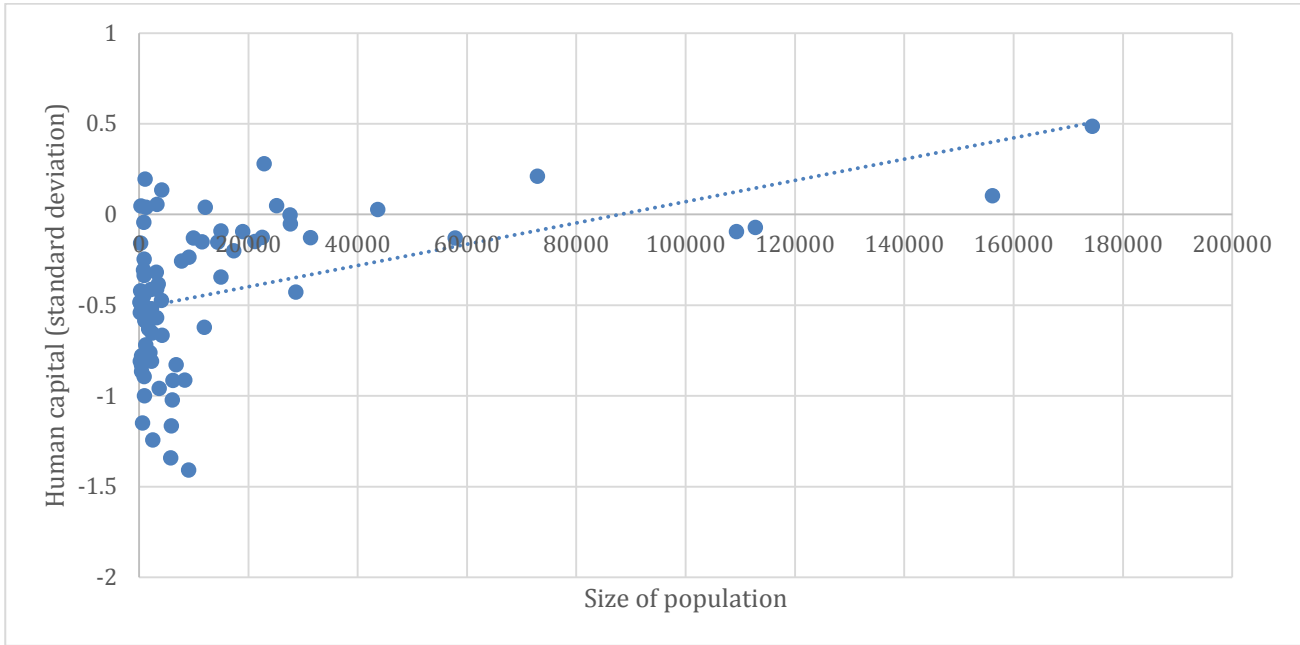


Figure 23: Size of population by human capital theme in northern Australia LGAs

In further analysis, average wage and salary has a low negative correlation (-0.39) to percentage of Aboriginal and Torres Strait Islander people in the LGA population, but total population size has a negligible correlation (0.19) with average wage or salary. This means that LGAs with a high Aboriginal and Torres Strait Islander population are slightly more likely to have lower average wages and salaries. Given that there is a moderate positive correlation (0.66) of public service employment associated with high population numbers of Aboriginal and Torres Strait Islander peoples, this may point to even greater levels of disparity within some LGAs. Yet, due to the low strength of correlation this effect may also be a residual of the agglomeration effects of larger communities.

Building approvals are an indicator of economic growth within a region. There is a low negative correlation (-0.30) between per capita value of building approvals and percentage of Aboriginal and Torres Strait Islander people in the LGA population. In contrast, total population size for LGAs has a low positive correlation (0.20) with building approvals. This means that building approvals are more likely to be higher in areas with larger populations, which most likely reflects stronger demand in larger centres.

The strongest indication of this analysis is that aggregated data can tend to iron out evidence of disparity within and between communities. It is important to acknowledge that some communities in northern Australia may not be receiving the flow-on economic benefits from higher competitiveness within the wider regions. A critical issue for Aboriginal and Torres Strait Islander peoples throughout northern Australia concerns the realisation of economic benefit from the land and its resources. There is little to no external capital available for individuals or communities to exploit their own resources and issues of land ownership create further disincentives to external investors.

Critical Challenges: Desert Regions, Building an Accurate Statistical Picture

Regions with small or scattered populations combined with large land areas often face substantial structural disadvantage when placed in nationally comparative datasets. In large datasets, they are often too small to have an identifiable footprint or are continually overshadowed by the dominance of more populous regions in the wider neighbourhood. This often leaves them struggling to have an authoritative voice about the things that everybody in the area knows to be right (or wrong), but nobody has the evidence to prove (or disprove) the case.

Nowhere is this more apparent than in the remote, desert regions of northern Australia. There are significant levels of disparity between these regions and their larger, more prosperous neighbours, but it is quickly evident when talking to the people who live and work there that there is so much more to the story than can be revealed using conventional macro approaches. So many regions find that currently available nationally comparable data does not accurately reflect the variability – both strengths and weaknesses – at a local level.

Failure to develop appropriate sources of data and reliable methods of analysis risks wasting precious resources through the imposition of inappropriate, externally developed strategies or the erosion of communities from sustained neglect. It is also disheartening and disempowering for the people who live there and want to see positive change.

There is an identified need to move beyond the 'constant anecdote' to develop reliable systems of baseline regional economic data which provide an accurate and comprehensive picture of smaller regional communities^{viii}. Important steps have been made towards this goal, but there is still much work to be done in bringing people together to work on appropriate regional strategies and solutions.

Part of the RAI's mandate is to work with communities, government and policy makers to help unfold the story, to begin meaningful and productive conversations, and to support regions to achieve development which meets their needs, capacity and goals. This goal will only be achieved through the establishment of partnerships and networks linking wider resources with local expertise to solve these challenges.



Challenges and Opportunities for Development Beyond the Current Competitiveness Profiles

Across the diverse regions of northern Australia there are some binding challenges and common opportunities for future development. This is where central leadership can have the greatest impact alongside empowerment of communities to develop and implement locally relevant strategies.

The central challenge for future national policy is to implement a genuine regional development strategy that goes beyond the polarised general debate about the north and puts in place a suite of sensible initiatives that will enable the different areas of northern Australia to realise their opportunities.

The analysis above emphasises that policy for northern Australia should recognize that:

- The regional cities of Darwin and northern Queensland are best positioned for endogenous growth and will be the areas in which natural population and economic expansion is likely to occur over time
- The more closely populated Queensland coastline and hinterland has fundamentally different development opportunities to the rest of northern Australia
- The future of other major regional centres are linked closely to one or more dominant industries. The success of local initiative and policy to facilitate mining, agriculture or tourism development, as well as the ebb and flow of market conditions, will determine the development outcomes for these places, and
- Remote regions are inherently constrained by a range of issues including access to markets, local disadvantage and small economies. Conventional regional development approaches are likely to be ineffective in these areas. The role of government investment and institutional change alongside local leadership are crucial to achieving any meaningful change and development in these areas.

It is important that regions have a voice in development. Sudden or large scale industrial development can sometimes create tensions within and between communities as rapid change challenges a community's locus of control (their sense of being in



charge of their own future). Research by the Cairns Institute indicates that such tensions often have four main strands: concern when political primacy of development seems to over-ride community priorities or values; social tension from large influxes of itinerant workers; perceptions of benefits of development being exported to others rather than directly benefiting the resident community; and the effects of local skills shortages as big developments draw workers away to other regions/industries^{ix}.

Identifying the things that matter to communities and regions is central in planning for regional futures. For example, regional development priorities may include a focus on developing leisure and recreation opportunities, as these are perceived to enhance social cohesion, especially for disaffected or bored young people in the community or for building bridges between external workers and resident populations.

Planning for the future also needs to consider the impact of global influences. Climate presents particular challenges for northern Australia. The extreme tropical climate, variability and drought are constant issues. It is also anticipated that some regions may experience permanent or seasonal inundation from rising sea levels, rendering them uninhabitable in the longer term^x. Additionally, negative impacts across the whole of the north are projected from more severe weather events^{xi}.



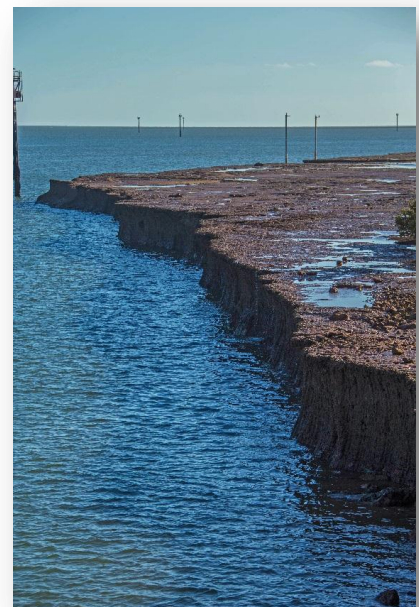
Overcoming Infrastructure Bottlenecks

Economic growth within northern Australia is dependent upon the capacity of infrastructure to support that growth. The continuing emphasis on the development of export markets, the National Partnership Agreement, tourism and other economic opportunities requires review of both existing capacity and future needs. With the majority of northern Australia being classified as remote or very remote (with the exception of Darwin and the Top End, and the Queensland coast) there are significant challenges in the development, delivery and maintenance of infrastructure in northern Australia. Figure 24 provides an overview of the existing major economic infrastructure in northern Australia.

It is important when considering the role of infrastructure in communities, that the development of an asset and its maintenance are two separate functions with separate requirements. While the development of infrastructure often results in a significant stimulatory effect in the communities affected by the development, this is a short-term impact. However, the development of skills to maintain assets and infrastructure is vital to the ongoing support of enabling infrastructure and is critical to the longevity of the infrastructure; allowing this function to reside in the communities in which the infrastructure sits will realise significant opportunities in those communities.

It is important here to draw a distinction between communities on the Queensland coast south of Cairns, Darwin and the Top End, and the remainder of northern Australia. The former areas tend to be well-served by existing services (power, water), road and rail infrastructure, ports, airports and community facilities. By and large they do not have the same inhibitors to growth that the remainder of northern Australia might experience. To a great extent, particularly in relation to coastal Queensland south of Cairns, these regions share the same access to key infrastructure as the rest of Australia. In the case of Darwin, the level of infrastructure is also comparable to large regional centres in non-remote areas of Australia.

Outside these densely populated areas, northern Australia appears as a series of 'islanded' communities in the sense that essential services tend to be concentrated in larger townships. Rail and sealed roads are limited, and port and airport facilities are sparse. Private investment in select projects has resulted in the development of mine site and associated infrastructure limited to the use of the developer; this is demonstrated in particular in the Pilbara with the concentration of both operating mines and mining projects, and the associated infrastructure. Community infrastructure in most areas outside Darwin and the Queensland coast south of Cairns is reasonably good compared to other regions in northern Australia, but still not as good as some areas of comparative population density in southern Australia.



The tyranny of distance in northern Australia, and the paucity of skilled labour, results in a cost premium being realised for the development of infrastructure in remote areas. Project 'contingency' in remote areas of northern Australia can be trebled when a project is located in more geographically remote areas. This is a direct function of the difficulty in attracting skilled labour, the cost of freight to move raw materials to a project site, accommodating workers, and a variety of other factors including the challenges of land tenure and leasing, or the lack of competition driving cost competitiveness.

In smaller communities in particular, the lack of scale can prove to be a significant challenge in terms of attracting business interests to tender for infrastructure projects; in remote south western Queensland this was overcome on a road resealing program by having a number of councils form a collective entity to procure a resealing contractor; the economies of scale were understood to have resulted in significant benefits to each participant.

Seasonality is also a significant challenge – most parts of northern Australia are subject to the summer monsoon and infrastructure development may be limited to as little as half the year, resulting in additional project risk, but also increasing project mobilisation/demobilisation costs.

The 'islanded' effect, particularly in relation to essential services, has meant that much of northern Australia has limited access to utilities such as power and water, to enable effective development of infrastructure. Many smaller communities have self-supplied systems that may be groundwater reliant resulting in water quality issues, or be based on small diesel-fired power stations that run at or near capacity.



Figure 24: Major infrastructure in northern Australia

In these cases, measures to improve water quality on one hand, or to maintain a power station and provide for fuel transport and storage on the other, mean that the cost of essential services in remote areas are higher than for other parts of Australia. In many parts, power consumption in areas may be at or near capacity, resulting in a significant additional cost to a project to develop the necessary capacity in the power network. Where the cost of development of the infrastructure is already high, this added cost can be a significant inhibitor to investment.

The above issues have resulted in significant challenges in the development of opportunities in northern Australia; in the absence of large-scale demand, the network supporting a growth in export markets, or large-scale investment in remote communities that might drive Indigenous opportunity, is not significant enough to result in any 'game-changers' in remote communities. In turn, this has resulted in no net improvement in capacity at key nodes in export networks such as ports or rail; each port may have limited capacity and the rail line in central Australia may also have capacity constraints limiting its productivity potential. In other areas, services such as barges are controlled by monopoly interests, creating a cost premium for the development of opportunities in remote coastal areas.

The immediate focus of much infrastructure in northern Australia revolves around the comparative mineral and resource wealth of the region. It is critical to our national prosperity that these resources are developed fully and exported or used domestically using a proven logistics supply chain to foreign and domestic markets. This is typified in the mineral export boom, particularly in Western Australia, which has resulted in the development of large-scale mine site infrastructure in regions such as the Pilbara.

Yet, there has been minimal focus on the development of communities in such regions, with a focus on FIFO labour. While some communities such as Karratha have benefited from this, others such as Port Hedland have seen enormous inflation in property prices, for example, which may be considered unsustainable in many regards. This inflation is in itself symptomatic of the capacity constraints inherent in the community – the difficulty in attracting skilled labour to develop even basic community infrastructure such as housing, is such that the community infrastructure itself is insufficient for the community.

This can also be applied to other key infrastructure such as schools, medical clinics or any other publicly owned asset developed for the community. The inability to attract employment to comparatively lower-paying opportunities in the community sector results in significant challenges in the delivery of even a basic level of service to the community itself; this makes it difficult for FIFO employees to justify relocating their families to such communities. Without these people, it could be inferred that it becomes increasingly difficult to justify schools for example, as there may be no teachers and very limited numbers of students.

The key to the development of infrastructure in smaller communities in many ways is to make the development and maintenance of this infrastructure cost-competitive and attract business to the regions. This has been shown to be possible through increased collaboration between regions to create economies of scale in infrastructure projects; however supporting the infrastructure organically remains a key challenge but one that

does have the potential to realise opportunity for those people already residing in remote areas.

Agriculture is also competing in this space for support to develop export markets. The development of the Ord Scheme in Western Australia by foreign interests is a good example of a targeted opportunity utilising existing resources, however may not be typical of the opportunity for agriculture in northern Australia as a rule. Live beef export markets continue to provide opportunity, but this is dependent upon global market demand. The issue of live exports to some extent also continues to be a political issue; however there is a lack of infrastructure to allow the slaughter and transport of beef to export markets on a large scale and this may limit the potential of the Australian market to allow this kind of activity.

The priority in the development of critical infrastructure in the north is a question that requires resources to resolve. In the case of key community infrastructure such as schools and hospitals, the construction of the infrastructure is important, but more important is the human capital required to make these facilities function to a reasonable level of service (not be materially lower than other regional areas within Australia). Whether this infrastructure should be developed prior to other key infrastructure such as pipelines, roads or rail, requires further discussion and analysis.

Central to this is the opportunity for infrastructure whose benefit-cost ratio is sufficient to either attract private investment from the outset, or be divested by Government once demand risk has abated (a key mechanism to support the development of infrastructure, as espoused by Infrastructure Australia). This is increasingly a consideration in the assessment framework to be considered by Infrastructure Australia in assessing opportunities for Commonwealth investment. This could occur under the Regional Australia Fund, which is designed to have a 'clear benefit to Australia's economic development and to investment in Australia's resource or export capacity'.

To this extent, it is critical that opportunities for infrastructure investment and development in northern Australia provide both opportunity to export and resource markets, but are also underpinned by Infrastructure Australia's strategic priorities (in particular, those directed at the national freight network) as illustrated in Figure 25.



Figure 25: Infrastructure Australia strategic priorities, reprinted under terms of creative commons^{xii}

Also of interest is Infrastructure Australia's strategic priority in relation to transforming cities, while this might indicate an urban focus for the purpose of regional development, it may also be considered to include supporting sustainable and productive regional centres in remote areas. While the development of essential infrastructure in Indigenous communities is also a strategic priority for Infrastructure Australia, this may not provide the latent capacity to take on any additional infrastructure burden to develop enabling infrastructure to support export markets or the exploitation of resources.

As highlighted, the opportunities from the development of infrastructure in northern Australia relate not just to the development of export markets, but to the creation of vibrant and competitive communities in their own right. The need for competitive communities may help serve to bring down the cost of importing labour, developing economies of scale in remote areas and creating opportunities for not just employment, but for more families to live in remote areas of northern Australia. This is critical to realising the full potential of northern Australia – a potential which is not limited by what is currently considered a prohibitive cost of developing the infrastructure to connect the region to export markets and further opportunities.

Developing Regional Economies Through Exports of Services

The export of services is an important and growing part of the northern Australia economy which is often overlooked in the discussion and debate about the expansion of mining, agriculture or tourism in remote regions.

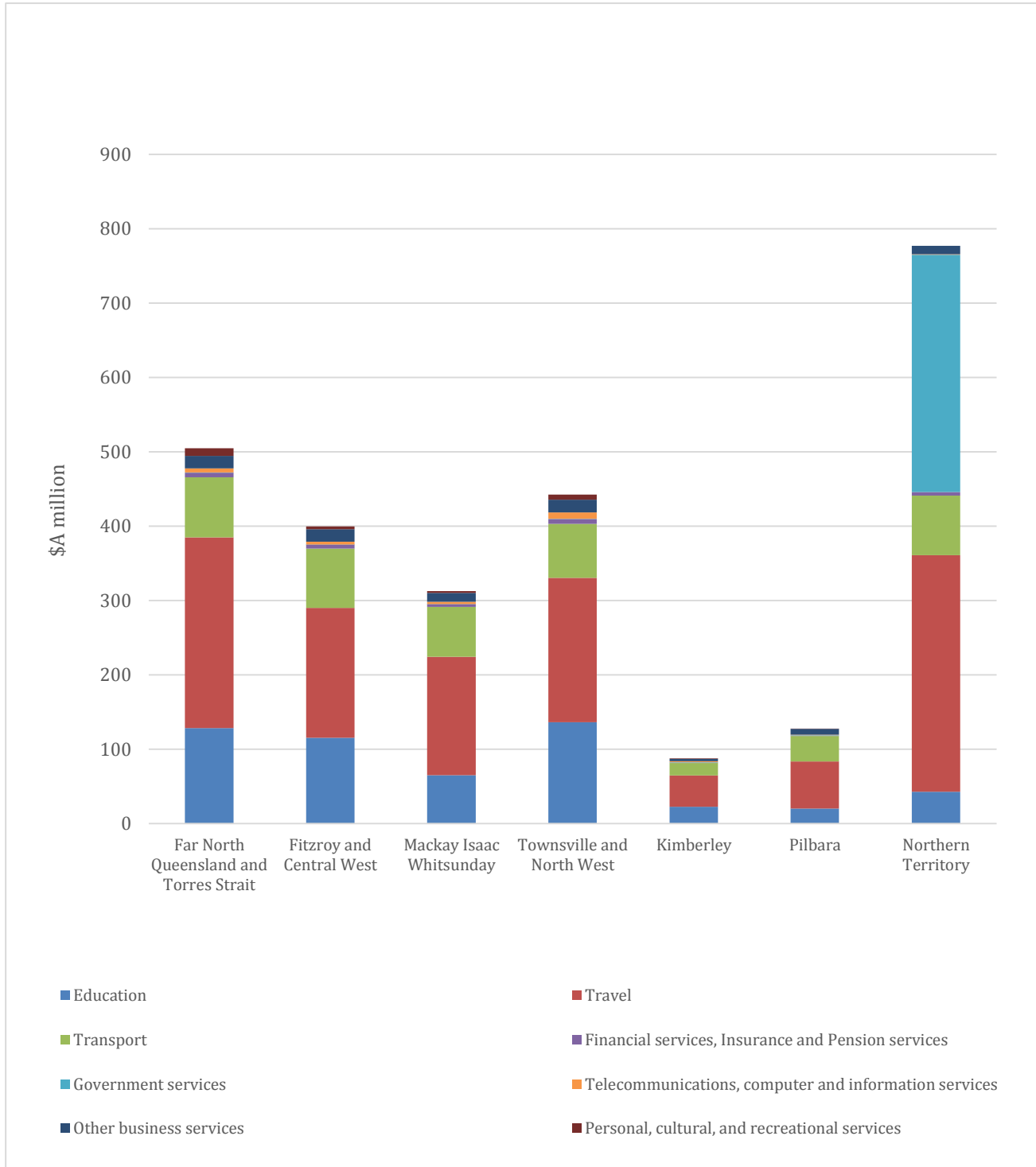


Figure 26: Export of services from northern Australia in 2012

The total value of service exports of the four Queensland's RDAs in northern Australia are estimated to account for 20 per cent of the state's aggregate service exports. In contrast, the share for the two RDAs in Western Australia accounts for only four per cent of the state's aggregate service exports. The Northern Territory is comprised of a single RDA, so service exports represent 100 per cent of the total for the Territory.

By category, exports in tourism, education, transport and government services are the top four industries in value. Tourism and education exports contribute more than 65 per cent to the region's total service exports. These two industries are clearly the key opportunities for export growth in the future.

There is substantial economic potential in science, design, health and medical, and technological development services relating to tropical environments, dry-land agriculture, medical, mining and extractive industries, which are all readily exportable to other global markets. Tropical medicine, ecology and agricultural sciences are of particular relevance to many emerging economies in Asia.

Development of the tropical knowledge economy depends upon developing a pan-tropical investment in two long term strategies: improving science literacy levels and increasing collaborative engagement and research partnerships in tropical science in northern Australia^{xiii}. Further to this, recommendations on investing in Indigenous-led science partnerships, establishing collaborative partnerships with existing industries in the north, and extending research facilities based in tropical regions offer particular opportunities for economic development in northern Australia. This would be achieved through developing human capital, improving the scientific/technological skills-base in the workforce, and increasing regional capacity for innovation.

Overall, northern Australia's export in services totaled A\$2.65 billion in 2012, which is very modest compared to the national total of A\$50.8 billion. Yet, northern Australia offers specialist knowledge, skills and resources not available elsewhere in Australia, that will be critical to the development of a larger market share in services export.

Adding value to basic products and services is often the most effective mechanism to obtain the highest value from Asian markets, and services exports achieves this goal. Developing export of services depends to a significant degree on high competitiveness in the three endogenous growth factors of technological readiness, human capital and innovation. This will primarily be an opportunity for the largest regional cities of the north, although some smaller towns and remote areas may find opportunities in this sector as well.

This source of future development is strategically important for regional cities, as it is unique to the north and assists in insulating the larger regional economies from variations in the major primary industries and government investment, which will continue to play an important role in the overall economy of northern Australia.

Resolving Land Tenure in Northern Australia

Outside of the large urban centres of northern Australia, the economy is closely linked to the use of natural resources for agricultural, mining and tourism. For remote Indigenous communities, as well as the foundation for community culture, tradition and identity, the ownership of land is usually the central source of economic development opportunity alongside cultural activities such as art.

Yet, regional development in much of northern Australia, and particularly for Indigenous communities, is confounded by the complex and unique tenure arrangements that exist over much of the landscape. In addition, unresolved claims for Indigenous ownership and disputes over the ways to achieve a balance between economic development, conservation and traditional use constrain the ability to connect land resources with sustainable economic opportunities.

Northern Australia continues to have the majority of positive resolutions of native title claims in Australia^{xiv}. Figure 27 (on page 62) illustrates the extent of native title claim in 2013. Resolution of native title claims often takes many years. Figures from the National Native Title Tribunal released in June 2012 reveal that of the 441 current claims awaiting outcome, 49 per cent were lodged between ten and 18.5 years earlier, 18 per cent were lodged between five and ten years earlier, and 33 per cent were lodged within the previous five year period^{xv}. It is clear that the length of time in resolving these often complex claims, especially when subject to litigation, may present a substantial ongoing disincentive to economic development and capital investment in the north.

A recent review of land tenure in northern Australia was conducted for the Office of Northern Australia by the CSIRO and the Cairns Institute, James Cook University.^{xvi} This review identified that:

- The majority of land (75.4 per cent) in northern Australia is Crown-owned, two thirds of which is pastoral leasehold. Another 18.5 per cent is Indigenous land. Privately owned land accounts for 6.1 per cent
- Native title claims and mining and gas exploration permits cover large parts of the northern landscape
- Northern Australian tenure systems are complex and unique in the national context, and
- The situation is dynamic with a series of government processes intended to enable more diverse uses within tenure and clarify access and use rights where there are multiple entitlement holders.

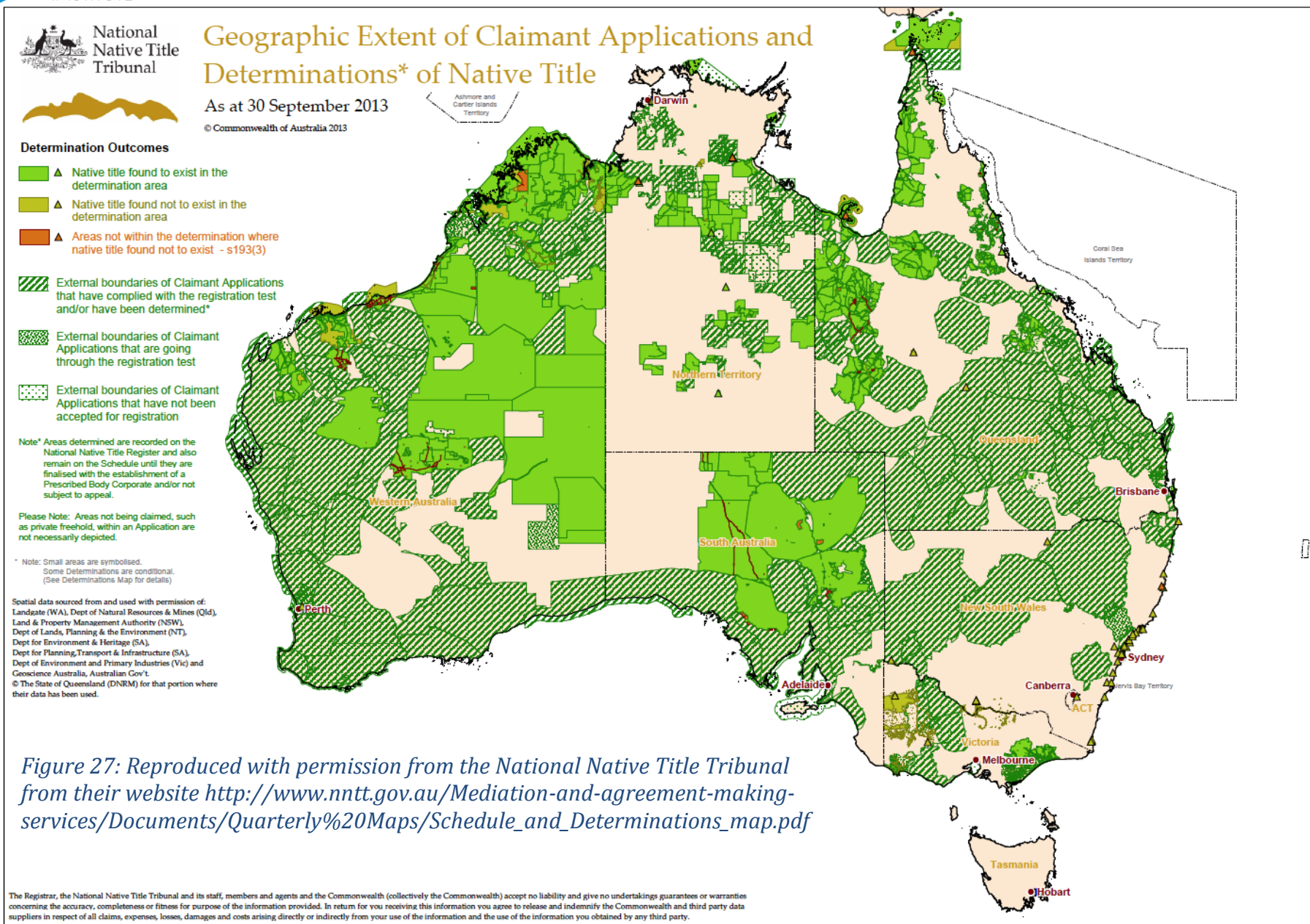
Overall, this review concluded that the underlying complexity of tenures and entitlements on a given area of land; the capacity for investors to manage across multiple tenures and jurisdictions and resolve disputes efficiently; and the limits of some types of tenure to allow owners to leverage land assets for capital and development purposes, such as on some Indigenous tenures, are serious restrictions on further development in northern Australia.

This review identified that the most frequently occurring and serious barriers to investment and economic development in the north included:

- The capacity for external investors to negotiate multiple tenures and jurisdictions in securing approval for development proposals
- A lack of flexibility to diversify and uncertainty over future security of leases for the pastoral and agriculture sector
- Delays on permits, challenges negotiating native title access and inconsistent water regimes for the mining industry, and
- A backlog of unresolved claims, and an inability to use land as security for finance and mortgage purposes by Indigenous land owners.

In the context of the significant challenges to development that already exist in northern Australia as a result of distance, lack of infrastructure and social disadvantage, the ability to facilitate investment is essential to achieving progress beyond the main regional cities. Instead, the opposite situation is the case with investment confounded by a confused and often unresolved system that takes years to negotiate if it can be negotiated at all.

To support and enable sustainable northern development, land tenure arrangements should be ahead of the game, actively identifying areas with opportunities and working with interested parties to resolve initial barriers and reduce the time required for investors to negotiate agreements.



As a result, the enterprising people already living in the north are limited in their ability to use their resources and initiative to chart future development. Only the most cashed up, persistent outside investors are likely to be willing to engage in the processes required to achieve a development outcome. This restricts development largely to the resources sector where the potential gains are significant enough to warrant the effort required.

In the context of regional development in northern Australia, this issue is a massive impediment which requires the urgent investment of significant resources and energy to reduce tenure complexity and improve development assessment processes. It is arguably the most important issue among the many which exist in the north.

Development in the north is not easy or cheap so it needs creative capital prepared for risk. Ten year negotiation for land access and approval are an anathema to new ideas and creative investment in economic opportunities. Shortening the time involved does not mean that Indigenous owners and environmental interests will be sidelined, if the approach involves genuine reform and engagement.

This effort must be targeted to the areas with the biggest development opportunities to move it more quickly towards resolution and an improved outcome for Indigenous land owners, pastoral leaseholders, interested investors and the nation as a whole.

Tiwi Islands Initiative

A proposed lease deal in the Tiwi Islands illustrates the urgency for native title holders and other leaseholders in resolving land tenure constraints on economic development.

In a recently published article, it was reported that the Northern Territory government will purchase 99 year leases on over 10,000 ha of land for \$1 million in short-term funding and \$2.8 million in loan funding to the Tiwi Island Land Council.

The leases are for development of agricultural, industrial and beachfront land. It is anticipated that resulting infrastructure and commercial developments will provide employment opportunities for Tiwi Islanders.

The lease has been negotiated by the Tiwi Island Land Council to leverage funding to bring existing wood chip plantations to market.

Whether this deal is the right one for the Tiwi landholders or not, it is one of many options that remote communities have which is directly dependent on resolving tenure challenges.

Developing a consistent, practical and timely process for resolving tenure constraints to realise these development options is urgent across northern Australia.

Article source: Aikman, A. (2103) NT proposes lease deal to help develop Tiwi Islands *The Australian* 31/08/13
<http://www.theaustralian.com.au/national-affairs/nt-proposes-lease-deal-to-help-develop-tiwi-islands/story-fn59niix-1226707896030>

Resource Centre Transitions

Northern Australia has been the centre of Australia's resources investment and expansion over the last decade. The Pilbara iron ore, Central Queensland coal and gas developments across the north have been at the heart of the mining boom. The contribution this investment has made to developing mining centres is clear in the competitiveness profiles.

Yet, the profiles also reinforce the vulnerability of these places to a downturn in resources industries. The fortunes of regions whose economies are dominated by mining will always rise and fall with commodity prices and company fortunes, but this is exacerbated by the weaknesses in the local labour market, human capital and other foundation of endogenous growth. Transitions in the resources industry are usually dramatic and their exact timing is hard to predict.



Efforts to bring some diversity to these regions and prepare for the possibility of future transitions (expansion or contraction) by local leaders should be encouraged. Overcoming the human capital constraints which undermine the ability of locals to benefit from local job opportunities in these regions is the other imperative for development in these regions. In both cases, the challenge is to be proactive in an environment where policy has been trying to catch up with rapid local economic change for more than a decade.

Agriculture and Access to Water

A long-standing issue for northern development has always been agricultural opportunity, through building the value of the grazing industry and expanding irrigated production. Expansion of the value of existing irrigated agriculture has historically been limited by a lack of skills and experience in dealing with a challenging climate, a combination of sufficient water and quality soil occurring together, uncertain land and water tenure along with economic and logistical isolation.

Land that is held, managed or owned by Indigenous people covers 30 per cent of northern Australia. Relationships with land and water differ amongst northern Australia's Indigenous people. Planning processes in northern Australia need to provide greater clarity of water rights to improve Indigenous people's access to water. Access to local finance and ability to leverage off land assets will enable the development of commercial agricultural opportunities. Resolution of water rights and native title rights will greatly enhance the ability of Indigenous people to develop agricultural opportunities within northern Australia, offering a critical pathway to reducing disadvantage in some communities.

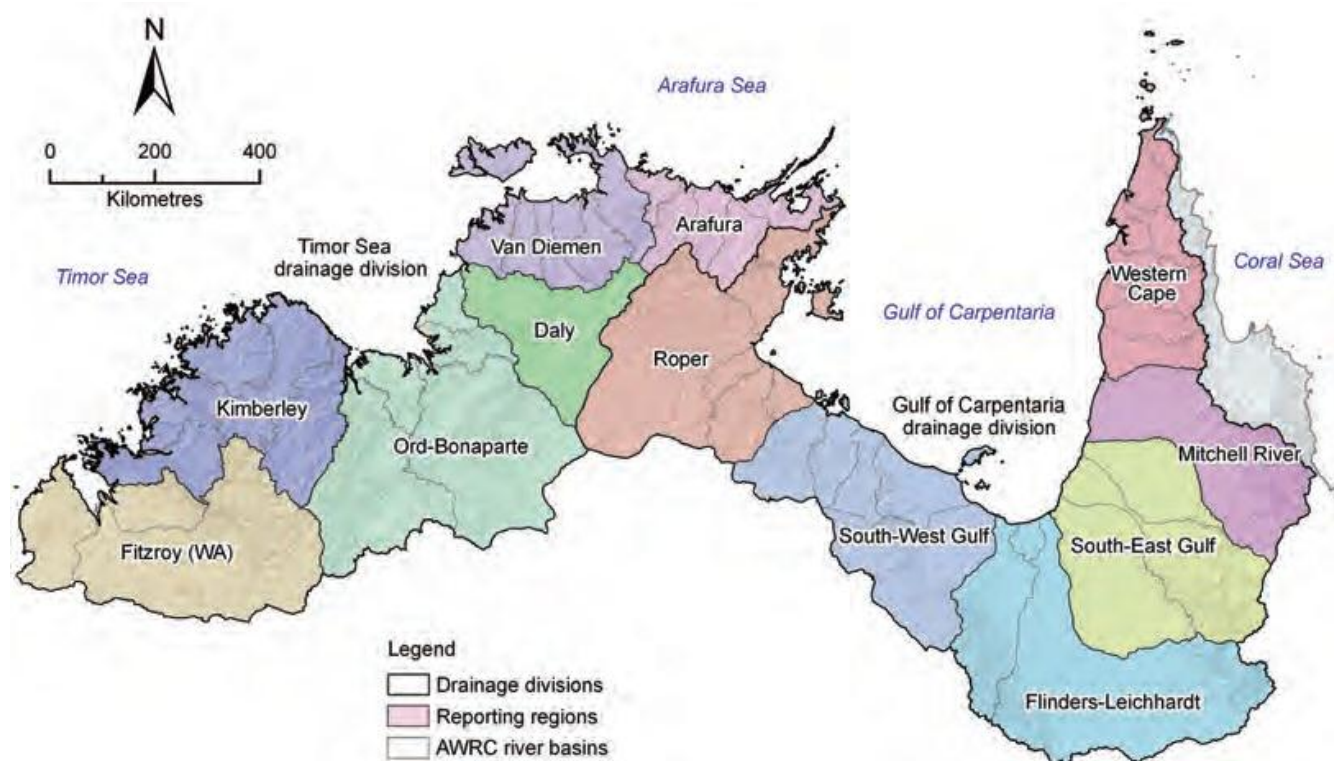


Figure 28: Drainage basins in northern Australia. Copyright: Peter Stone, CSIRO Sustainable Ecosystems (2009). Reprinted within CSIRO permission guidelines.

The CSIRO's Northern Australia Land and Water Science Review (2009) examined a range of options for use of land and water in northern Australia, and estimates how much land may be available for further development, given the constraints of available water.

It states that while over a million gigalitres of rain falls on average each year in northern Australia, this does not translate into a substantial supply of available water. Rainfall in northern Australia is highly variable on a year to year basis. It is mostly restricted to months between November and April, and is highly concentrated on the coastal areas rather than inland. Surface water is vulnerable to very high evaporation rates during the dry season. The existence of 55 independent catchment basins also presents challenges for storage and supply of useable water (as illustrated in Figure 28).

Groundwater has potential capacity to provide future water sources for northern Australia, but varies in quality and availability across the region. A small percentage of groundwater may be able to support new enterprises. The Northern Australia Land and Water Taskforce noted an existing knowledge gap regarding the relationship between surface and ground water supplies in northern Australia^{xvii}. The CSIRO advises that detailed data collection and consultation would need to occur in each location and for every development to ensure trade-offs are evaluated as decisions about water use need to take into account the interdependency of ground and surface waters, assess potential environmental impacts and consider the needs of existing communities for access to clean, reliable drinking water^{xviii}.

The CSIRO review further states that expansion of irrigated agriculture activities in northern Australia are limited to areas with both better water availability and higher quality soil. Establishment of new agriculture also requires access to transport and infrastructure capacity needed to get crops to market. Yet, the study states that doubling of the irrigated agriculture industry is potentially viable through development of small, scattered areas to minimise environmental impact^{xix}. It estimates that such expansion would create 1,400 full-time jobs and add over A\$180 million to the gross regional product in northern Australia. Development of these new agricultural opportunities through adoption of a mosaic irrigated approach, as recommended by the Northern Australia Land and Water Taskforce, may also provide a significant economic opportunity for some of the most isolated and disadvantaged communities in northern Australia^{xx}

The following map, extracted from ABARES (2010) *Land use of Australia Version 4, 2005-2006*, illustrates the level of agricultural land use in northern Australia in 2005-2006 (Figure 29 on page 69). The largest areas are devoted to livestock grazing activity, managed resource protection and other minimal use. There is a limited supply of surface water and very small urban areas. The difference in land use patterns of coastal northern Queensland compared to its inland areas, most of the Northern Territory and all of northern Western Australia is strongly evident.

ABARES estimates the contribution to the Australian economy of the gross value of agricultural production from beef cattle in northern Australia, combined with first-stage beef processing (value-added production), stood at just over \$5 billion in 2009–10.^{xxi} It states that farm businesses located relatively close to the live export ports of Darwin, Broome, Wyndham and Port Hedland derived more than 70 per cent of their total beef cattle

receipts from sale of cattle for live export, on average, in the three years ending 2010–11. Businesses in the south of the region and in Queensland generally, are far less reliant on live export sales and focus more on the processed beef market.

ABARES states that the future of the beef industry in the north currently hinges on the ability to sustain and enhance the live export trade while also meeting animal welfare expectations, and on opportunities to establish a meat processing and associated feed-on sector^{xxii}.

Identified challenges and opportunities for the sector include:

- Expanding market access for live and processed beef
- Potential expansion of breeding stock opportunities, especially for growing Asian markets
- Delivery of infrastructure upgrades to ensure supply and export chains
- Access to land and water
- Access to workforce with industry-relevant skills
- Climate change impacts on industry

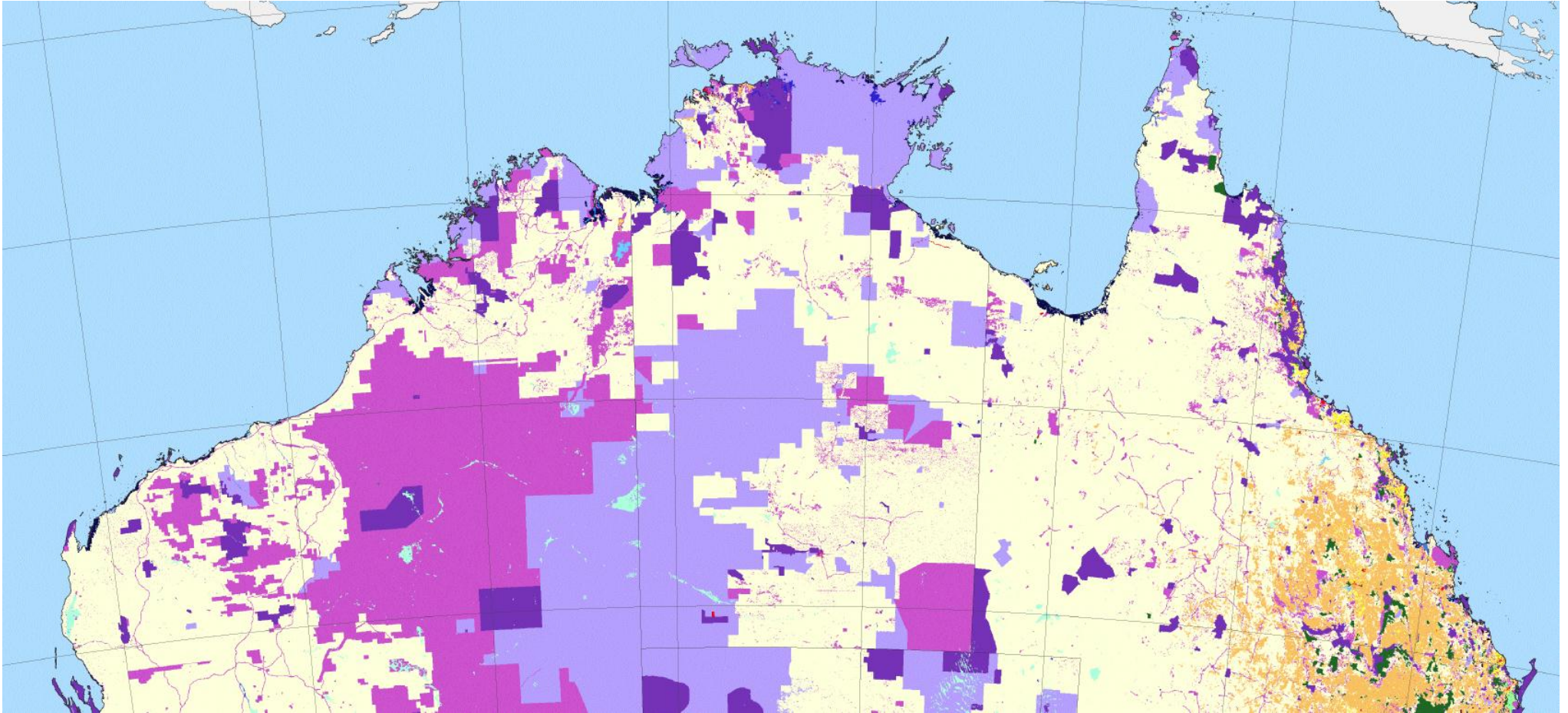


Figure 29: ABARES (2010) Land use of Australia Version 4, 2005-2006, reprinted within permission guidelines.




Map detail illustrates the diversity and scale of different land uses in northern Australia.^{xxiii}

Note: Map legend provided overleaf.



Land Use of Australia Version 4, 2005-06

Land Use






1 Conservation and Natural Environments

-  1.1 Nature conservation
-  1.2 Managed resource protection
-  1.3 Other minimal use






2 Production from Relatively Natural Environments

-  2.1 Livestock grazing
-  2.2 Production forestry






3 Production from Dryland Agriculture and Plantations

-  3.1 Plantation forestry
-  3.2 Grazing modified pastures
-  3.3 Cropping
-  3.4 Perennial horticulture and
-  3.5 Seasonal horticulture

4 Production from Irrigated Agriculture and Plantations

-  4.1 Irrigated plantation forestry
-  4.2 Grazing irrigated modified pastures
-  4.3 Irrigated cropping
-  4.4 Irrigated perennial horticulture and
-  4.5 Irrigated seasonal horticulture

5 Intensive Uses

-  5.1 Intensive horticulture
-  5.2 Intensive animal production
-  5.3, 5.4.0, 5.4.1, 5.3, 5.5, 5.6, 5.7
Urban intensive uses
-  5.4.2, 5.4.3 Rural residential
-  5.8, 5.9 Mining and waste

5 Water

-  6.1 Lake
-  6.2 Reservoir/dam
-  6.3 River
-  6.5 Marsh/wetland
-  6.6 Estuary/coastal waters

Other

-  No data

Remote Governance Challenges

The strength of the institutions indicator across the areas of northern Australia that lie outside the major regional centres is evidence of the central role that government (local, state and federal) plays in the economy and society of much of northern Australia. As a result the effectiveness of government policies across a range of economic and social issues are central to facilitating change in northern Australia.

In an in-depth analysis of governance challenges in remote Australia, Desert Knowledge Australia identified that current arrangements represent “nothing less than a crisis in governance, and an urgent need for systemic change”.^{xxiv} This assessment mirrors the assessment of other organisations such as the Cape York Institute^{xxv} and the drivers for the Northern Territory National Emergency response policies implemented in 2007 by the Australian Government.

Desert Knowledge Australia succinctly captures the change being advocated by a number of groups from remote regions as:

1. A say in decisions which affect them
2. Equitable and sustainable financial flows
3. Better services and a locally responsive public service
4. Local control and accountability where possible, and
5. Inclusion in a greater Australian narrative.

These issues are more about place than race and a structural response to these concerns is required for real change. Important here is the recognition that success is not about centralised redesign of policies, but enabling genuine local leadership. It is important to move away from a structure where the north's strategic planning is driven by interests outside the region, who, despite the best of intentions, suffer no personal or organisational risk if outcomes for communities go wrong and may have limited local knowledge.

The challenge for policy is to create an approach that devolves genuine responsibility to remote people, incentivises their leadership in building a different future and provides the time needed for this seismic shift in approach to occur. For example, the establishment of “a strong pan-tropical alliance of northern Australia's sectorial interests, inclusive of traditional owners, local government, industry, human service, conservation and other sectors” has been recommended by the Cairns Institute as a possible pathway forward.^{xxvi}

Given the competitiveness profiles of remote communities in northern Australia, this change, alongside tenure reforms are the most important shifts policy makers can engineer to build a positive future for the most remote and sparsely settled regions of northern Australia.

Developing a White Paper on Northern Australia

The Coalition's commitment to develop a White Paper on northern Australia offers the opportunity to enable coordinated and effective regional development that can both meet the needs of the people who already live there, while also laying the groundwork for future sustainable population and economic growth.

It is essential that any plans for northern Australia respond to the challenges of considerable variability within and between regions in northern Australia. There is a need for an approach that integrates different development strategies for the groups identified from the analysis of [In]Sight data:

- Regional cities of the north
- Queensland coastal regions
- Mid-sized centres, and
- Remote regions.

This analysis can provide a foundation for the engagement of the communities in these groups about the mixture of growth opportunities and bottlenecks they currently face.

Overall, the critical challenges for economic growth in northern Australia exist firstly in infrastructure and human capital.

A comprehensive and strategic audit of existing infrastructure and expansion priorities is timely. Many regions and industries have insufficient access to basic power, water, transport, and communications infrastructure. Other regions have current infrastructure which is working well, but is at or near capacity which will prevent future expansion of industry or housing. A White Paper will also need to ensure that a balance of private and public infrastructure investment is achieved, to ensure a wider strategic benefit which meets both current and future needs to link industries and communities with export markets and supply chains. The ability for the conventional processes used by Infrastructure Australia to properly examine investment options in northern Australia - which offers vastly different challenges to the urban environments of southern Australia - may need to be considered as part of this process.

Substantial disadvantage is evident in human capital throughout northern Australia. This inhibits economic growth and potential, as large business development usually depends upon importation of external workers. There is an urgent need to improve participation and outcomes from education and training. Connecting people who already live in the north with work rather than simply relying on the introduction of a temporary workforce from outside the region is essential to support future economic development and attract new businesses into northern Australia. It will also enable existing businesses to expand their capacity to meet growing demand in global markets, especially in Asia and the Pacific. Also, a White Paper will need to consider issues of need in human capital development, the success or otherwise of current approaches, and consider new ways to make progress on this critical issue.

A White Paper also provides an opportunity to consider the ways in which regions in northern Australia can best transition from single industry communities to develop more

diverse and robust local economies or, alternatively, how the boom and bust cycles that can be expected in single industry communities can otherwise be handled to sustain and improve the well-being of people in the north over time.

Mining and extractive industries continue to provide substantial benefit to regions in northern Australia. Regions with high employment in mining are generally more competitive than other regions, but many have a 'hollow core' where current economic benefits are not translating into a more diverse base strong in the endogenous factors of human capital, technological readiness and innovation which will underpin their long-term economic growth. This is a central challenge as the current boom transitions.

Similarly, while development of agriculture in the north is restricted by the limits of soil quality and water availability, fostering innovation, developing a skilled and capable workforce and ensuring connectivity are also key factors underpinning expansion of agriculture over time. These can be overlooked in the drive for infrastructure investment.

Export of services offers a strategy towards economic growth in northern Australia, particularly in tropical science and technology. This report confirms that existing research and medical science industries are providing a competitive advantage for Darwin, Townsville and other larger northern towns in Queensland. Yet, the sector is under-developed and lacks access to the human capital it needs. The tropical research and development sector offers significant potential for growth in northern Australia.

In the most remote parts of the north it is hard to look past the resolution of land tenure issues to enable leaseholders and traditional owners to attract or invest capital that can sustainably leverage these assets and open pathways to economic growth in areas where there is very limited natural opportunity. A White Paper will need to consider the extent to which uncertainties and procedural challenges can be effectively resolved to achieve an outcome where land owners and investors can be certain of the options available now and in the future. Alongside the trial and development of innovative approaches to governance in remote communities, this is perhaps the area where government can do more to foster progress in the north that is led by the people who call its remote areas home.

Appendix A: Methodology

[In]Sight Results Guide

RAI strongly recommends that any interpretation of data and figures in this paper be informed by the full information about each of the indicators and measures making up [In]Sight. This can be found in the [In]Sight Results Guide available online at www.regionalaustralia.org.au/wp-content/uploads/2013/07/Regional-Australia-Institute-Results-Guide.pdf.

[In]Sight Key Findings

Further information on [In]Sight and results of analysis for all of Australia in 2013 are available in the Snapshot of major findings for 2013. This report contains further discussion on the relevance and use of competitiveness themes and indicators, which may provide additional background context. This report is also available online at www.regionalaustralia.org.au/wp-content/uploads/2013/06/RAI-InSight-Major-Findings-130624-5.pdf

The [In]Sight Data Collection Process

[In]Sight is based on the best publicly available, nationally consistent information on regions that RAI has been able to collect. Populating each of the indicators, which in turn, were combined to quantify the parent theme necessitated the collection of a wide range of publicly available data. The final database collates data from a wide range of publicly available sources, including:

- Australian Bureau of Statistics (ABS) 2011 Census data
- The Social Health Atlas of Australia from PHIDU, University of Adelaide
- Geographical Information Systems (GIS) calculations
- My Schools data, and
- The RAI's dedicated Survey of Regional Business Conditions and Perspectives on Regional Development.

The transformation of some raw data to spatial measures using GIS calculations was an important part of this process. For example, many of the indicators within the 'infrastructure and essential services' theme require calculations of distance or proximity to nearest major infrastructure such as roads, rail and port.

Survey of Regional Business Conditions and Perspectives on Regional Development

The first RAI Survey of Regional Business Conditions and Perspectives on Regional Development provides interim results on each of these measures at the RDA level. Roy Morgan Research undertook the first survey on behalf of RAI, which gave an opportunity for regional and metropolitan businesses to share their opinions on:

- How the local environment is currently contributing to their business success and their confidence in their regions future
- Business issues
- Regional development challenges, and
- Other factors that affect regional development.

The survey included questions on some general characteristics of respondents' businesses, such as location, industry and main source of income. A total of 2,327 responses were received to the survey with 1,372 from regional areas, 279 responses from remote areas and 676 from metropolitan areas.

The limitations in sample size and distribution of this initial survey have resulted in a number of restrictions on interpretability within the database to ensure rigour within the overall index of competitiveness. At the RDA level, interpretation is limited to a decile group instead of a ranking. At the LGA level, survey data is excluded from calculation of theme ranking. As such, economic fundamentals theme at LGA level is calculated only on indicators on value of building approvals per capita and average wage and salary income, and measurement of institutions theme at LGA level is calculated only on percentage of workforce employed in public service and local government expenditure per capita.

Weighting

[In]Sight is an unweighted database. Interpretation of [In]Sight data in this paper allows for the effects of skewing due to small population factors. Graphs and figures used in this paper are indicative, and should be used with appropriate annotation.

Additional Data Sources

This paper incorporates some additional information on population numbers and attributes. Unless otherwise indicated within the text, all data is sourced from the Australian Bureau of Statistics Census of Population and Housing 2011 counted at place of usual residence at the LGA level.

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Further information on the work of the RAI can be found at
www.regionalaustralia.org.au

END NOTES

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